Appendix A
Performance Work Statement

US Army Corps
of Engineers

FORMERLY USED DEFENSE SITES MILITARY MUNITIONS RESPONSE PROGRAM PERFORMANCE WORK STATEMENT FOR SITE INSPECTIONS AT MULTIPLE SITES (CONUS AND OCONUS)

PERFORMANCE WORK STATEMENT
FOR
Formerly Used Defense Sites (FUDS)
Military Munitions Response Program (MMRP)
Site Inspections (SI)
at Multiple Sites
(CONUS and OCONUS)
24 May 2005

Modification #1: 18 July 2005
This is a firm fixed price Task Order

1.0 OBJECTIVE:

The objective of the MMRP SI is to determine whether the individual project sites within the FUDS program warrants further response action or no Department of Defense action indicated (NDAI).

2.0 BACKGROUND AND GENERAL STATEMENT OF WORK:

2.1 Regulatory Guidelines. The work required under this Scope of Work (SOW) falls under the Defense Environmental Restoration Program - Formerly Used Defense Sites (DERP-FUDS). Munitions and Explosives of Concern (MEC) exist on property formerly owned or leased by the Department of Army. USACE is conducting environmental response activities at FUDS in accordance with Engineer Regulation (ER) 200-3-1 and the *DoD Management Guidance for the Defense Environmental Response Program (DERP).* USACE is conducting these activities in accordance with CERCLA.

2.1.1 MEC is a safety hazard and may constitute an imminent and substantial endangerment to the local populace and site personnel. The work associated with this Site Investigation(s) shall be performed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 104, and the National Contingency Plan (NCP), Sections 300.120(d) and 300.400(e), Executive Orders 12580 and 13016.

2.1.2 All activities involving work in areas potentially containing unexploded ordnance hazards shall be conducted in full compliance with Department of Defense (DoD), Department of Army,

US Army Corps of Engineers (USACE), state, local and federal requirements regarding safety, personnel, equipment, and procedures. 29 CFR 1910.120 shall apply to all actions taken at this site.

2.1.3 The project sites are not suspected to contain Recovered Chemical Warfare Materiel (RCWM); however, if the contractor identifies or suspects CWM, the contractor shall immediately withdraw upwind from the work area and notify notify the USAESCH Chemical Warfare Design Center and the USAESCH Ordnance and Explosives (OE) Safety Office for assistance and guidance. The contractor shall secure the area and locate two Unexploded Ordnance (UXO) Technicians at level II or above upwind of the suspect CWM to secure the site until relieved by the Technical Escort Unit (TEU) or Explosive Ordnance Disposal (EOD) personnel.

3.0 Performance Work Statement:

The following performance work statement will apply to all tasks/projects in this PWS.

The contractor shall perform the activities necessary to meet the objective in paragraph 1.0 of this PWS for munitions and explosives of concern (MEC) and munitions constituents (MC). MEC intrusive activities shall **not** be performed during this SI. Work shall be in accordance with (IAW) with ER 200-3-1, the *DoD Management Guidance for the Defense Environmental Response Program (DERP)*, and Engineering Pamphlet (EP) 75-1-2.

The contractor shall collect the minimum amount of information necessary to (i) eliminate from further consideration those releases that pose no significant threat to public health or the environment; (ii) determine the potential need for a time critical removal action; (iii) collect or develop additional data, as appropriate, for Hazard Ranking System (HRS) scoring by Environmental Protection Agency (EPA); and (iv) collect data, as appropriate, to characterize the release for effective and rapid initiation of the Remedial Investigation and Feasibility Study (RI/FS). The contractor shall also collect the appropriate data to complete the Munitions Response Site Prioritization Protocol (MRSPP).

Methods to be used to achieve the specified objectives shall be determined by the Contractor.

Quality Control. The Contractor shall implement an accepted Quality Control (QC) Program. The Quality Control Program shall include QC procedures for all aspects and types of work. The Contractor shall ensure that QC documentation is maintained, and provided in the Final Reports. If any Government QA review identifies a process failure or a work product failure, the contractor will be issued a Corrective Action Request (CAR). The Contractor shall provide full documentation detailing the cause of the failure, why it was not detected in the Contractor's QC Program, and how the problem was corrected. Failure can be defined as workmanship or work products not complying with the WP or not meeting project needs defined during TPP or other accepted industry practices or defined as not complying with basic safety concepts and other industry safety practices.

Kick Off Meeting: The Contractor(s) shall plan to attend a kick off meeting, after award, in Huntsville, Alabama for 1 day.

Work Plan: The contractor shall prepare and submit a programmatic SI Work Plan (WP) which will also address any contractor-specific programmatic information supplemental to the Programmatic Sampling and Analysis Plan provided by the government. The WP shall be prepared following the general format described in data item description (DID) MR-001. Deviations from this format will be accepted if they are for the purpose of consolidating topics into a single chapter or sub-chapter or for removing duplications. For each site, a site-specific Work Plan and SAP annex shall be prepared.

Geographic Information System (GIS). The Contractor shall create a GIS in accordance with DID MR-005-07. The coordinate system for these tasks/projects shall be UTM Coordinates. All geo-referenced data shall be submitted in UTM Coordinates.

Munitions Constituents Sampling and Analysis: MC sampling and analysis shall be performed IAW Final Programmatic SAP and applicable Site-Specific SAP. Any exceptions to the Programmatic SAP must be clearly indicated in the Site-Specific SAP. Contractor shall

determine in consultation with their subcontractor laboratory appropriate analytical methodology to meet or exceed the data quality objectives provided in Table 1 of the Programmatic SAP. If these DQOs cannot be met with standard analytical methodology, provide recommendation for best value approach. Technical proposal shall provide laboratory's proposed reporting limits along with their method detection limits. It shall also describe laboratory's procedures for subsampling and sample preparation for explosives and any method variations to address analytes not addressed by routine methods, such as PETN and nitroglycerine. For aqueous samples, solid phase extraction rather than salting out extraction shall be used.

The contractor shall address MC sampling and analysis requirements and deliverables IAW with DID MR-005-10, with the following exceptions:

- The USACE validation process has been replaced. The contractor shall use a laboratory that meets the requirements of the HTRW Chemical Data Quality Management (CDQM) Policy for Environmental Laboratory Testing (USACE, 2004), to include NELAP accreditation and self declaration of compliance with the DoD Quality Systems Manual (DoD QSM) (latest version). All laboratory requirements of DID MR 005-10 not related to the validation process continue to apply.
- Section 1.4 of DID MR-005-10 shall be modified as follows:

  Electronic Data Deliverable; G.

  All laboratory data for samples analyzed by commercial laboratories shall be submitted in the Staged Electronic Data Deliverable (SEDD) format. Details on the SEDD format are provided in SEDD Version 5.0 (or most recent version) specification located at http://www.epa.gov/superfund/programs/clp/sedd.htm. EDDs shall be provided to applicable Design Center and MM CX on a site-by-site basis IAW schedule provided in Contractor's proposal. SEDD Stage 2a is a mandatory submittal. SEDD Stage 2b should be provided if the laboratory is capable.
- Section 2.8 of DID MR-005-10 shall be modified as follows:

  2.8 ELECTRONIC DATA DELIVERABLE

  Chemical data shall also be provided electronically by the Contractor in the SEDD format and as part of the Geographic Information System. The SEDD formatted deliverable will require data parsing for use in the Automated Data Review (ADR)

software (most current version). Use of the ADR software will also require that the contractor develop a comprehensive library file for all of the methods to be analyzed under this PWS. The library file will accurately reflect all of the analytical quality requirements as documented in the Final Programmatic SAP (or site-specific SAP, if deviations from the Programmatic SAP are approved) and will be provided to the appropriate Design Center, MM CX, and the sub-contract lab for use in screening EDD submittals. All electronic data submitted by the contract laboratory is required to be error-free, and in complete agreement with the hardcopy data. Data files are to be delivered both by e-mail and on high density CD accompanying the hardcopy data reports. The disk must be submitted with a transmittal letter from the laboratory that certifies that the file is in agreement with hardcopy data reports and has been found to be free of errors using the latest version of the ADR evaluation software provided to the laboratory. The contract laboratory, at their cost, will correct any errors identified by USACE. The Contractor is responsible for the successful electronic transmission of field and laboratory data under this PWS. The Contractor's laboratory is responsible for archiving the electronic raw data and sufficient associated hardcopy data (e.g., sample login sheets and sample preparation log sheets) to completely reconstruct the analyses that were performed for a period of ten years after completion of this contract.

- The following software is available upon request to support this task as government furnished software: ADR, Environmental Data Management System (EDMS), SEDD parser, and Forms II Lite. Use of the SEDD parser and ADR software is mandatory, use of EDMS and Forms II Lite are optional.
- Information required for completion of main SI Report need not be duplicated in SI Report Appendix containing **CHEMICAL DATA FINAL REPORT**

Perchlorate Sampling and Analysis. Sites indicated on the table below as "Yes" will be included in a MMRP SI Request for Approval to Sample for Perchlorate to be submitted through HTRW CX. Perchlorate analysis must be provided by the Contractor's laboratory. Analysis must be performed by Liquid Chromatography/Mass Spectrometry or Ion Chromatography/Mass Spectrometry, preferably by SW6850 or SW6860. Either tandem or single mass spectrometry is acceptable. If the laboratory identified in the Contractor's initial proposal is unable to perform

perchlorate analysis by one of these methods, Contractor may propose a supplemental laboratory for perchlorate analysis. If a supplemental laboratory is proposed, it must meet all PWS requirements and all documentation for new laboratory that was required for initial proposal must be provided. Contractors should include costs for collection of additional sample volume, acquiring containers/coolers, etc., shipment of the containers to the Laboratory, and validation of analytical data..

SI Reports: The Contractor shall prepare a final report using DID MR-030 as a guideline for general document format. The report content outline is attached as Appendix A. Each report shall identify the specific members and title of the Contractor's staff and subcontractors that had significant and specific input into the reports' preparation or review. The contractor shall also include a cover letter signed by an authorized person (preferably the person who signed the Task Order) of the company certifying, on behalf of the company, that the requirements of this Task Order have been met.

Schedule: The Contractor shall submit a proposed programmatic project schedule in the proposal. Seven (7) days after Award the contractor shall submit and electronic copy (preferably by email) of the schedule. The schedule shall be adjusted and refined during the Technical Project Planning (TPP) process. The contractor shall update the schedule in accordance with DID MR-085, Project Status Report. A task/project specific schedule shall be submitted a minimum of 14 days after the completion of the TPP process. All schedules shall be in a format compatible with Primavera software.

Teleconferences: The Contractor shall participate in monthly MMRP teleconferences with HQ, MM CX, Technical PM, District PM, and other contractors to discuss project status and any issues that have arisen during the SI phase of work. The Contractor will be prepared to present issue resolution alternatives as part of these discussions.

In Progress Review Meetings: The Contractor shall attend Quarterly In-Progress Review (IPR) meetings on the MMRP SI with USACE representatives and other contractors at various CONUS locations. In addition, the Contractor will be expected to plan, coordinate, and host one

IPR meeting each year.

Reports/Minutes, Record of Meetings. The Contractor shall prepare and submit a report/minutes of all meetings attended in accordance with DID MR-045.

Telephone Conversations/Correspondence Records. The Contractor shall keep a record of each phone conversation and written correspondence concerning this Task Order in accordance with DID MR-055. A copy of this record shall be attached to the Project Status Report.

Project Status Reports. The Contractor shall prepare and submit project status reports in accordance with DID MR-085 and include any other items required in the PWS**.**

Specific Tasks/Projects:

The specific Tasks/Projects below are shown in the table below. Along with the project, the responsible Geographic FUDS USACE District is shown as well as the USACE design center that will provide technical management and execute the project. The 4 (four) design centers are the Huntsville Center MM Design Center (HNC), Omaha District MM Design Center (NWO), South Pacific Division Range Support Center (SPD), Baltimore District MM Design Center (NAB).

An additional list of project sites is attached as Appendix B. This list will be used for optional future SI Projects based on funding and priority from DoD.

Task #	District	FUDS ID	FUDS Name	MM DC	Perchlorate Sampling
1.1	SAW	I04NC107101	Corolla Naval Target	HNC	YES
1.2	SAS	I04GA004503	Camp Toccoa Mil Res	HNC	YES
1.3	SAJ	I04 FL 0405	Pinecastle Jeep Range	HNC	YES
1.4	POH	H09HI024901	Kane Puu	HNC	YES
1.5	LRL	G04KY0028	Camp Breckinridge	HNC	YES
1.6	SAM	I04AL06700	Fort McClellan	HNC	YES
1.7	POA	F10AK0291	Burma Road	HNC	YES
1.8	SAC	I04SC0040	Lake Murray Bombing & Gunnery Range	HNC	NO
1.9	SAW	I04NC080303	Charlotte Naval Ammo Depot	HNC	NO
1.10	SAS	I04GA106401	Arabia Mountain State Park	HNC	NO
1.11	SAJ	I04 FL 0856	Chaffee Road Bomb Target	HNC	NO

Task #	District	FUDS ID	FUDS Name	MM DC	Perchlorate Sampling
1.12	SAC	I04SC0023	Sand Hills Bombing & Gunnery Range	HNC	YES
1.13	POH	H09HI047601	Big Island Target – Mahukona Range	HNC	NO
1.14	LRL	G04KY016506	Kentucky Ordnance Works	HNC	NO
1.15	SAW	I04NC1085	Southern Shores	HNC	YES
1.16	SAC	I04SC0042	Lk Isaqueena Bom Rng	HNC	NO
1.17	SAJ			HNC	YES
2.1	NAB	C03MD0930	Assateague Island	NAB	NO
2.2	NAE	D01ME003200	Seal Island Gunnery Range	NAB	NO
2.3	NAN	C02NJ0004	Fort Hancock	NAB	YES
2.4	NAO	C03VA000901	NAAS Creeds	NAB	YES
2.5	NAB	CO3DE0526	Fort Delaware	NAB	NO
2.6	NAE	D01MA023204	Hingham NAD	NAB	YES
2.7	NAN	C02NJ0792	Millville Bomb & Gunnery Range	NAB	YES
2.8	NAO	C03VA020201	Plum Tree Island	NAB	YES
2.9	NAB	C03PA0048	Susquehanna Ordnance Sub-Depot	NAB	NO
2.10	NAO	C03VA0162	Virginia Ordnance Works	NAB	NO
2.11	NAB	C03DE0528	Governor Bacon Health Center	NAB	NO
2.12	NAO	C03VA0103	Ft. Monroe/Ft. Wool	NAB	NO
2.13	NAO	C03VA1012	Camp Wallace	NAB	YES
2.14	NAO	C03VA0194	Chopawamic Troop Trng	NAB	YES
2.15	NAO	C03VA0027	Ft. Lee	NAB	NO
3.1	LRL	G05OH0007	Lockbourne, AFB	NWO	YES
3.2	NWK	B07MO014601	Jefferson Barracks Target Range	NWO	YES
3.3	NWO	B08WY042601	Casper Ground Gunnery Range	NWO	NO
3.4	NWS	F10OR004102	Camp Abbott	NWO	YES
3.5	LRL	E05MI003402	Camp Claybanks AAA Firing Range	NWO	YES
3.6	NWK	B07KS002904	Olathe Naval Air Station	NWO	NO
3.7	NWO	B08WY042901	Casper Precision Bombing Range No. 3	NWO	NO
3.8	NWS	F10OR002903	Camp Adair	NWO	YES
3.9	LRL	G05IN0010	Camp Atterbury	NWO	NO
3.10	LRL	G05OH002706	Erie Army Depot	NWO	YES
3.11	LRL	G05IN001904	Kingsbury Ordnance Plant	NWO	NO
3.12	LRL	E05MI001303	Ft Custer Rec Area	NWO	YES
3.13	LRL	E05MI000501	Camp Lucas/Camp Brady Target Range	NWO	NO
3.14	LRL	E05IL009903	Green River Ordnance Plant	NWO	YES
3.15	LRL	E05IL010203	Sangamon Ordnance Plant	NWO	NO

Task #	District	FUDS ID	FUDS Name	MM DC	Perchlorate Sampling
4.1	SPA	K06NM042401	Fort Sumner	SPD	YES
4.2	SWF	K06TX1008	Matagorda Peninsula Bombing Range	SPD	YES
4.3	SPL	J09CA1110	Camp Matthews	SPD	YES
4.4	SWT	K06OK011001	Great Salt Plains Bombing Range	SPD	YES
4.5	SPL	J09AZ057601	Sahuarita AFR	SPD	YES
4.6	SWF	A06LA0008	Camp Livingston	SPD	YES
4.7	SPL	J09CA707802	Camp Lockett - Target Pit	SPD	YES
4.8	SWT	K06OK001301	Camp Gruber	SPD	YES
4.9	SPA	K06NM005206	Walker AFB	SPD	YES
4.10	SWF	K06TX0058	Matagorda Island AF Range	SPD	YES
4.11	SPL	J09CA711501	Naval Air Base - Ordnance Areas	SPD	YES
4.12	SPL	J09CA724201	Camp Vista Army - Green Oak Ranch Small Arms Range	SPD	NO
4.13	SWF	K06TX0144	Pyote AAF Bomb Range #1	SPD	NO
4.14	SWF	K06TX0293	Childress AAF Bombing Range #1	SPD	NO
4.15	SWF			SPD	NO
4.16					
4.17					
4.18					

Design Center-Specific Requirements:

Huntsville Design Center Projects: Southeast and Pacific IMA Regions (Tasks 1.X)

The contractor that is awarded the tasks/projects assigned to the Huntsville MM Design Center shall plan for an onboard review of draft programmatic work plan and the internal draft SI report at USAESCH in Huntsville, AL. This onboard review shall take place after the contractor has received comments on the draft WP and after receiving comments on the internal draft SI Report. The contract shall be expected to provide a CD of the draft version at the conclusion of the onboard review.

Baltimore MM Design Center Projects: Northeast IMA Region (Tasks 2.X)

The contractor that is awarded the tasks/projects assigned to the Baltimore MM Design Center shall plan for an onboard review of the draft SI report at the District office in Baltimore, MD.

This onboard review shall take place after the contractor has received comments on the internal draft version.

Omaha District Design Center Projects: Northwest IMA Region (Tasks 3.X)

The contractor that is awarded the tasks/projects assigned to the Omaha District MM Design Center shall plan for an onboard review of the draft SI report at the District office in Omaha, NE. This onboard review shall take place after the contractor has received comments on the internal draft version.

South Pacific Division Range Support Center Projects: Southwest IMA Region (Tasks 4.X)

The contractor that is awarded the tasks/projects assigned to the South Pacific Division Range Support Center shall plan for an onboard review of draft programmatic work plan and the internal draft SI report at the South Pacific Division USACE Headquarters, San Francisco, Ca. This onboard review shall take place after the contractor has received comments on the draft WP and after receiving comments on the internal draft SI Report. The contract shall be expected to provide a CD of the draft version at the conclusion of the onboard review.

4.0 SUBMITTALS AND CORRESPONDENCE:

Computer Files. All final text files generated by the Contractor under this task order shall be furnished to the Contract Officer in Microsoft Word 6.0 or higher software. Spreadsheets shall be provided in Microsoft EXCEL format. All final CADD drawings shall be in Microstation 95 or higher. All GIS data shall be in ESRI (Arcview/Arcinfo) format. All chemical sampling data submittals shall be IAW DID MR 005-10 except as noted above. These documents shall be submitted on CD or DVD.

PDF Deliverables. In addition to the paper and digital copies of submittals, the final version of any and all reports and/or plans shall be submitted, uncompressed, on CD or DVD in PDF format along with a linked table of contents, linked tables, linked photographs, linked graphs and linked figures, all of which shall be suitable for viewing on the Internet. PDF files shall be produced from source documents wherever possible.

Review Comments. Various reviewers will have the opportunity to review submittals made by the Contractor under this contract. The Contractor shall review all comments received through the Technical or Project Manager/Contracting Officer and evaluate their appropriateness based upon their merit and the requirements of the PWS. The Contractor shall issue to the Project Manager a formal, annotated response to each. The Contractor shall not non-concur with a comment without discussing with the PM and/or comment maker.

Public Affairs. The Contractor shall not publicly disclose any data generated or reviewed under this contract. The Contractor shall refer all requests for information concerning site conditions to the subject FUDS Geographic USACE Corps of Engineers District with a copy furnished to the Technical Manager. Reports and data generated under this contract are the property of DoD and distribution to any other source by the Contractor, unless authorized by the Contracting Officer, is prohibited.

Submittals: The contractor shall furnish copies of the plans, maps, and reports as identified in table below, or as specified in this PWS, to each addressee listed below in the quantities indicated.

Document Distribution: For the purposes of determining when documents get submitted to specific organizations, the attached document distribution table is provided.

Document Description	HTRW CX		MM Design Center		District PM		MM CX		HQ USACE
	Hard Copy	CD Copy	Hard Copy	CD Copy	Hard Copy	CD Copy	Hard Copy	CD Copy	CD
CSM:									
Draft	2		3		6		2		
Working Final	2		3		6		2		1
TPP Memorandum:									
Draft	1	2	1	3	1	6	1	2	1
Final Memorandum	1	2	1	3	1	6	1	2	1
SI Work Plan:									
Draft	1	2	1	3	1	6	1	2	1
Final	1	2	1	3	1	6	1	2	1

SI Report:									
Draft	1	2	1	3	1	6	1	2	
Draft Final	1	2	1	3	1	6	1	2	1
Final	1	2	1	3	1	6	1	2	1

Notes:

1. The number of final copies distributed may vary from that shown above

Period of Performance: All work shall be completed by 30 November 2006

Milestones:

TPP Memorandum (accepted)

Work Plan (accepted)

Field Work Completed

Final SI Report (accepted)

Milestones will be considered met or completed when the appropriate QC documentation has been submitted and QA completed and the submittal and/or product is accepted.

Points of Contact:

Program Manager:

Bradford McCowan

CEHNC-OE-CX

US Army Engineering and Support Center

P. O. Box 1600

4820 University Square

Huntsville, AL 35807

256-895-1174

Bradford.L.McCowan@hnd01.usace.army.mil

Huntsville Center MMRP SI Regional Program Manager

Chris Cochrane

CEHNC-OE-DC

US Army Engineering and Support Center

P. O. Box 1600
4820 University Square
Huntsville, AL 35807
256-895-1696
Chris.Cochrane@hnd01.usace.army.mil

Omaha District MMRP SI Regional Program Manager

Robert Zaruba
CENWO-PM-HB (ZARUBA)
106 South 15th Street
Omaha, NE 68102-1618
(402) 221-7659
Robert.K.Zaruba@nwo02.usace.army.mil

SPD Range Support Center MMRP SI Regional Program Manager

Monique Ostermann
CESPA-EC-EG (Ostermann)
4101 Jeff Plaza NE
Albuquerque, NM 87109
(505) 342-3475 Monique.M.Ostermann@spa02.usace.army.mil

Baltimore District MMRP SI Regional Program Manager

Leland Reeser
CENAB-EN-HN (Reeser)
10 South Howard Street
Room 10040D
Baltimore, MD 21201
(410) 962-2186
Leland.H.Reeser@nab02.usace.army.mil

5.0 REFERENCES

5.1 Basic Contract

5.2 USACE, 2004 - HTRW Chemical Data Quality Management (CDQM) Policy for Environmental Laboratory Testing, September 30, 2004

5.3 DoD Quality Systems Manual (DoD QSM) (latest version).

5.4 USEPA, 1992 - Guidance for Performing Site Inspections under CERCLA; Interim Final, September 1992, PB92-963375, EPA 9345.1-05

5.5 EM 200-1-3, Requirements for the Preparation of Sampling and Analysis Plans

5.6 ER 1110-1-263, Chemical Data Quality Management for Hazardous, Toxic, Radioactive Waste Remedial Activities

5.7 DOD's Interim Policy on Perchlorate Sampling, 29 September 2003, http://www.epa.gov/swerffrr/pdf/perchlorate_sampling_interim_policy_9-23-03.pdf.

5.8 DoD Interim Guidance on Sampling and Testing for Perchlorate, 5 February 2004, http://www.navylabs.navy.mil/Archive/PerchlorateInterim.pdf.

5.9 DAIM, Department of Army Guidance for Addressing Potential Perchlorate Contamination, 11 June 2004, http://www.itrcweb.org/armyguidance.pdf.

5.10 DOD Memorandum on Definitions Related to Munitions Response Actions, 18 December 2003, http://www.epa.gov/fedfac/pdf/MRP_Definitions_12-18-03.pdf.

5.11 Military Munitions Center of Expertise Technical Update Munitions Constituent (MC) Sampling March 2005.

Appendix B
Technical Project Planning Session Documentation/ Meeting Minutes

U.S. Army Corps of Engineers
Omaha District

Final Technical Project Planning Memorandum
Fort Flagler Military Reservation
FUDS ID F10WA0316

Site Inspections at Multiple Sites, NWO Region Formerly Used Defense Sites, Military Munitions Response Program

Contract No. W912DY-04-D-0010
Delivery Order No. 003

December 18, 2006

Shaw Environmental, Inc.

9201 East Dry Creek Road
Centennial, CO 80112

Final Technical Project Planning Memorandum

Site Inspection
Fort Flagler Military Reservation
Formerly Used Defense Site
FUDS ID F10WA0316

Military Munitions Response Program

Documentation for Technical Project Planning Meeting
Washington Department of Ecology
Lacey, Washington
July 24, 2006

Hosted by U.S. Army Corps of Engineers

Prepared by Shaw Environmental, Inc.

December 18, 2006

Concurrences

USACE Omaha Design Center	_____ Michael Watson
USACE Seattle District	_____ Mike Nelson
Washington Department of Ecology	_____ Greg Johnson
Shaw Environmental, Inc.	_____ Peter Kelsall

TABLE OF CONTENTS

ABBREVIATIONS AND ACRONYMS ..... **ii**
ADMINISTRATIVE INFORMATION **1**
Technical Project Planning Meeting Summary 4
SITE INSPECTION OBJECTIVES **2**
Goal 3
Objectives 3
Roles & Responsibilities 3
Site Inspection Process 4
Technical Project Planning Process 4
BACKGROUND INFORMATION **5**
Site Description and Regulatory History 6
Operational History and MEC/MC Characteristics 7
Groundwater 8
Surface Water 8
Terrestrial Exposure 8
Air 9
CONCEPTUAL SITE MODEL **10**
Overview 11
Conceptual Site Model – Range Complex AOC 13
Conceptual Site Model – Ammunition Bunker AOC 15
Conceptual Site Model – Transition Range 1 AOC 18
Conceptual Site Model – Transition Range 2 AOC 21
Conceptual Site Model – Gas Chamber AOC 24
Conceptual Site Model – Rifle Grenade/Anti-Tank Rocket Range AOC 26
Conceptual Site Model – Live Grenade Court 30
Conceptual Site Model – Practice Grenade Court 33
Conceptual Site Model – Rifle Range AOC 35
Conceptual Site Model – Demolition Area AOC 38
Conceptual Site Model – Quartermaster Wharf Disposal Area AOC 41
Data Gaps 44
PROPOSED SAMPLING SCHEME **45**
Proposed Field Investigation 46
TPP MEETING NOTES AND DATA QUALITY OBJECTIVES **50**
Technical Project Planning and Development of Data Quality Objectives 51
TPP Phases 51
Data Quality Objectives 55
Next Steps 57
FIGURES **58**
TABLES **59**
DRAFT WORKSHEETS **60**
ATTACHMENT A **61**

ABBREVIATIONS AND ACRONYMS

AOC	area of concern
ASR	Archives Search Report
bgs	below ground surface
CN	chloroacetophenone
CRREL	Cold Regions Research and Engineering Laboratory
CSM	Conceptual Site Model
DoD	Department of Defense
DQO	Data Quality Objective
ºF	degrees Fahrenheit
ft	foot or feet
Ft. Flagler	Fort Flagler Military Reservation
FUDS	Formerly Used Defense Site
GPS	global positioning system
HRS	Hazard Ranking System
HTRW	Hazardous, Toxic, and Radioactive Waste
HMX	octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine
INPR	Inventory Project Report
MC	munitions constituents
MEC	munitions and explosives of concern
mm	millimeter
MMRP	Military Munitions Response Program
MRSPP	Munitions Response Site Prioritization Protocol
NDAI	No Department of Defense Action Indicated
NG	nitroglycerin
NOAA	National Oceanic & Atmospheric Administration
OB/OD	Open Burning/Open Detonation
PCOC	potential contaminant of concern
PETN	pentaerythritol tetranitrate
RAC	Risk Assessment Code
RDX	hexahydro-1,3,5-trinitro-1,3,5-triazine
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
Shaw	Shaw Environmental, Inc.
SHPO	State Historic Preservation Office
SI	Site Inspection
SSWP	Site-Specific Work Plan
State Parks	Washington State Parks Department
TCRA	time-critical removal action
Tetryl	methyl-2,4,6-trinitrophenylnitramine
TNT	2,4,6-trinitrotoluene
TPP	Technical Project Planning
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
UTL	upper tolerance limit
UXO	unexploded ordnance
WDOE	Washington Department of Ecology

Administrative Information

Site Inspection
Ft. Flagler Military Reservation

Technical Project Planning Meeting
July 24, 2006

The Technical Project Planning (TPP) Memorandum is one in a series of documents used during the Site Inspection (SI) process to document the information collected and processes used to evaluate Formerly Used Defense Sites (FUDS) for the possible presence of munitions and explosives of concern (MEC) and/or munitions constituents (MC). TPP meeting information provided in the Memorandum reflects both the original version of information shared with meeting participants, as well as changes/updates to site-specific information obtained during the TPP Meeting.

The TPP Meeting for the former Fort Flagler Military Reservation (Ft. Flagler) FUDS was held on July 24, 2006, and conducted in two parts. A daytime meeting was held at the Washington Department of Ecology office located in Lacey, Washington. Representatives from the U.S. Army Corps of Engineers (USACE) – Omaha Design Center and Seattle District, the Washington Department of Ecology (WDOE), Washington State Parks Department (State Parks), and Shaw Environmental, Inc. (Shaw) were in attendance. By agreement with the USACE, nearby landowners (other than State Parks) were not present at this meeting.

In the evening, a separate meeting intended to present the SI objectives to nearby landowners or interested members of the public was held at the Retreat Center at Ft. Flagler State Park. This meeting was attended by the same attendees as the earlier meeting in addition to three State Parks volunteers. No landowners or members of the general public attended. A formal site tour was not conducted as part of this meeting; however some of the areas of interest are readily visible from public roads.

The TPP Memorandum documents discussions for the TPP Meeting and includes the sections described below:

- **Administrative Information:** includes meeting logistics, the list of attendees, and a summary of the meeting;
- **Site Inspection Objectives:** provides the goal and objectives of the SI, roles and responsibilities, the SI process, and the TPP process;
- **Background Information:** includes site and project history, area physical setting, a summary of previous environmental work, and an introduction to the areas of concern (AOCs) addressed by the SI;
- **Conceptual Site Model (CSM):** identifies environmental attributes, potential human and ecological receptors in the area's environment, and the relationships between these factors;
- **Proposed Sampling Scheme:** describes the type and quantity of samples to be taken, and the analytical methods to be used for characterizing the AOC;
- **TPP Notes and Data Quality Objectives (DQOs):** captures project and site-specific information as discussed during the TPP meeting to ensure the necessary and appropriate information is shared among meeting participants, and that meeting participants concur with the identified goal, objectives, and approach used to complete the SI process; and
- **Worksheets:** includes the **Site Information Worksheet, Draft Munitions Response Site Prioritization Protocol (MRSPP) Data Gaps, and Hazard Ranking System (HRS) Data Gaps.**

Site: Fort Flagler Military Reservation
Location: Lacey, Washington
USACE District: Seattle
TPP #1 Meeting Location: Washington Department of Ecology, Lacey, Washington
TPP #1 Meeting Date: 7/24/06

Agenda

- **Convene at Washington Department of Ecology Office**
  - Introductions
  - Review Site Inspection Objectives
    - Goals, Objectives, Roles & Responsibilities
    - Site Inspection Process
    - TPP Process
    - Review of Background Information
- **Break for Lunch**
- **Technical Project Planning Discussion**
- **Conclude Meeting**
- **Public Meeting (evening)**

TPP Meeting Attendees

Michael Watson	USACE
Mike Nelson	USACE
Greg Johnson	WDOE
Sandra Caldwel	WDOE
Barry Rozowski	WDOE
Mike Zimmerman	Washington State Parks
Ted Smith	Washington State Parks
Dale Landon	Shaw
Peter Kelsall	Shaw

Technical Project Planning Meeting Summary

The TPP Meeting for the Ft. Flagler FUDS was held on July 24, 2006, and conducted in two parts. A daytime meeting was held at the Washington Department of Ecology office located in Lacey, Washington. Representatives from the USACE – Omaha Design Center and Seattle District, the Washington Department of Ecology (WDOE), Washington State Parks Department (State Parks), and Shaw were in attendance. By agreement with the USACE, nearby landowners (other than State Parks) were not present at this meeting.

In the evening, a separate meeting intended to present the SI objectives to nearby landowners or interested members of the public was held at the Retreat Center at Ft. Flagler State Park. This meeting was attended by the same people that attended the earlier meeting, with three additional State Parks volunteers in attendance. No landowners or members of the general public attended. A formal site tour was not conducted as part of this meeting; however some of the areas of interest are readily visible from public roads.

Agencies Meeting

AOCs: AOCs: There was general agreement among stakeholders on SI objectives and approach. Washington State Parks/WDOE representatives provided a copy of a War Department map (circa 1945) that identified several potential AOCs that were not included in the Archives Search Report (ASR). A copy of the map is included as Attachment A. Based on this map and the resulting discussion, the following additional AOCs were included in the TPP Memorandum:

- **Quartermaster Wharf Disposal Area:** The ASR identified the Quartermaster Wharf Disposal Area as a potential AOC. The area appears to be a disposal site where unwanted supplies were discarded on the beach. A park volunteer has found two, five-round .30-caliber ammunition clips on the beach. State Parks has a list of items found in this area that possibly includes a live grenade. During the TPP meeting, the WDOE representative in attendance stated that s/he believed the ASR suggested this was an Open Burn/Open Detonation (OB/OD) area, and specifically noted that OB/OD was done on the beach at the Fort Townsend site. The former Quartermaster Wharf Disposal Area is used by the public for beachcombing and items found there suggest it was a general garbage disposal area. Stakeholders agreed that a remedial investigation (RI) will be required because MEC has been found. The SI will include one composite sample to be analyzed for explosives.
- **Demolition Area:** Demolition Area is shown on the historic map (Attachment A) provided by the State Park. The area is now used for a campground near the spit. The name suggests it is the OB/OD area. Comparison of topography from the old map to current maps suggests that this area has been in filled to create a raised flat area for picnicking and camping.
- **Live and Practice Grenade Courts:** The Live and Practice Grenade Courts are shown on the historic map, and are currently located within unused areas of the State Park.
- **Ammunition Bunker:** An Ammunition Bunker is shown on the historic map, and is located between Batteries Calwell and Downes.
- **Transition Range 2:** Transition Range 2 is shown on historic map, and is currently located within an unused area of the State Park.

Other areas shown on the historical map included a Squad Tactical Area and an Embarkation Area. These sites likely did not involve the use or firing of weapons or munitions.

Sampling: Shaw agreed with WDOE that visual reconnaissance for MEC should be conducted at the battery locations. At the TPP Meeting in Lacey, Shaw proposed conducting MC sampling around the batteries. However, based on the discussion of the configuration and use of the batteries, and results of the visual inspection conducted later in the day, Shaw now proposes no MC sampling be conducted around the batteries because of the following reasons:

- The batteries are permanent structures in which the guns were emplaced in concrete structures and serviced by paved roads. It is unlikely that there was casual disposal of MEC in the vicinity of the battery.
- The guns were seldom used.
- Shaw cited research from Cold Regions Research and Engineering Laboratory (CRREL) that there is little MC associated with muzzle deposits.
- Areas around the batteries are paved with storm drains. It is extremely unlikely that there are any remaining affected sediments from guns that were operated pre-World War II.

The Ft. Flagler State Park currently obtains water from the public supply. State Parks indicated there may have been a well in the past and will research the possibility.

Concerns: One of WDOE representative's main concerns was the camping area at the Rifle Grenade/Anti-Tank Rocket Range AOC. An UXO clearance was conducted in the adjacent wooded area in 1992. Additional review of old aerial photographs and topographic maps will be helpful to evaluate the history of this area.

<u>Public Meeting</u>

- Bob Brown, volunteer archivist for State Parks said that he and another volunteer, Howard Briggs had found "lots of archive material" at USACE Seattle. Mr. Brown found a map in the museum, showing AOCs not included in the ASR (Attachment A).
- Rifle Range – Reconstructed exactly as it was when used. Should be lots of lead in the berm in front of the target. There are reports that they had to build a wall on the hill behind the targets to protect the power station below Battery Lee. Mr. Brown thought that the ponds have always been there, but Mr. Briggs thought that there may have been cattle there at one time. Mike Zimmerman (State Parks) noted that the sea washed over this area a year or two ago.
- Demolition Area – Mr. Brown and Mr. Briggs do not know use of this area. Mr. Briggs said that in the 1960's there were warning signs in this area for UXO. Mr. Briggs also said that there was a concrete breakwater in this area that was removed.
- As shown on the map, there was a Transition Range just east of the main gate. An old timer has said that this was an area used for firing.
- Grenade Courts – These are still visible.
- Areas with alder trees and no fir trees signify disturbance.
- Mr. Zimmerman had heard that during the Korean War, amphibious groups landed on the spit and that this may have been the cause of the split in the spit.

- There are two 90-millimeter (mm) sites west of the coast guard house with concrete pads still visible at low tide.
- Comparison of the map found by Mr. Brown and the present topography indicates that fill has been placed in the area of the campsite and the demo area shown on the map. Mr. Zimmerman asked if the Seattle District would have records of this work.
- Mr. Brown thought that he had heard that there was a disposal area across the road south of Bankhead Battery.
- Part of the lagoon area near the Rifle Range is on National Oceanic & Atmospheric Administration (NOAA) property.
- It was suggested that the retired rangers be interviewed. Mr. Zimmerman said that he could provide names.
- Greg Johnson (WDOE) said that he would like to see analysis of older aerial photographs.
- Mr. Brown indicated that it has always been State Parks policy to encourage people to stay on the trails. He and Mr. Briggs noted that there is very dense brush off most of the trails.

Site Inspection Objectives

Site Inspection
Ft. Flagler Military Reservation

Technical Project Planning Meeting
July 24, 2006

Goal

- The USACE is conducting SIs of FUDS properties to determine if any MEC or related MC are present on property formerly owned or leased by the Department of Defense (DoD).

Objectives

- Determine if the site requires further response action due to the presence of MEC/MC.
- Collect minimum information needed to:
  - Eliminate a site from further consideration if:
    - No evidence of MEC and/or
    - Concentrations of MC in samples are below risk-based action levels, or below background concentrations; or
  - Determine the potential need for removal action or initiation of the Remedial Investigation/Feasibility Study (RI/FS) if:
    - MEC identified and/or
    - Concentrations of MC in samples exceed risk-based action levels and background concentrations.
  - Provide sufficient data to support prioritization of future actions under the HRS and MRSPP.

Roles & Responsibilities

- **USACE:** Acts as the executing agency for the DoD with regard to the FUDS program. In this role, the USACE has decision making authority and is responsible for ensuring work is conducted in accordance with applicable USACE and federal guidance. Additionally, USACE coordinates and works with project team members to meet needs expressed by regulatory agencies and stakeholders to the extent possible within programmatic guidelines.
- **Regulatory Agency:** Participates in planning of SI activities to ensure the project meets applicable state standards and requirements.
- **Property Owner(s)**: Provides available and pertinent information about the area, provides insight on current and anticipated future land uses for the property, and participates in project team discussions.
- **Shaw**: As a contractor to the USACE, conducts work on behalf of the USACE, provides TPP materials, and conducts and reports SI activities.

Site Inspection Process

- Data review,
- TPP,
- Site-Specific Work Plan (SSWP),
- SI field activities – reconnaissance, sampling, and analysis, and
- SI Report.

Technical Project Planning Process

- Conduct TPP meeting(s) with key organizations and stakeholders;
- Identify stakeholder(s) concerns;
- Identify all AOCs for this SI;
- Review site information;
- Verify current and anticipated future land use;
- Develop CSM;
- Identify data gaps;
- Plan how to address data gaps;
- Develop DQOs for meeting SI requirements; and
- Concur on SI field work approach.

Background Information

Site Inspection
Ft. Flagler Military Reservation

Technical Project Planning Meeting
July 24, 2006

Site Description and Regulatory History

Historical information (including references to interviews and historical documents) contained in this package was obtained from the USCAE 2005 ASR and 2004 Inventory Project Report (INPR) Supplement for Ft. Flagler.

Ft. Flagler was originally used (1899 through 1946) as a coastal artillery battery to protect Puget Sound from enemy ships. Following World War II, the site was used for training engineers and amphibious units.

Site Location

- The former Ft. Flagler is located in Jefferson County, Washington, near Port Townsend, Washington on the west side of Puget Sound (Figure 1).
- Ft. Flagler occupied 812.7 acres that were acquired between 1866 and 1952.

Physical Setting

- Ft. Flagler lies within the Puget Trough Section of the Pacific Border Physiographic Province.
- The elevation of the area ranges from approximately sea level to 180 feet (ft).
- Ft. Flagler is a forested site containing conifers (fir and cedar) and deciduous (alder and oak) trees and heavy underbrush.
- The site is currently a state park, with campgrounds, picnic areas, buildings, and visitor facilities.
- Port Townsend, Washington, is the nearest incorporated community (approximately 18 miles by road and 4 miles by water) with a population of 8,810 (2004 estimated census).
- The climate at Ft. Flagler is a west coast marine type with comparatively cool, dry summers and mild but wet and cloudy winters. The area is within the "rain shadow" of the Olympic Mountains and is the driest area in western Washington State. The wettest months are generally November and December, with the driest months being July and August. The highest monthly average temperature for Port Townsend is 72.2 degrees Fahrenheit (ºF) in August and the lowest monthly average temperature is 36.3 ºF in January. Port Townsend's average annual precipitation is 19.12 inches per year, with an average annual snowfall of 4 inches.
- Ft. Flagler FUDS is currently owned by the Washington State Parks Department and the United States Geological Survey, which maintains an experimental station at the site.
- Site access is uncontrolled.

Previous Investigations and Regulatory History

- Ft. Flagler was certified as being decontaminated in 1954 and again in 1959.

- A Findings and Determination of Eligibility and an INPR were completed in 1991, which concluded that Ft. Flagler had been formerly used by the War Department.
- In 1992, a time-critical removal action (TCRA) was completed to remove anti-tank rockets and other MEC from the rocket range.
- Thirteen underground fuel tanks were removed under the Hazardous, Toxic, and Radioactive Waste (HTRW) program (undated). MEC or MC related items were not addressed in that project.
- The USACE issued an INPR Supplement in 2004, which compiled available information for Ft. Flagler and identified three AOCs: the Range Complex, the Rocket Range, and Transition Range 2 (location unknown). The Range Complex consisted of the nine artillery batteries, Transition Range 1, and the Gas Chamber.
- The USACE issued an ASR in April 2005 that compiled available information on the history and use of Ft. Flagler, with emphasis on types and areas of ordnance use and disposal. The ASR included a visit to the site in July 2003. The primary purpose of the site visit was to assess the presence of MEC through non-intrusive means. The ASR identified two additional AOCs: the Rifle Range and the Quartermaster Wharf Disposal Area.
- A Risk Assessment Code (RAC) scoring was included in the ASR. The areas scored were grouped by site usage rather than by AOC name. Possible scores range from 5 (no risk) to 1 (high risk). Below are the RAC scores.

Area	RAC Score	MEC Found
Rocket Range	5	No
Rifle Range	5	No
Transition Range	5	No
Quartermaster Wharf Disposal Area	3	Yes – small arms
Remaining Lands	5	No
Offshore Ordnance Area	5	No

Operational History and MEC/MC Characteristics

Historic Military Operations

- The U.S. government acquired 550 acres of land for Ft. Flagler in 1866. Construction of the first coastal batteries did not begin until 1897. Additional acreage was acquired over the years until the site grew to 809 acres.
- Between 1900 and 1946, the site was used as a coastal defense installation.
- During World War II, the Navy also operated an underwater listening station at Ft. Flagler.

- In 1950, all harbor defenses around Puget Sound were abolished including Ft. Flagler. The site was used for amphibious training and maneuvers after the coastal artillery weapons were removed.
- In 1953, Ft. Flagler was closed and the property was eventually (1954) transferred to the State of Washington for use as a State Park.

MEC/MC Characteristics

- Based on the ASR and the INPR Supplement, and information gathered during the TPP meeting, the MEC used at Ft. Flagler consisted of:
  - Coastal artillery batteries ranging in size from 3-inch to 12-inch,
  - Small arms,
  - 37-mm portable anti-aircraft guns,
  - Mark II hand grenade,
  - M21 practice hand grenade,
  - .50-caliber machine guns, and
  - 2.36-inch and 3.5-inch anti-tank rockets.

Groundwater

- The geology of the area is controlled by the last glaciation period between 12,000 and 15,000 years ago. Glacial deposits consist of thick sequences of glacial till and sand and gravel.
- Soil at the site consists of coastal beaches, Whidbey gravelly sandy loam, and Dick loamy sand.
- The depth to water, based on wells immediately south of the park, is between 58 to 125 ft.

Surface Water

- There are no established streams or fresh surface water on the site. Intermittent streams do occur during heavy precipitation events.
- Puget Sound, an intercoastal waterway (saltwater), surrounds the site on three sides (north, east, and west).

Terrestrial Exposure

- Based on the size and population of Jefferson County, Washington, the population density is approximately 10 persons per square mile.
- Ft. Flagler has permanent residents (park employees) and offers camping facilities to recreational users.

- The area south of Ft. Flagler is populated with private residences.
- The ASR identified only occasional transient bald eagles as the only protected species. The Washington Department of Fish and Wildlife and the U.S. Fish and Wildlife Service have been contacted to provide specific information about the site.
- There is one known archaeological site located within at Ft. Flagler. The specific location is not known. The office of Archaeology and Historic Preservation will be contacted to provide up-to-date information on the site.
- Ft. Flagler is listed on both the National Register of Historic Places and on the Washington Heritage Register.

Air

- Ft. Flagler State Park has full and part-time residents on site.
- The town of Port Townsend is approximately 4 miles to the west of the site.

Conceptual Site Model

Site Inspection
Ft. Flagler Military Reservation

Technical Project Planning Meeting
July 24, 2006

Overview

A site-specific CSM summarizes available site information and identifies relationships between exposure pathways and associated receptors. A CSM is used to determine the data types necessary to describe site conditions and quantify receptor exposure, and discusses the following information:

- Current site conditions and future land use;
- Potential contaminant sources (e.g., lead projectiles in an impact berm);
- Affected media;
- Governing fate and transport processes (e.g., surface water runoff and/or groundwater migration);
- Exposure media (i.e., media through which receptors could contact site-related contamination);
- Routes of exposure (e.g., inhalation, incidental ingestion, and dermal contact); and
- Potential human and/or representative ecological receptors at the exposure point. Receptors likely to be exposed to site contaminants are identified based on current and expected future land uses.

The CSM evaluates potential exposure pathways related to range operation and configuration relative to physical features and land use. Based on the CSM, sampling schemes are proposed for each area to evaluate potential human health and ecological impacts. Historical photos of the ranges (if available) are carefully examined for possible disturbances or other site features of interest in order to focus the efforts on areas where MC contamination is most likely to occur. The CSM is evaluated for completeness and further developed as needed through TPP meetings.

Based on a review of documents and the discussion during the TPP Meeting, the following AOCs have been identified within the Ft. Flagler FUDS:

- Range Complex (includes 10 subranges/batteries):
    - Battery Bankhead,
    - Battery Calwell,
    - Battery Downes,
    - Battery Gratton,
    - Battery Lee,
    - Battery Rawlins (includes Anti-torpedo Boat Battery),
    - Battery Revere,
    - Battery Wansboro,
    - Battery Wilhelm, and
    - Anti-Aircraft Artillery Battery.

- Ammunition Bunker
- Transition Range 1,
- Transition Range 2,
- Gas Chamber,
- Rifle Grenade/Anti-Tank Rocket Range,
- Live Grenade Court,
- Practice Grenade Court,
- Rifle Range,
- Demolition Area, and
- Quartermaster Wharf Disposal Area.

CSMs are provided for these AOCs. MEC and MC are analyzed individually within each of the CSMs.

The location of two potential AOCs could not be identified. The Pistol Range has not been located, but it is suspected that it was collocated with the Rifle Range. The locations of the 37-mm mobile artillery and .50-caliber machine guns are unknown. The ASR stated that the assessment team thought that the likely locations of the 37-mm artillery and machine guns were at gun batteries that were abandoned prior to World War II.

The Off Shore Ordnance Area consists of the impact areas used for test firing the artillery guns. The impact areas are within Puget Sound at least several hundred yards offshore. The offshore area is not discussed in this TPP Memorandum.

Conceptual Site Model – Range Complex AOC

The Range Complex is a single AOC that includes the ten coastal artillery batteries listed below:

- Battery Bankhead,
- Battery Calwell,
- Battery Downes,
- Battery Gratton,
- Battery Lee,
- Battery Rawlins,
- Battery Revere (Anti-Torpedo Boat Battery),
- Battery Wansboro,
- Battery Wilhelm, and
- Anti-Aircraft Artillery Battery.

Figures 2 and 3 show the location of the Range Complex AOC and batteries. Figure 4 is a graphic representation of the CSM for the artillery batteries.

Current and Future Land Use

- Currently, the Range Complex AOC is part of the Ft. Flagler State Park which offers camping, boating, fishing, shoreline use, hiking, and historical interpretive information.
- For the foreseeable future, it is likely that the Range Complex AOC will continue to be part of the Ft. Flagler State Park.

Potential Contaminant Sources

- According to the ASR the Range Complex AOC was used as a coastal defense battery. The range fans for the batteries extended beyond the FUDS boundary and over the waters of Puget Sound. No firing onto land occurred. The Anti-Torpedo Boat Battery was located at Battery Revere after the original 10-inch gun tubes were removed in 1941. It is unknown how often the artillery guns were fired or whether the firing included high explosive rounds in addition to spotting charges practice rounds. In a report dated 1933, it was stated that the two guns at Battery Revere were fired 111 and 94 times, respectively, as part of a testing program.

An analysis of the exposure media, pathways and receptors for MEC and MC are discussed below and summarized in Table 2.

MEC Evaluation

Types of MEC

- Potential MEC within the Range Complex are listed on Table 1 and include propellant charges, artillery shells, and projectiles. An explosive hazard could exist if artillery shells or propellant charges were improperly handled at the batteries and discarded nearby.
- The batteries are permanent structures in which the guns were emplaced in concrete structures and serviced by paved roads. It is unlikely that there was casual disposal of MEC in the vicinity of the battery.
- Based on over 50 years of park use surrounding the batteries, no evidence of MEC has been reported. MEC is not expected at the coastal batteries.

Surface Exposure Pathway

- Because of the unlikely occurrence of MEC at the batteries, the surface exposure pathway is considered incomplete.

Subsurface Exposure Pathway

- Because of the unlikely occurrence of MEC at the batteries, the subsurface exposure pathway is considered incomplete.

MEC Evaluation/Investigation Needed

- Visual reconnaissance will be performed to verify current conditions at the site.

MC Evaluation

Types of MC

- The potential MC at the Ft. Flagler Range Complex includes explosives (2,4,6-trinitrotoluene [TNT] and ammonium picrate) and lead and steel from projectiles. Propellants were either single-base (nitrocellulose), double-base (nitrocellulose and NG [NG]), or triple-base (nitrocellulose, NG, and nitroguanidine).
- The projectiles were fired at offshore targets. Therefore, there is no exposure path for MC associated with projectiles near the batteries.
- There is potential for MC deposited from muzzle releases in front of the batteries. However, the guns were seldom used and research from CRREL[1] indicates that there is little MC associated with muzzle even in cases with much more frequent use.

Overview of Pathways

Based on the discussion above, there are no exposure pathways for MC at the Range Complex AOC. No MC sampling is proposed.

[1] U.S. Army Engineer Research and Development Center Cold Regions Research and Engineering Laboratory, 72 Lyme Rd., Hanover, NH, 03755-1290

Conceptual Site Model – Ammunition Bunker AOC

The Ammunition Bunker is a single AOC. Figures 2 and 3 show the location of the Ammunition Bunker AOC. The location of this AOC is taken from the War Department map that was obtained during the TPP Meeting. This War Department map is included in this document as Attachment A.

Current and Future Land Use

- Currently, the Ammunition Bunker AOC is part of the Ft. Flagler State Park which offers camping, boating, fishing, shoreline use, hiking, and historical interpretive information.
- For the foreseeable future, it is likely that the Ammunition Bunker AOC will continue to be part of the Ft. Flagler State Park.

Potential Contaminant Sources

- The Ammunition Bunker was used between 1942 and 1954 for ammunition storage.

An analysis of the exposure media, pathways and receptors for MEC and MC are discussed below and summarized in Table 2.

MEC Evaluation

Types of MEC

- All types of munitions used at Ft. Flagler between 1942 and 1954 may have been stored here. However, munitions for the artillery batteries would not have been stored at this location as each battery had its own storage bunker. The types of MEC may have included small arms, hand grenades, training grenade containing riot control gas (chloroacetophenone [CN]), 2.36-inch and 3.5-inch practice and high explosive rockets, practice and live hand grenades, and candles, etc that were used for gas training.

Surface Exposure Pathway

- The potential route of human exposure to MEC or munitions debris includes direct contact by vehicles, foot traffic, or handling. This would include park workers and visitors.
- The potential route of wildlife exposure to MEC or munitions debris would be by directly walking on them.

Subsurface Exposure Pathway

- The potential routes of human exposure to MEC or munitions debris would be by intrusive drilling or digging activities. This includes park workers and visitors.
- The potential route of wildlife exposure to MEC or munitions debris would be by burrowing activities.

MEC Evaluation/Investigation Needed

- Visual reconnaissance will be performed around Ammunition Bunker to verify current conditions at the site.

MC Evaluation

Types of MC

- The anticipated MC at the Ft. Flagler Ammunition Bunker AOC is lead from small arms, metals from munitions, propellants (single- or double-base powder), explosives (including NG and pentaerythritol tetranitrate [PETN]), and perchlorate.

Overview of Pathways

Affected media and potential pathways for MC include:

- Soil: At the Ammunition Bunker AOC, soil is the primary medium of concern because of possible MC in the soil from training activities. The soil also serves as a secondary source of potential air, sediment, surface water, or groundwater contamination.
- Sediment/Surface Water: Sediments may accumulate in the area through ponding of precipitation. Sediment also serves as a secondary source for surface water and groundwater contamination. There is no established surface water drainage at the AOC; however, there are intermittent streams. The only nearby surface water is Puget Sound, a very large, tidal, saltwater body that contains abundant ecological receptors. Surface water will be evaluated via sediments.
- Groundwater: Groundwater is considered a potentially affected media because it is present within 100 ft of ground surface. However, the groundwater pathway is not complete as there are no downgradient groundwater users in the area.
- Air: Air is a potential medium of concern because of the possibility of inhalation of contaminated soil particles. However, air is not an affected media under current land use, thus the pathway is incomplete.

Exposure media at the Ammunition Bunker AOC include soil, sediment, and surface water.

Soil Exposure Pathway

Exposure Routes

- The potential routes of human exposure to contaminated soils include incidental ingestion of and dermal contact with contaminated media, as well as inhalation of soil particulates during intrusive work.
- The potential routes of wildlife exposure to contaminated soils include ingestion of and direct contact with contaminated media. Plants may uptake MC and then subsequently be eaten by wildlife. Burrowing animals may ingest MC-contaminated soil and subsequently be eaten by predators.

Receptors

- State Park workers and visitors.
- Wildlife.

MC Soil Evaluation/Investigation Needed

- If during the visual reconnaissance, evidence of MEC or MEC debris is located in the area surrounding the bunker, one composite soil sample will be collected from the location of MEC or MEC debris. The samples will be analyzed for select metals (aluminum, chromium, copper, iron, lead, manganese, molybdenum, and nickel) and explosives, including NG and PETN. The select metals list is based on expected metals contained in munitions used at Ft. Flagler.

Sediment and Surface Water Exposure Pathway

Exposure Routes

- The potential routes of human exposure to contaminated sediment include incidental ingestion and dermal contact with sediments/surface water.
- The potential routes of wildlife (including aquatic organisms) exposure to contaminated sediment include ingestion of and direct contact with sediment/surface water.

Receptors

- State Park workers and visitors.
- Wildlife.

MC Sediment and Surface Water Evaluation/Investigation Needed

- A visual survey will be conducted to verify current site conditions. If evidence of MEC or MEC debris is observed in the area surrounding the bunker, one discrete sediment sample will be collected from a water accumulation area. The sample will be analyzed for select metals (aluminum, chromium, copper, iron, lead, manganese, molybdenum, and nickel) and explosives, including NG and PETN.
- No surface water samples will be collected from Puget Sound because of the length of time since DoD use of this AOC, and because any accumulation of contaminants in a body of water the size of Puget Sound is expected to be below analytical detection limits and levels of concern.

Conceptual Site Model – Transition Range 1 AOC

Transition Range 1 is a single AOC shown on Figures 2 and 5. The boundaries of this AOC were taken from the INPR Supplement. The Transition Range consisted of individual firing lanes which soldiers transitioned along engaging targets from various positions (fox hole, window, and prone) and at varying distances.

Figure 6 illustrates the CSM for the Transition Range 1 AOC and potential pathways of MC contamination.

Current and Future Land Use

- Currently, the Transition Range 1 AOC is part of the Ft. Flagler State Park which offers camping, boating, fishing, shoreline use, hiking, and historical interpretive information. The AOC is located south of the Cantonment Area, park administrative offices, and visitor areas.
- Hiking trails traverse the Transition Range 1 AOC.
- For the foreseeable future, it is likely that the Transition Range 1 AOC will continue to be part of the Ft. Flagler State Park.

Potential Contaminant Sources

- According to the INPR Supplement Transition Range 1 was used between 1942 and 1954 for small arms use.

An analysis of the exposure media, pathways and receptors for MEC and MC are discussed below and summarized in Table 2.

MEC Evaluation

Types of MEC

- Because this AOC was used for small arms only, MEC (other than small arms) is not expected to be present. The potential for live small arms rounds exists, but these do not pose a significant explosive hazard.

Surface Exposure Pathway

- Because there is no MEC with significant explosive hazard at this AOC, the surface exposure pathway is incomplete.

Subsurface Exposure Pathway

- Because there is no MEC with significant explosive hazard at this AOC, the subsurface exposure pathway is incomplete.

MEC Evaluation/Investigation Needed

- A visual reconnaissance will be conducted to verify current conditions at the site.

MC Evaluation

Types of MC

- The anticipated MC at the Ft. Flagler Transition Range 1 AOC is lead from small arms. Propellants (single- or double-base powder) for the small arms are not thought to pose a significant impact. However, research from CRREL[2] indicates that there is little MC associated with muzzle deposits, even if the range was used frequently.

Overview of Pathways

Affected media and potential pathways for MC include:

- Soil: At the Transition Range 1 AOC, soil is the primary medium of concern because of possible MC in the soil from training activities. The soil also serves as a secondary source of potential air, sediment, surface water, or groundwater contamination.
- Sediment and Surface Water: Sediments may accumulate in the area through ponding of precipitation. Sediment also serves as a secondary source for surface water and groundwater contamination. There is no established surface water drainage at the AOC. The only nearby surface water is Puget Sound, a very large, tidal, saltwater body that contains abundant ecological receptors. Surface water will be evaluated via sediments.
- Groundwater: Groundwater is considered a potentially affected media because it is present within 100 ft of ground surface. However, the groundwater pathway is not complete as there are no downgradient groundwater users in the area.
- Air: Air is a potential medium of concern because of the possibility of inhalation of contaminated soil particles. However, air is not an affected media under current land use, thus the pathway is incomplete.

Exposure media at the Transition Range 1 AOC include soil, sediment, and surface water.

Soil Exposure Pathway

Exposure Routes

- The potential routes of human exposure to contaminated soils include incidental ingestion of and dermal contact with contaminated media, as well as inhalation of soil particulates during intrusive work.
- The potential routes of wildlife exposure to contaminated soils include ingestion of and direct contact with contaminated media. Plants may uptake MC and then subsequently be eaten by wildlife. Burrowing animals may ingest MC-contaminated soil and subsequently be eaten by predators.

Receptors

- State Park workers and visitors.
- Wildlife.

[2] U.S. Army Engineer Research and Development Center Cold Regions Research and Engineering Laboratory, 72 Lyme Rd., Hanover, NH, 03755-1290

MC Soil Evaluation/Investigation Needed

- Two composite soil samples are proposed to be collected from this AOC near the location of the target berm. Samples will be analyzed for lead only.

Sediment and Surface Water Exposure Pathways

Exposure Routes

- The potential routes of human exposure to contaminated sediment include incidental ingestion and dermal contact with sediment/surface water.
- The potential routes of wildlife (including aquatic organisms) exposure to contaminated sediment include ingestion of and direct contact with sediment/surface water.

Receptors

- State Park workers and visitors.
- Wildlife.

MC Sediment and Surface Water Evaluation/Investigation Needed

- One sediment sample will be collected from a water accumulation area within the AOC. The sample will be analyzed for lead only.
- No surface water samples will be collected from Puget Sound because of the length of time since DoD use of this AOC, and because any accumulation of contaminants in a body of water the size of Puget Sound is expected to be below analytical detection limits and levels of concern.

Conceptual Site Model – Transition Range 2 AOC

Transition Range 2 is a single AOC shown on Figures 2 and 7. The location of this AOC is taken from the War Department map that was obtained during the TPP Meeting. This War Department map is included in this document as Attachment A. The Transition Range consisted of individual firing lanes which soldiers transitioned along engaging targets from various positions (fox hole, window, and prone) and at varying distances. Figure 6 illustrates the CSM for the Transition Range 2 AOC and potential pathway of MC contamination.

Current and Future Land Use

- Currently, the Transition Range 2 AOC is part of the Ft. Flagler State Park which offers camping, boating, fishing, shoreline use, hiking, and historical interpretive information. The AOC is located along the southern boundary of the State Park, near the main entrance road.
- An access road traverses the southern boundary of the Transition Range 2 AOC.
- It is likely that for the foreseeable future, the Transition Range 2 AOC will continue to be part of the Ft. Flagler State Park.

Potential Contaminant Sources

- According to the ASR and INPR Supplement available information indicated that the range was 55 x 130 yards in size and contained 12 targets; however, the location of the AOC was not known.
- Small arms were used at the AOC between 1942 and 1954

An analysis of the exposure media, pathways and receptors for MEC and MC are discussed below and summarized in Table 2.

MEC Evaluation

Types of MEC

- Because this AOC was used for small arms only, MEC (other than small arms) is not expected to be present. The potential for live small arms rounds exists, but these do not pose a significant explosive hazard.

Surface Exposure Pathway

- Because there is no MEC with significant explosive hazard at this AOC, the surface exposure pathway is incomplete.

Subsurface Exposure Pathway

- Because there is no MEC with significant explosive hazard at this AOC, the subsurface exposure pathway is incomplete.

MEC Evaluation/Investigation Needed

- A visual reconnaissance will be conducted to verify current conditions at the site.

MC Evaluation

Types of MC

- The MC anticipated at the Ft. Flagler Transition Range 2 AOC is lead from small arms. Propellants (single- or double-base powder) for the small arms are not thought to pose a significant impact. However, research from CRREL[3] indicates that there is little MC associated with muzzle deposits, even if the range was used frequently.

Overview of Pathways

Affected media and potential pathways for MC include:

- Soil: At the Transition Range 2 AOC, soil is the primary medium of concern because of possible MC in the soil from training activities. The soil also serves as a secondary source of potential air, sediment, surface water, or groundwater contamination.
- Sediment and Surface Water: Sediments may accumulate in the area through ponding of precipitation. Sediment also serves as a secondary source for surface water and groundwater contamination. There is no established surface water drainage at the AOC. The only nearby surface water is Puget Sound, a very large, tidal, saltwater body that contains abundant ecological receptors. Surface water will be evaluated via sediments.
- Groundwater: Groundwater is considered a potentially affected media because it is present within 100 ft of ground surface. However, the groundwater pathway is not complete as there are no downgradient groundwater users in the area.
- Air: Air is a potential medium of concern because of the possibility of inhalation of contaminated soil particles. However, air is not an affected media under current land use, thus the pathway is incomplete.

Exposure media at the Transition Range 2 AOC include soil, sediment, and surface water.

Soil Exposure Pathway

Exposure Routes

- The potential routes of human exposure to contaminated soils include incidental ingestion of and dermal contact with contaminated media, as well as inhalation of soil particulates during intrusive work.
- The potential routes of wildlife exposure to contaminated soils include ingestion of and direct contact with contaminated media. Plants may uptake MC and then subsequently be eaten by wildlife. Burrowing animals may ingest MC-contaminated soil and subsequently be eaten by predators.

Receptors

- State Park workers and visitors.
- Wildlife.

[3] U.S. Army Engineer Research and Development Center Cold Regions Research and Engineering Laboratory, 72 Lyme Rd., Hanover, NH, 03755-1290

MC Soil Evaluation/Investigation Needed

- Two composite soil samples are proposed to be collected from this AOC near the location of the target berm. Samples will be analyzed for lead only.

Sediment and Surface Water Exposure Pathway

Exposure Routes

- The potential routes of human exposure to contaminated sediment include incidental ingestion and dermal contact with sediment/surface water.
- The potential routes of wildlife (including aquatic organisms) exposure to contaminated sediment include ingestion of and direct contact with sediment/surface water.

Receptors

- State Park workers and visitors.
- Wildlife.

MC Sediment and Surface Water Evaluation/Investigation Needed

- One sediment sample will be collected from a water accumulation area within the AOC. The sample will be analyzed for lead only.
- No surface water samples will be collected from Puget Sound because of the length of time since DoD use of this AOC, and because any accumulation of contaminants in a body of water the size of Puget Sound is expected to be below analytical detection limits and levels of concern.

Conceptual Site Model – Gas Chamber AOC

The Gas Chamber is a single AOC shown on Figures 2 and 8. The boundaries of this AOC were taken from the INPR Supplement. The Gas Chamber was located within the bunkered area of Battery Wansboro after the artillery guns were removed. The room used for the gas chamber is empty.

Current and Future Land Use

- Currently, the Gas Chamber AOC is part of the Ft. Flagler State Park which offers camping, boating, fishing, shoreline use, hiking, and historical interpretive information. The AOC is located within Battery Wansboro on the southeast side of the FUDS.
- The AOC is used by visitors on a daily basis.
- For the foreseeable future, it is likely that the Gas Chamber AOC will continue to be part of the Ft. Flagler State Park.

Potential Contaminant Sources

- According to the INPR Supplement the Gas Chamber was used between 1942 and 1954 for gas training of troops.

An analysis of the exposure media, pathways and receptors for MEC and MC are discussed below and summarized in Table 2.

MEC Evaluation

Types of MEC

- The only munitions identified as used at this AOC were gas grenades containing riot control agent CN-1. There is minimal explosive hazard associated with gas grenades.

Surface Exposure Pathway

- Because there is no MEC at this AOC, the surface exposure pathway is incomplete.

Subsurface Exposure Pathway

- Because there is no MEC at this AOC, the subsurface exposure pathway is incomplete.

MEC Evaluation/Investigation Needed

- A visual reconnaissance will be conducted to verify current conditions at the site. No MEC is expected to be present.

MC Evaluation

Types of MC

- The MC at the Ft. Flagler Gas Chamber AOC is riot control agent CN-1. CN-1 is an irritant that is similar to mace.

Overview of Pathways

Affected media and potential pathways for MC include:

- Soil: Soil is the primary medium of concern because of possible MC in the soil from training activities. However, riot control agents are not persistent and any release to soil would be expected to be neutralized by weathering and time and not be present in the soil today. There is no complete soil pathway.
- Sediment and Surface Water: Sediments may accumulate in the area through ponding of precipitation. There is no established surface water drainage at the AOC. The only surface water is Puget Sound. Riot control agents are not persistent and any release to sediment or surface water would be expected to be neutralized by weathering and time and not be present today. There is no complete sediment or surface water pathway.
- Groundwater: Groundwater is considered a potentially affected media because it is present within 100 ft of ground surface. However, riot control agents are not persistent and any release to soil and eventually groundwater would be expected to be neutralized by weathering and time and not be present in the soil today. There is no complete groundwater pathway.
- Air: Air is a potential medium of concern because of the possibility of inhalation of contaminated soil particles. However, air is not an affected media under current land use, thus the pathway is incomplete.

Based on the discussion above, there are no complete exposure pathways for MC at the Gas Chamber AOC. No MC sampling is proposed.

Conceptual Site Model – Rifle Grenade/Anti-Tank Rocket Range AOC

The Rifle Grenade/Anti-Tank Rocket Range AOC is an amphibious assault training area located near the lower campground at the Ft. Flagler State Park. This AOC is shown on Figures 2 and 9. A portion of this AOC was cleared of UXO in 1992. The cleared area is shown on Figure 9. All vegetation (except standing trees) was removed from most of the clearance area and 100 percent of the ground surface of the clearance area was cleared using a handheld magnetometer. The eastern leg of the clearance area did not receive a 100 percent clearance because of heavy forestation and downed trees. This AOC includes a 1000-inch/Machine Gun Range, which was identified on the War Department map that was obtained during the TPP Meeting. This War Department map is included in this document as Attachment A.

Current and Future Land Use

- Currently, the Rifle Grenade/Anti-Tank Rocket Range AOC is part of the Ft. Flagler State Park which offers camping, boating, fishing, shoreline use, hiking, and historical interpretive information. A camping area is located within this AOC.
- For the foreseeable future, it is likely that the Range Complex AOC will continue to be part of the Ft. Flagler State Park.

Potential Contaminant Sources

- According to the ASR the Rifle Grenade/Anti-Tank Rocket Range was used between 1942 and 1954 for amphibious assault exercises. Munitions used included 3.5-inch and 2.36-inch rockets, and small arms.
- The 1000-inch/Machine Gun Range included small arms and machine gun use.
- The location of the beach portion of this AOC coincides with the Debarkation Area identified in the War Department map (Attachment A). The two areas are included as one AOC in this TPP Memorandum. The map identified the Debarkation Area as having "beach obstacles."
- During the 1992 UXO Clearance, the following MEC and MEC debris were recovered:
    - 2.36-inch expended rocket motors (172 items);
    - 2.36-inch rockets with live warhead (3 items);
    - 2.36-inch rockets with live fuse (2 items);
    - 3.5-inch expended rocket motors (2 items);
    - 1 live training hand grenade;
    - 1 Bangalore torpedo fuse housing, inert;
    - Anti-tank/anti-vehicle mines, inert (12 items); and
    - Empty .30-caliber casings (16 items).

An analysis of the exposure media, pathways and receptors for MEC and MC are discussed below and summarized in Table 2.

MEC Evaluation

Types of MEC

- Potential MEC within the Rifle Grenade/Anti-Tank Rocket Range AOC are listed on Table 1 and include rockets, hand grenades, mines, and small arms. Explosive hazards from the mines and small arms are not expected.

Surface Exposure Pathway

- The potential route of human exposure to MEC or munitions debris includes direct contact by vehicles, foot traffic, or handling. This would include park workers and visitors.
- The potential route of wildlife exposure to MEC or munitions debris would be by directly walking on them.

Subsurface Exposure Pathway

- The potential routes of human exposure to MEC or munitions debris would be by intrusive drilling or digging activities. This includes park workers and visitors.
- The potential route of wildlife exposure to MEC or munitions debris would be by burrowing activities.

MEC Evaluation/Investigation Needed

- Visual reconnaissance aided by a handheld magnetometer will be performed by a trained UXO technician within a portion of the Rifle Grenade/Anti-Tank Rocket Range AOC. Based on the 1992 UXO clearance, there is a possibility that MEC is present in the eastern portion of the clearance area, which was not cleared to 100 percent because of heavy vegetation and downed trees. However, it should be noted that this area is very heavily forested with fallen trees and heavy underbrush and only limited reconnaissance can be performed.

MC Evaluation

Types of MC

- The anticipated MC at the Ft. Flagler Rifle Grenade/Anti-Tank Rocket Range AOC is steel from rockets, lead from small arms, propellant from the rocket motors, and explosives.
- The propellant for the 3.5-inch rockets likely contained potassium perchlorate.

Overview of Pathways

Affected media and potential pathways for MC include:

- Soil: At the Rifle Grenade/Anti-Tank Rocket Range, soil is the primary medium of concern because of possible MC in the soil from training activities. The soil also serves

as a secondary source of potential air, sediment, surface water, or groundwater contamination.

- Sediment and Surface Water: Sediments may accumulate in the area in small ponds or puddles. Sediment serves as a potential source for surface water, groundwater, and air contamination. There is no established surface water drainage at the AOC. The only surface water is Puget Sound. Surface water will be evaluated via sediments.
- Groundwater: Groundwater is considered a potentially affected media because it is present within 100 ft of ground surface. However, the groundwater pathway is not complete as there are no downgradient groundwater users in the area.
- Air: Air is a potential medium of concern because of the possibility of inhalation of contaminated soil particles. However, air is not an affected media under current land use, thus the pathway is incomplete.

Exposure media at the Rifle Grenade/Anti-Tank Rocket Range AOC include only soil and sediment.

Soil Exposure Pathway

Exposure Routes

- The potential routes of human exposure to contaminated soils include incidental ingestion of and dermal contact with contaminated media, as well as inhalation of soil particulates during intrusive work.
- The potential routes for wildlife exposure to contaminated soils include ingestion of and direct contact with contaminated media. Plants may uptake MC and then subsequently be eaten by wildlife. Burrowing animals may ingest MC-contaminated soil and subsequently be eaten by predators.

Receptors

- State Park workers and visitors.
- Wildlife.

MC Soil Evaluation/Investigation Needed

- Three composite soil samples will be collected from this AOC. Two of the samples will be collected at locations of expended rocket motors removed during the 1992 clearance action. The third sample will be randomly located in the eastern portion of the clearance area.
- Samples will be analyzed for select metals (aluminum, chromium, copper, iron, lead, manganese, molybdenum, and nickel) and explosives, including NG and PETN.

Sediment and Surface Water Exposure Pathway

Exposure Routes

- The potential routes of human exposure to contaminated sediment include incidental ingestion and dermal contact with sediment/surface water.
- The potential routes of wildlife (including aquatic organisms) exposure to contaminated sediment include ingestion of and direct contact with sediment/surface water.

Receptors

- State Park workers and visitors.
- Wildlife.

MC Sediment and Surface Water Evaluation/Investigation Needed

- One sediment sample will be collected from a water accumulation area within the AOC. The sample will be analyzed for select metals (aluminum, chromium, copper, iron, lead, manganese, molybdenum, and nickel) and explosives, including NG and PETN.
- No surface water samples will be collected from Puget Sound because of the length of time since DoD use of this AOC, and because any accumulation of contaminants in a body of water the size of Puget Sound is expected to be below analytical detection limits and levels of concern.

Conceptual Site Model – Live Grenade Court

The Live Grenade Court is a single AOC as shown on Figures 2 and 10. This AOC is located in the southeast corner of the FUDS and Ft. Flagler State Park and just north of the Practice Grenade Court AOC. The location of this AOC is taken from the War Department map that was obtained during the TPP Meeting. This War Department map is included in this document as Attachment A. Figure 11 illustrates the CSM for the Live Grenade Range AOC and potential pathways of MC contamination.

Current and Future Land Use

- Currently, the Live Grenade Court AOC is part of the Ft. Flagler State Park which offers camping, boating, fishing, shoreline use, hiking, and historical interpretive information.
- For the foreseeable future, it is likely that the Live Grenade Court AOC will continue to be part of the Ft. Flagler State Park.

Potential Contaminant Sources

- The court ranges were assumed to be used by the Army between 1942 and 1954.
- The courts were used for training in the use of live (explosive) and/or training hand grenades.
- Grenades were thrown from individual throwing bays constructed from sandbags or concrete, or from a trench.
- Grenades were thrown toward targets in an impact area approximately 25 yards from the throwing line (see Figure 11 Conceptual Site Model Grenade Court).
- A danger area of approximately 600 ft would have been established around each court.

An analysis of the exposure media, pathways and receptors for MEC and MC are discussed below and summarized in Table 2.

MEC Evaluation

Types of MEC

- The munitions used included the Mk II fragmentation hand grenade.
- M21 practice grenades, which contained only small spotting charges of black powder, may also have been used.
- A potential hazard from MEC exists in unexploded grenades.

Surface Exposure Pathway

- The potential route of human exposure to MEC or munitions debris includes direct contact by vehicles, foot traffic, or handling. Human exposure would potentially include park workers and visitors.
- The potential route of wildlife exposure to MEC or munitions debris would be by direct contact.

Subsurface Exposure Pathway

- The potential routes of human exposure to MEC or munitions debris would be through intrusive activity or geologic instability (erosion, freeze-thaw, etc.).
- The potential route of wildlife exposure to MEC or munitions debris would be by burrowing activities or geologic instability.

MEC Evaluation/Investigation Needed

- The presence of MEC in the Live Grenade Court is unknown. Visual reconnaissance aided by a handheld magnetometer will be performed by a trained UXO technician. The reconnaissance will traverse across the AOC to identify MEC or MEC debris. However, it should be noted that the area is heavily forested with underbrush that may present obstacles to the reconnaissance.

<u>MC Evaluation</u>

Types of MC

- The anticipated MC at the explosive munitions ranges is primarily residual explosive compounds from grenades that underwent high-order (normal) or low-order detonation, or from undetonated munitions. The explosive charges used in the Mk II grenades were 2 ounces of TNT (or E.C. blank fire smokeless powder, consisting largely of nitrocellulose, in older models).
- To a lesser degree, there is a potential for the presence of elevated concentrations of metals from the grenade housing and components which are made primarily from cast iron and steel.

Overview of Pathways

Affected media and potential pathways for MC include:

- Soil: At the Live Grenade Range, soil is the primary medium of concern because of possible MC in the soil from training activities. The soil also serves as a secondary source of potential air, sediment, surface water, or groundwater contamination.
- Sediment and Surface Water: Sediments may accumulate in the area in small ponds or puddles. Sediment serves as a potential source for surface water, groundwater, and air contamination. There is no established surface water drainage at the AOC. The only surface water is Puget Sound. Surface water will be evaluated via sediments.
- Groundwater: Groundwater is considered a potentially affected media because it is present within 100 ft of ground surface. However, the groundwater pathway is not complete as there are no downgradient groundwater users in the area.
- Air: Air is a potential medium of concern because of the possibility of inhalation of contaminated soil particles. However, air is not an affected media under current land use, thus the pathway is incomplete.

Exposure media at the Live Grenade Range AOC include soil, sediment and surface water.

Soil Exposure Pathway

Exposure Routes

- The potential routes of human exposure to contaminated soils include incidental ingestion of and dermal contact with contaminated media, as well as inhalation of soil particulates during intrusive work.
- The potential routes of wildlife exposure to contaminated soils include ingestion of and direct contact with contaminated media. Plants may uptake MC and then subsequently be eaten by wildlife. Burrowing animals may ingest MC-contaminated soil and subsequently be eaten by predators.

Receptors

- State Park workers and visitors.
- Wildlife.

MC Soil Evaluation/Investigation Needed

- One composite soil sample will be collected from this AOC. The sample will be located following completion of the visual reconnaissance and identification of MEC or MEC debris. The sample location will be selected from an identified MEC debris location. If no MEC debris is identified, the sample location will be near the center of the AOC.
- The soil sample will be analyzed for select metals (aluminum, chromium, copper, iron, lead, manganese, molybdenum, and nickel) and explosives.

Sediment and Surface Water Exposure Pathway

Exposure Routes

- The potential routes of human exposure to contaminated sediment include incidental ingestion and dermal contact with sediment/surface water.
- The potential routes of wildlife (including aquatic organisms) exposure to contaminated sediment include ingestion of and direct contact with sediment/surface water.

Receptors

- State Park workers and visitors.
- Wildlife.

MC Sediment and Surface Water Evaluation/Investigation Needed

- No sediment samples will be collected from this AOC. The location of the AOC is relatively flat and overland flow is not expected.
- No surface water samples will be collected from Puget Sound because of the length of time since DoD use of this AOC, and because any accumulation of contaminants in a body of water the size of Puget Sound is expected to be below analytical detection limits and levels of concern.

Conceptual Site Model – Practice Grenade Court

The Practice Grenade Court is a single AOC as shown on Figures 2 and 10. This AOC is located in the southeast corner of the FUDS and Ft. Flagler State Park and just south of the Live Grenade Court AOC. The location of this AOC is taken from the War Department map that was obtained during the TPP Meeting. This War Department map is included in this document as Attachment A.

Current and Future Land Use

- Currently, the Practice Grenade Court AOC is part of the Ft. Flagler State Park which offers camping, boating, fishing, shoreline use, hiking, and historical interpretive information.
- For the foreseeable future, it is likely that the Practice Grenade Court AOC will continue to be part of the Ft. Flagler State Park.
- The AOC is within a heavily forested area with underbrush.

Potential Contaminant Sources

- The AOC is assumed to be have been used between 1942 and 1954 similar to other troop training activities at Ft. Flagler.
- The courts were used for training in the use of practice and/or training hand grenades.
- Grenades were thrown from individual throwing bays constructed from sandbags or concrete, or from a trench.
- Grenades were thrown toward targets in an impact area approximately 25 yards from the throwing line (see Figure 11 Conceptual Site Model Grenade Court).
- No danger area would have been established around a practice grenade court.

An analysis of the exposure media, pathways and receptors for MEC and MC are discussed below and summarized in Table 2.

MEC Evaluation

Types of MEC

- The munitions used at the practice courts would have included the Mk1A1 training grenades, an inert device made of cast iron with the approximate shape, size, and weight of an actual hand grenade.
- The munitions used at the practice courts may also have included the M21 practice grenades, reusable devices which contained only small charges of black powder to simulate the detonation of a live grenade.
- There is not a significant hazard from MEC associated with the practice courts, based on the training devices used, and as indicated in Table 1.

Surface Exposure Pathway

- Because there is no MEC with significant explosive hazard at this AOC, the surface exposure pathway is incomplete.

Subsurface Exposure Pathway

- Because there is no MEC with significant explosive hazard at this AOC, the subsurface exposure pathway is incomplete.

MEC Evaluation/Investigation Needed

- A visual reconnaissance will be conducted at the Practice Grenade Court AOC to document current conditions.

MC Evaluation

Types of MC

- The small quantity of black powder (consisting of potassium nitrate, sulfur, and charcoal) associated with training grenades does not pose a significant risk of environmental contamination, as indicated in Table 1.

MC Evaluation/Investigation Needed

No sampling is required for the Practice Grenade Courts.

Overview of Pathways

Based on the discussion above, there are no exposure pathways for MC at the Practice Grenade Court OC. No MC sampling is proposed.

Conceptual Site Model – Rifle Range AOC

The Rifle Range is a single AOC shown on Figures 2 and 12. According to the ASR there was a rifle range near the lighthouse when Ft. Flagler was first built. The butt to this range was torn down in 1932 to salvage lead and copper from the expended bullets. A new range was built on the same location during World War II. Figure 13 illustrates the CSM for the Rifle Range and potential pathway of MC contamination.

Current and Future Land Use

- Currently, the Rifle Range AOC is part of the Ft. Flagler State Park which offers camping, boating, fishing, shoreline use, hiking, and historical interpretive information. This AOC is located near the lighthouse at Marrowstone Point.
- Hiking trails traverse the Rifle Range AOC, and an interpretive trail occupies the rifle range location.
- The target area was cleared of brush by State Park volunteers and one of the targets was reconstructed. The configuration of this range is firing from south to north, which is different from the configuration shown in the ASR. The berm in front of the targets is clearly visible and State Park volunteers have reported that a wall was built behind the targets to protect the power plant below Battery Lee
- For the foreseeable future, it is likely that the Range Complex AOC will continue to be part of the Ft. Flagler State Park.

Potential Contaminant Sources – Rifle Range

- According to the ASR the Rifle Range was used between 1942 and 1954 for small arms use, and use of the range area likely occurred as far back as1900.

An analysis of the exposure media, pathways and receptors for MEC and MC are discussed below and summarized in Table 2.

MEC Evaluation

Types of MEC

- Because this AOC was used for small arms only, MEC (other than small arms) is not expected to be present. The potential for live small arms rounds exists, but these do not pose a significant explosive hazard.

Surface Exposure Pathway

- Because there is no MEC with significant explosive hazard at this AOC, the surface exposure pathway is incomplete.

Subsurface Exposure Pathway

- Because there is no MEC with significant explosive hazard at this AOC, the subsurface exposure pathway is incomplete.

MEC Evaluation/Investigation Needed

- A visual reconnaissance will be performed to verify current site conditions and map the range.

MC Evaluation

Types of MC

- The anticipated MC at the Ft. Flagler Rifle Range AOC is lead from small arms. Propellants (single-base or double-base powder) for the small arms are not thought to pose a significant impact.

Overview of Pathways

Affected media and potential pathways for MC include:

- Soil: At the Rifle Range AOC, soil is the primary medium of concern because of possible MC in the soil from training activities. The soil also serves as a secondary source of potential air, sediment, surface water, or groundwater contamination.
- Sediment and Surface Water: Sediments may accumulate in the area through ponding of precipitation. The sediment also serves as a secondary source for surface water and groundwater contamination. There are one or more ponds in the area between the firing points and targets. These are not considered to be a pathway because of their location well in front of the targets and it is understood that these may have been constructed after the use of the range ended in 1954.
- Groundwater: Groundwater is considered a potentially affected media because it is present within 100 ft of ground surface. However, the groundwater pathway is not complete as there are no downgradient groundwater users in the area.
- Air: Air is a potential medium of concern because of the possibility of inhalation of contaminated soil particles. However, air is not an affected media under current land use, thus the pathway is incomplete.

Exposure media at the Rifle Range AOC include only soil and sediments.

Soil Exposure Pathway

Exposure Routes

- The potential routes of human exposure to contaminated soils include incidental ingestion of and dermal contact with contaminated media, as well as inhalation of soil particulates during intrusive work.
- The potential routes for wildlife exposure to contaminated soils include ingestion of and direct contact with contaminated media. Plants may uptake MC and then subsequently be eaten by wildlife. Burrowing animals may ingest MC-contaminated soil and subsequently be eaten by predators.

Receptors

- State Park workers and visitors.
- Wildlife.

MC Soil Evaluation/Investigation Needed

- Two composite soil samples will be collected from this AOC at locations near the target berm. Samples will be analyzed for lead only.

Sediment Exposure Pathway

Exposure Routes

- The potential routes of human exposure to contaminated sediment include incidental ingestion and dermal contact with sediments.
- The potential routes of wildlife (including aquatic organisms) exposure to contaminated sediment include ingestion of and direct contact with sediment.

Receptors

- State Park workers and visitors.
- Wildlife.

MC Sediment Evaluation/Investigation Needed

One sediment sample will be collected from a water accumulation area in front of the target berm where runoff would be expected. The sample will be analyzed for lead only.

Conceptual Site Model – Demolition Area AOC

The Demolition Area is a single AOC shown on Figures 2 and 14. This AOC was not identified until the TPP Meeting, when the location was shown on the old War Department map (Attachment A). The AOC is located in the northwest corner of the FUDS in an embayment. The War Department map indicated the area was within a tidal zone that flooded at each high tide. The area has since been backfilled with gravel and soil to create a picnic and camping area that is several feet above the high tide mark. The grass is mowed regularly during the growing season. The depth to the detonation area may be as much as 10 ft.. Figure 15 is a graphic representation of the CSM for the Demolition Area.

Current and Future Land Use

- Currently, the Demolition Area AOC is part of the Ft. Flagler State Park which offers camping, boating, fishing, shoreline use, hiking, and historical interpretive information.
- This AOC is located near the lower campground, and used for picnicking, camping, and beach combing.
- For the foreseeable future, it is likely that the Demolition Area AOC will continue to be part of the Ft. Flagler State Park.

Potential Contaminant Sources

- There is no mention of the dates of use for the Demolition Area. However, based on use of other training ranges and maneuver areas the likely period of use is 1942 to 1954.

An analysis of the exposure media, pathways and receptors for MEC and MC are discussed below and summarized in Table 2.

MEC Evaluation

Types of MEC

- The types of MEC destroyed at this AOC are unknown. However, on the War Department map legend the words “Rifle Grenade” were written under “Demolition Area.” This may indicate that rifle grenades (M6A1, M7A1, M28, and M29 rockets) used at the Debarkation Area and Rocket Range were the munitions destroyed at the AOC. There is also the potential that discarded propellant bags and high explosives from the artillery batteries were also detonated at this location.

Surface Exposure Pathway

- Because this AOC has been backfilled with at least several feet of backfill and may be as much as 10 ft, no MEC or MEC debris is at the surface. Therefore, the surface exposure pathway is incomplete.

Subsurface Exposure Pathway

- The Demolition Area has been backfilled and at a depth below ground surface by as much as 10 ft. The subsurface exposure pathway is incomplete, unless heavy equipment excavation was to occur.

MEC Evaluation/Investigation Needed

- A visual reconnaissance will be performed within the Demolition Area AOC to document current conditions. The primary area of the survey is along the beach and shoreline. The Demolition Area is backfilled with gravel and soil. The site is completely grassed and is mowed regularly during the growing season.

MC Evaluation

Types of MC

- The anticipated MC at the Demolition Area is sheet metal from the M6A1, M7A1, M28, and M29 rocket casings and explosives from the rockets and propellants and explosives from the artillery batteries.

Overview of Pathways

Affected media and potential pathways for MC include:

- Soil: At the Demolition Area AOC, subsurface soil is the primary medium of concern because of possible MC in the soil covered by backfill material. The AOC has been covered with as much as 10 ft of backfill. The surface soil is an incomplete pathway. Subsurface soil is considered a potentially complete pathway only if subsurface excavation were to occur. The subsurface soil also serves as a secondary source of potential surface water contamination.
- Sediment: Because the AOC is located in the beach area, all solid media is considered soil and therefore sediment is not present.
- Surface Water: The surface water body that would be impacted would be the small estuary that is connected to Puget Sound. This pathway is potentially complete.
- Groundwater: Groundwater is considered a potentially affected media. However, the AOC is at the beach and groundwater directly interfaces with Puget Sound, the surface water body. The groundwater would be saline and not used for a drinking water source. This pathway is incomplete as there is no downgradient user.
- Air: Air is a potential medium of concern because of the possibility of inhalation of contaminated soil particles. However, air is not an affected media under current land use, thus the pathway is incomplete.

Exposure media at the Demolition Area AOC include only soil and surface water.

Soil Exposure Pathway

Exposure Routes

- The potential routes of human exposure to contaminated soils include incidental ingestion of and dermal contact with contaminated media, as well as inhalation of soil particulates during intrusive work.
- The potential routes for wildlife exposure to contaminated soils include ingestion of and direct contact with contaminated media. Plants may uptake MC and then subsequently be eaten by wildlife. Burrowing animals may ingest MC-contaminated soil and subsequently be eaten by predators.

Receptors

- State Park workers and visitors.
- Wildlife.

MC Soil Evaluation/Investigation Needed

- No surface or subsurface soil sampling will be performed at this AOC. There is no surface soil pathway at this AOC. The subsurface soil pathway is to saline water linked Puget Sound. The saline water within the buried subsurface is routinely flushed by tidal action and if any impacts were there they have likely been diluted by the flushing action.

Surface Water Exposure Pathway

Exposure Routes

- The potential routes of human exposure to contaminated surface water include incidental ingestion and dermal contact with surface water.
- The potential routes of wildlife (including aquatic organisms) exposure to contaminated surface water include ingestion of and direct contact with surface water.

Receptors

- State Park workers and visitors.
- Wildlife.

MC Surface Water Evaluation/Investigation Needed

- No surface water samples will be collected from Puget Sound. The water body is very large and water moves in and out of the beach area via tidal action. Any accumulation of contaminants in the water is expected to be below analytical detection limits and levels of concern.

Conceptual Site Model – Quartermaster Wharf Disposal Area AOC

The Quartermaster Wharf Disposal Area is a single AOC shown on Figures 2 and 16. The boundaries of this AOC were taken from the ASR. The Quartermaster Wharf Disposal Area AOC consists of the beach south of the old wharf.

Current and Future Land Use

- Currently, the Quartermaster Wharf Disposal Area AOC is part of the Ft. Flagler State Park which offers camping, boating, fishing, shoreline use, hiking, and historical interpretive information. This AOC is located near Battery Wansboro, and makes up the eastern shore of the Park,
- For the foreseeable future, it is likely that the Quartermaster Wharf Disposal Area AOC will continue to be part of the Ft. Flagler State Park.

Potential Contaminant Sources

- According to the ASR this AOC was used as a disposal area, and several rounds of .30-caliber ammunition were recovered from the area by a State Park volunteer.
- It is thought that damaged or unwanted supplies were disposed to the beach.

An analysis of the exposure media, pathways and receptors for MEC and MC are discussed below and summarized in Table 2.

MEC Evaluation

Types of MEC

- The only reported munitions recovered from this area are small arms rounds. However, other ordnance may have been disposed.

Surface Exposure Pathway

- The surface exposure pathway is for park workers or visitors to step on or pick up MEC.

Subsurface Exposure Pathway

- The subsurface pathway would be by digging activities by park workers or park visitors. Note that this beach is not used for shell fish gathering.

MEC Evaluation/Investigation Needed

- A visual reconnaissance will be performed within the Quartermaster Wharf Disposal Area AOC to verify current conditions at the site.

MC Evaluation

Types of MC

- The anticipated MC at the Quartermaster Wharf Disposal Area AOC is lead from small arms and explosives from small arms or munitions discarded on the beach.

Overview of Pathways

Affected media and potential pathways for MC include:

- Soil: At the Quartermaster Wharf Disposal Area AOC, soil (beach sand) is the primary medium of concern because of possible MC in the soil from disposal activities. The soil also serves as a secondary source of surface water contamination.
- Sediment: Because this AOC is on the beach sediments are not present. This is an incomplete pathway.
- Surface Water: The only surface water is Puget Sound, a very large, tidal, saltwater body that contains abundant ecological receptors.
- Groundwater: Because of the presence of Puget Sound, movement of MC to groundwater would likely not occur as the salt water from Puget Sound flushes the near surface groundwater body in the vicinity of the beach.
- Air: Air is a potential medium of concern because of the possibility of inhalation of contaminated soil particles. However, air is not an affected media under current land use, thus the pathway is incomplete.

Exposure media at the Quartermaster Wharf Disposal Area AOC include soil and surface water.

Soil Exposure Pathway

Exposure Routes

- The potential routes of human exposure to contaminated soils include incidental ingestion of and dermal contact with contaminated media, as well as inhalation of soil particulates during intrusive work.
- The potential routes of wildlife exposure to contaminated soils include ingestion of and direct contact with contaminated media. Aquatic organisms may uptake MC and then subsequently be eaten by wildlife. Burrowing animals may ingest MC-contaminated soil and subsequently be eaten by predators.

Receptors

- State Park workers and visitors.
- Wildlife.

MC Soil Evaluation/Investigation Needed

- One composite soil sample is proposed to be collected from this AOC. The sample will be analyzed for explosives, including NG and PETN. No analysis for lead or other metals will be performed, because the area was also used for disposal of items other than munitions. The likelihood of differentiating between MC (metals or lead) from munitions and those from other refuse or disposed item would not be possible.

Surface Water Exposure Pathway

Exposure Routes

- The potential routes of human exposure to contaminated surface water include incidental ingestion and dermal contact with surface water.

- The potential routes of wildlife (including aquatic organisms) exposure to contaminated surface water include ingestion of and direct contact with surface water.

Receptors

- State Park workers and visitors.
- Wildlife.

MC Surface Water Evaluation/Investigation Needed

- No surface water samples will be collected from Puget Sound because of the length of time since DoD use of this AOC, and because any accumulation of contaminants in a body of water the size of Puget Sound is expected to be below analytical detection limits and levels of concern.

Data Gaps

- The SI being performed at Ft. Flagler will identify MEC and MC impacts to soil and sediments at the FUDS.
- The presence of MEC was established at the Ft. Flagler Rocket Range following a clearance action in 1992 by the discovery of live 2.36-inch rockets and MEC debris. It is uncertain whether additional MEC is present south of the area cleared at the Rocket Range.
- No other MEC has been reported.

Results of the current status of data requirements with respect to MEC and MC for the AOCs are summarized below:

AOC	Presence of MEC	Presence of MC	Proposed Inspection Activities
Range Complex	None, based on configuration and use	None, based on configuration and use	Visual reconnaissance; no sampling.
Ammunition Bunker	Unknown	Unknown	Visual reconnaissance; soil and sediment sampling if MEC or MEC debris is found; analyze for select metals and explosives including NG and PETN.
Transition Range 1	Small arms	Unknown	Visual reconnaissance; soil and sediment sampling; analyze for lead.
Transition Range 2	Small arms	Unknown	Visual reconnaissance; soil and sediment sampling; analyze for lead.
Gas Chamber	None	None	Visual reconnaissance; no sampling.
Rifle Grenade/ Anti-Tank Rocket Range	Potential in areas adjacent to 1992 UXO clearance	Unknown	Visual reconnaissance with magnometer; soil and sediment sampling; analyze for select metals and explosives including NG and PETN.
Live Grenade Court	Unknown	Unknown	Visual reconnaissance with magnometer; soil sampling; analyze for select metals and explosives.
Practice Grenade Court	None	None	Visual reconnaissance; no sampling.
Rifle Range	Small arms	Unknown	Visual reconnaissance; soil and sediment sampling; analyze for lead.
Demolition Area	None	Unknown	Visual reconnaissance; no sampling.
Quartermaster Wharf Disposal Area	Small arms	Unknown	Visual reconnaissance; soil sampling; analyze for explosives, including NG and PETN.

Proposed Sampling Scheme

Site Inspection
Ft. Flagler Military Reservation

Technical Project Planning Meeting
July 24, 2006

Proposed Field Investigation

The proposed field investigation and sampling to be conducted at Ft. Flagler is detailed below. The investigation approach will be defined in more detail in an SSWP that will be submitted to WDOE and other stakeholders for review. The SSWP will reference technical details including sampling and analytical methods that are described in the *Final Type I Work Plan, Site Inspections at Multiple Sites* (*Type I Work Plan*) prepared by Shaw and submitted to USACE as final in February 2006.

Reconnaissance

Three types of visual reconnaissance surveys will be conducted for the SI as follows:

- A strictly visual survey that will be conducted to confirm site conditions, such as the locations of buildings, and areas surrounded by mowed grass. This type of survey is not intended to assess the presence of MEC or munitions debris;
- A visual survey combined with the use of a handheld magnetometer that will be conducted to assess the presence of MEC or munitions debris; and
- A pre-sampling visual survey combined with the use of a handheld magnetometer that will be conducted at all soil sampling locations prior to sampling. This type of survey will be conducted to avoid MEC.

The text below explains where each of these types of survey will be conducted.

A strictly visual survey will be conducted around each of the artillery batteries in the Range Complex, the Ammunition Bunker, Transition Ranges 1 and 2, the Gas Chamber and Practice Grenade Court, and the Quartermaster Wharf Disposal Site to confirm the site conceptual model's prediction that site conditions indicate the presence of MEC or munitions debris is unlikely due to the regulated activity that occurred at the batteries and bunker. A strictly visual survey will be conducted in the Demolition Area to confirm that the area was completely backfilled. The survey path will be along the shoreline, at the slope break between the mowed grass area and the beach.

Visual surveys combined with the use of a hand-held magnetometer will be conducted in areas of the Rifle Grenade/Anti-Tank Rocket Range and the Live Grenade Court, to assess the presence of MEC or munitions debris within the eastern portion of the AOC where MEC was found during the removal action that occurred in 1992. The approximate locations of the surveys are shown on Figures 5 and 6, respectively. These surveys will be conducted by a qualified UXO technician. Several transects will be walked during which visual observations and magnetic anomalies will be noted. Transects will be recorded using a global positioning system (GPS), and appropriate features influencing the survey will be noted, such as vegetation density and type, topography, etc. If MEC is found, the qualified UXO technician will attempt to make a determination of the hazard, and appropriate notifications will be made as detailed in the *Final Type I Work Plan* (Shaw, 2006a) and this SSWP. Note that the area proposed for the survey is very heavily forested with heavy underbrush and many fallen trees. The UXO technician will attempt to perform reconnaissance; however, if the underbrush becomes too thick, the survey will be abandoned.

Prior to sampling, a visual survey combined with the use of a hand-held magnetometer will be conducted to identify evidence of MEC and/or range activities (presence of MEC or munitions debris, targets, etc). Although MEC is not expected to be present on the land surface, a magnetometer-assisted, visual inspection will be conducted by a qualified UXO technician at suspect locations within the AOC The reconnaissance team will locate, identify, and stake sampling locations within the AOC. The amount and type of munitions debris observed on the ground will be noted.

The following conditions at each planned sampling location will be documented in the field log book and recorded by digital photographs as necessary:

- Presence or absence of MEC and munitions debris,
- Coordinates of staked sampling locations (using a hand-held GPS unit),
- Access limitations,
- Vegetative cover,
- Soil conditions,
- Presence or absence of water for surface water samples, and
- Other conditions encountered that impact sample collection.

Shaw will document any MEC or munitions debris found, and proceed with MC sampling as described in the following sections.

Sampling

A visual reconnaissance, aided by a magnetometer, of AOCs will be performed prior to any sampling. Although MEC is not expected to be present on the land surface, a magnetometer-assisted, visual inspection will be conducted by a qualified UXO technician at sampling locations within the AOC. A GPS receiver will be used to record sample point locations. Digital photographs will be taken to document significant features and sampling locations.

In all instances, samples will be collected using clean, new, disposable sampling equipment, i.e., a spoon or scoop and bowl. Non-disposable tools, such as a spade, shovel, or trowel, may be used to remove vegetation and roots prior to collection of the soil or sediment sample.

All soil and sediment samples will be collected in accordance with Section 6.1 and Shaw Standard Operating Procedure (SOP) T-FS-101 of Appendix E of the *Final Type I Work Plan* (Shaw, 2006a).

The proposed sampling for the Ft. Flagler is summarized in Table 3.

Soil

Surface soil sampling is proposed at the Transition Range 1, Transition Range 2, Rifle Grenade/Anti-Tank Rocket Range, Live Grenade Range, and Quartermaster Wharf AOCs. Additionally, a contingency surface soil sample is allotted for the Ammunition Bunker, if needed. No surface soil sampling is proposed at the Range Complex AOC, the Gas Chamber AOC, the Practice Grenade Court AOC, or the Demolition Area AOC.

Surface soil samples will be collected at a depth of approximately 0 to 6 inches bgs. Surface soil samples will be composite samples (7-point, wheel pattern with 2-foot radius). The surface soil sampling proposed for the AOCs at Ft. Flagler is discussed below and summarized in Table 3.

One contingency surface soil sample will be collected from the Ammunition Bunker AOC if evidence of MEC or MEC debris is located during the visual reconnaissance (Figure 3). If a surface soil sample is collected at the Ammunition Bunker AOC, the sample will be analyzed for select metals and explosives, including nitroglycerin (NG) and pentaerythritol tetranitrate (PETN), according to the methods specified below.

Two surface soil samples each will be collected from the Transition Range 1 AOC and the Transition Range 2 AOC. These samples will be collected from locations near the target berms in each range (Figures 5 and Figure 7, respectively). Samples collected from the Transition Ranges will be analyzed only for lead according to the method specified below.

Three surface soil samples will be collected from the Rifle Grenade/Anti-Tank Rocket Range AOC (Figure 9). Two of the three surface soil samples will be collected from locations where MEC or debris were observed during the 1992 TCRA. The third surface soil sample will be collected from a location in the eastern part of the clearance area where the visual reconnaissance will be performed. These samples will be analyzed for select metals (aluminum, chromium, copper, iron, lead, manganese, molybdenum, and nickel) and explosives, including NG and PETN, according to the methods specified below

One surface soil sample will be collected from the Live Grenade Court AOC following completion of the visual reconnaissance (Figure 10). The sample will be analyzed for select metals (aluminum, chromium, copper, iron, lead, manganese, molybdenum, and nickel) and explosives, including NG and PETN, according to the methods specified below.

Two surface soil samples will be collected from the Rifle Range AOC from locations near the target berm (Figure 12). These samples will be analyzed only for lead according to the method specified below.

One surface soil sample will be collected from the Quartermaster Wharf AOC (Figure 12). The sample will be analyzed for explosives (including NG and PETN) according to the methods specified below.

Sediment

Sediment sampling is proposed at the Transition 1, Transition 2, Ammunition Bunker, Rifle Grenade/Anti-Tank Rocket Range, and Rifle Range AOCs.

Sediment samples will be collected from 0 to 2 inches bgs in area of surface water accumulation. These samples will be collected as discrete samples in order to be representative of material deposited in specific, localized areas of surface water accumulation. The sediment sampling proposed for the AOCs at Ft. Flagler is discussed below and summarized in Table 3.

One contingency sediment sample will be collected from the Ammunition Bunker AOC (Figure 3). The sample will be analyzed for select metals (aluminum, chromium, copper, iron, lead, manganese, molybdenum, and nickel) and explosives, including NG and PETN, according to the methods specified below.

One sediment sample each will be collected from water collection areas at the Transition Range 1 and from the Transition Range 2 AOCs (Figures 5 and 7, respectively). These sediment samples will be analyzed for lead according to the method specified below.

One sediment sample will be collected from a water collection area inside the Rifle Grenade/Anti-Tank Rocket Range AOC (Figure 9). The sample will be analyzed for select metals (aluminum, chromium, copper, iron, lead, manganese, molybdenum, and nickel) and explosives, including NG and PETN, according to the methods specified below.

One sediment sample will be collected from a water collection area in front of the target berm at the Rifle Range AOC (Figure 12). The sample will be analyzed or lead according to the method specified below

Background

Ten soil samples, one sediment sample, and one beach sample will be collected from background locations (Figure 11). The composite soil sample locations will be determined in the field in areas that do not appear to be have been impacted by past site operations. The background samples will be analyzed for Target Analyte List metals and molybdenum according to the methods specified below. The select metals list is based on expected metals contained in munitions used at Ft. Flagler. The soil background samples will be used to develop an upper tolerance limit (UTL) for comparison of metals concentrations in soil at the target areas. The background sediment sample will provide data to compare sediment samples to background values. The proposed background sampling is summarized in Table 3.

Analyses

Definitive target analyses for soil and sediment samples collected from Ft. Flagler consist of the following:

- Select metals and lead by USEPA SW-846 Method 6020A,
- TAL metals and molybdenum by USEPA SW-846 Method 6020/7471A
- Explosives by USEPA SW-846 Method 8330A, and
- NG and PETN by USEPA SW-846 Method 8330A (Modified).

Soil and sediment samples will be analyzed using USEPA SW-846 methodology as presented in Section 5.0 of the USACE QAPP. Soil and sediment samples may have been impacted by small arms fire will be passed through an ASTM No. 10 (2-mm) wire mesh sieve at the laboratory prior to analysis for metals in order to remove coarser particles and foreign objects, including large metallic fragments from bullets, which have a low degree of bio-availability.

Tables 4 through 6 present human health and ecological risk based screening concentrations. If the practical quantitation limit (PQL) exceeds a screening value, the compound will be carried forward in the evaluation process. Chemical data will be reported via a hard-copy data package and electronic format following the requirements referenced in Section 7.1 and 7.2 of the USCAE QAPP. These data deliverables will be validated in accordance to the requirements referenced in Section 8.2 of the USACE QAPP.

TPP Meeting Notes and Data Quality Objectives

Site Inspection
Ft. Flagler Military Reservation

Technical Project Planning Meeting
July 24, 2006

Technical Project Planning and Development of Data Quality Objectives

- The USACE TPP process is a four-phase process:
  - Identify the current project,
  - Determine data needs,
  - Develop data collection options, and
  - Finalize data collection program.
- The purpose of TPP is to develop DQOs that document how the project makes decisions.
- DQOs are intended to capture project-specific information such as the intended data use(s), data needs, and how these items will be achieved.
- Information captured through DQOs will be used as a benchmark for determining whether identified objectives are met.

TPP Phases

Phase I: Identify the Current Project

1. Team members identified to date include: USACE – representatives from the Omaha Design Center and the Seattle District, Shaw as a USACE contractor, Washington Department of Ecology, Washington State Parks, and USEPA Region 10.

   Question: Is there any person or organization missing from this Team?

   The DNR owns the property at Quartermaster Wharf; Mike Nelson will contact the agency.
   Federal property (Coast Guard and NOAA) is present near the Rifle Range.
   Washington F&W owns the western end of spit.
   Mike Nelson will determine whether there is a need to contact Indian tribes.
   The USEPA is not involved beyond courtesy review of documents.
   Steve Hahn is State Parks real estate contact.

2. The AOCs are identified as:

   - Range Complex
     - Battery Bankhead
     - Battery Calwell
     - Battery Downes
     - Battery Gratton
     - Battery Lee

    - Battery Rawlins (Anti-torpedo Boat Battery)
    - Battery Revere
    - Battery Wansboro
    - Battery Wilhelm
    - Anti-Aircraft Artillery Battery
  - Transition Range 1
  - Gas Chamber
  - Rocket Range
  - Transition Range 2
  - Rifle Range

Question: Are there any other AOCs to be identified?

Yes. See discussion in TPP Summary.

3. Based on information available about the site and shared through discussions with USACE, are there concerns about this area that have been expressed by the Washington Department of Ecology, USEPA, or Washington State Parks, as well as by landowners.

   Question: Are there additional concerns or issues from landowners or other stakeholders regarding the Ft. Flagler area?

   Stakeholders discussed whether additional public notification is required.

   Question: Are there any administrative or stakeholder concerns or constraints that would prevent site inspection activities from going forward on the decision path for this site?

   The Quartermaster Wharf is a protected site with known archaeological interest. Ted Smith can provide contact for SHPO. It was agreed that December will be a good time for field work because of light public use. Posting of documents to a public web site was discussed and it was agreed that draft documents would not be posted. Per the agency's request, it was agreed that responses to WDOE comments would be included in final documents.

Phase II: Determine Data Needs

4. Existing site information includes an INPR Supplement and ASR both prepared by the USACE in 2004 and 2005, respectively. In addition, a TCRA was completed in 1992 at the Rocket Range.

   Question: Are there any other pertinent documents relating to the site available?

   State Parks can provide GIS data showing current park facilities

5. The site-specific approach for this SI involves collating and assessing available site information, to include site geology, hydrogeology, groundwater, surface water, ecological information, human use/access, and current and future land uses, as well as considering conduct of site inspection and sampling activities.

   Question: Are there any other site aspects/information that should be considered?

   None were identified.

6. Based on site use, soil is the primary affected medium at Ft. Flagler. Sediment/surface water is a potential pathway of MC because of the contact with park workers and visitors and wildlife and impacts to Puget Sound. Groundwater is not considered a pathway as there are no nearby downgradient wells. Air is also a potential pathway if soil particles become airborne. Considering current and future land use, primary receptors of any contaminants that may be present would most likely be individuals and animals using the area.

   Question: Do team members concur with the CSM?

   MEC will only be evaluated at the Rocket Range.

   MC will be evaluated at the Transition Range 1, Rocket Range, and Rifle Range.

   MC potential contaminants of concern (PCOCs) are select metals (aluminum, chromium, copper, iron, lead, manganese, molybdenum, and nickel) and explosives at the Range Complex and Rocket Range, and lead only at the Transition Range 1 and Rifle Range.

   No sampling at the Gas Chamber.

   Exposure pathways are through soils and sediments/surface water.

   General agreement with approach with additional AOCs

7. Technical considerations and/or constraints need to be identified and addressed before conducting any additional sampling, and would depend on the approach and additional data needs decided upon by team members.

   Questions:

   - **Are any data missing?**
   - **What is the nature of needed data?**
   - **What information is necessary to support a decision of No Department of Defense Action Indicated (NDAI) or further action with regards to MEC? Is reconnaissance during the SI, together with the historical record of a munitions clearance at the time of range closure and a period of approximately 50 years without known MEC-related incidents, considered sufficient to determine the need for NDAI versus further action with respect to MEC?**
   - **What data gaps would additional data meet for making a decision about the site?**

- **Are there any considerations/constraints that need to be addressed for collecting additional data?**

Addressed by other sections. Additional AOCs have been identified and added.

Phase III: Develop Data Collection Options

8. Proposed approach:

    1. Conduct a visual survey around each artillery battery, ammunitions Bunker, Transition Ranges 1 and 2, the Gas chamber, Practice Grenade Court, and Quartermaster Wharf Disposal Site to confirm the CSM.
    2. Conduct surface reconnaissance with magnetometer at the Rifle Grenade/Anti-Tank Rocket Range and Live Grenade Court for MEC.
    3. Conduct a visual survey along the beach line at the Demolition Area to confirm that the area was completely backfilled.
    4. Collect suitable background samples - 10 soil, one sediment, and one beach.
    5. Collect composite soil samples and analyze for select metals (aluminum, chromium, copper, iron, lead, manganese, molybdenum, and nickel) and explosives at the Ammunition Bunker (contingency sample), Rifle Grenade/Anti-Tank Rocket Range, and Live Grenade Court, for lead only at Transition Ranges 1 and 2 and Rifle Range, and for explosives only at the Quartermaster Wharf Disposal Area.
    6. Collect discrete sediment samples from water accumulation areas at one location each at the Ammunition Bunker (contingency sample), Transition Ranges 1 and 2, Rifle Grenade/Anti-Tank Rocket Range, and Rifle Range. Analyze for select metals (aluminum, chromium, copper, iron, lead, manganese, molybdenum, and nickel) and explosives at the Ammunition Bunker and Rifle Grenade/Anti-Tank Rocket Range, and for lead only at the Transition Ranges 1 and 2 and Rifle Range.

Question: Based on the desired decision endpoints and information known to date, what additional information is needed to reach a determination of NDAI or further action?

- The following reconnaissance results would support a recommendation for further action with respect to MEC:
    - Direct evidence is found of the presence of MEC, other than small arms, or evidence of potential MEC that is inconsistent with the Rocket Range CSM (e.g., debris from rockets, hand grenades, land mines.
    - Direct evidence of MEC is not found, but abundant munitions debris (other than from small arms) and/or magnetic anomalies are identified suggesting a potential for the presence of unexploded spotting charges or other MEC.

- The following reconnaissance results would support a recommendation for NDAI with respect to MEC:

- Direct evidence of MEC is not found; isolated munitions debris and/or magnetic anomalies consistent with the Rocket Range CSM are identified.
- No evidence of MEC, munitions debris, or magnetic anomalies are identified.

Question: Are the stakeholders in agreement with the sampling approach program?

Sampling approach developed for additional AOCs as noted earlier.

Question: Are the stakeholders in agreement with the proposed approach for collecting background data?

Sampling approach developed for additional AOCs as noted earlier.

Phase IV: Finalize Data Collection Program

9. What concentrations of PCOCs (metals and explosives) lead to decision end-points?
   Note: Washington State standards are provided in Tables 4, 5, and 6.

   Question: Are these the correct standards to be applied as screening values for human health and ecological risk assessment?

   WDOE confirmed these are appropriate subject to further review of the document. The USEPA Region IX PRGs will apply when no Washington standards exists.

   Question: Are there any additional sampling and analysis methodologies needed for all team members to arrive at a decision end-point?

   None identified.

   Question: Given the additional sampling and analysis methodologies, are there impacts to the project schedule that need to be accommodated?

   None identified.

Data Quality Objectives

Upon agreement at the TPP meeting, the following decision rules will be applied with regard to MC sampling results:

- Below risk-based screening levels = NDAI;
- Above risk-based screening levels and background = RI/FS.

The following expanded project objectives have been developed.

Objective 1: Determine if the site requires additional investigation or can be recommended for NDAI based on the presence or absence of MEC.

DQO #1 – Utilizing trained UXO personnel and handheld magnetometers, a visual search will be conducted searching for physical evidence to indicate the presence of MEC (rockets, hand grenades, land mines), MEC on the surface, munitions debris, and soil discoloration indicative of explosives). The visual search will consist of a meandering path along trails and in accessible areas. The following decision rules will apply:

- The following reconnaissance results would support a recommendation for further action with respect to MEC:
    - Direct evidence is found of the presence of MEC (from historical records or SI activities), other than incidental small arms rounds, or evidence of potential MEC that is inconsistent with the individual AOC CSM (e.g., debris from munitions other than rockets, hand grenades, or land mines).
    - Direct evidence of MEC is not found, but abundant munitions debris and/or magnetic anomalies, other than from small arms, are identified suggesting a potential for the presence of unexploded MEC.
- The following reconnaissance results would support a recommendation for NDAI with respect to MEC:
    - Direct evidence of MEC is not found; isolated munitions debris and/or magnetic anomalies consistent with the site CSM are identified.
    - No evidence of MEC, munitions debris, or magnetic anomalies are identified.
- If there is indication of an imminent MEC hazard, the site may be recommended for a time-critical removal action (TCRA).

Objective 2: Determine if the site requires additional investigation or can be recommended for NDAI based on the presence or absence of MC above screening values.

DQO#2 – Soil and sediment samples will be collected and analytical results will be compared to screening values for human health and ecological risk assessment, and to background values for naturally occurring substances. The following decision rules will apply:

- If sample results are less than human health and ecological screening values, the site will be recommended for NDAI relative to MC.
- If sample results exceed both human health screening values and background values, the site will be recommended for additional investigation.
- If sample results do not exceed human health screening values but do exceed both ecological screening values and background values, additional evaluation of the data will be conducted in conjunction with the stakeholders to determine if additional investigation is warranted.

Objective 3: Obtain data required for HRS scoring.

Data required for HRS scoring are identified in the HRS Data Gaps worksheet.

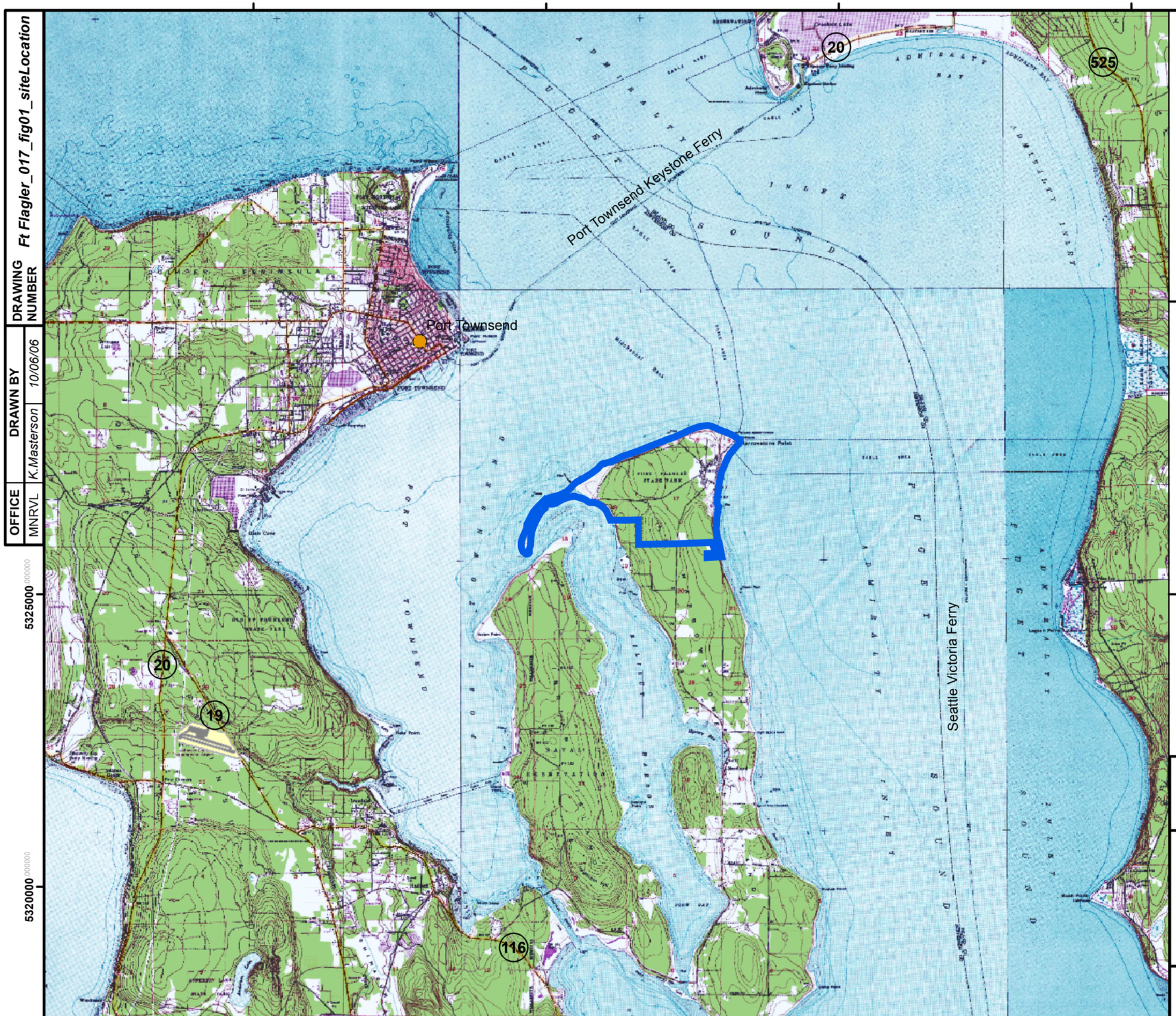
Objective 4: Obtain data required for MRSPP ranking.

Data required for MRSPP ranking are identified in the MRSPP worksheet.

Next Steps

- Shaw will prepare the SSWP for review and comment.
- USACE will obtain necessary ROEs.
- Shaw will collect SI activities.
- Shaw will prepare the SI Report.
- Scheduling of a 2nd TPP meeting will occur as agreed upon by team members.

Figures



DRAWING NUMBER	Ft Flagler_017_fig01_siteLocation
DRAWN BY	K.Masterson 10/06/06
OFFICE	MNRVL

Legend

Fort Flagler Military Reservation Property Boundary

N

0 7,000 14,000 Feet

REFERENCE/PROJECTION: NAD 83 UTM Zone 10N

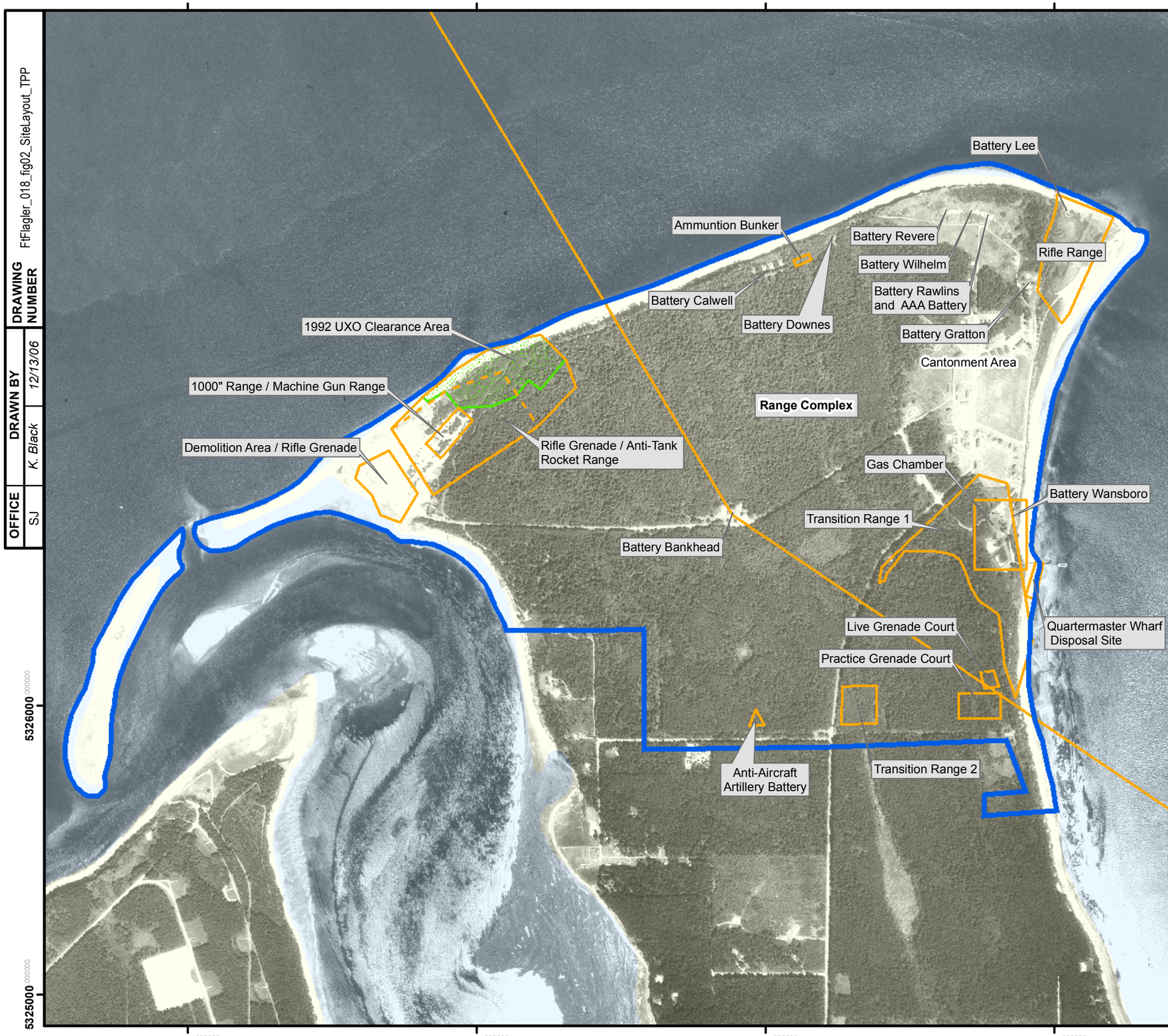
U.S. ARMY CORPS OF ENGINEERS
OMAHA DESIGN CENTER

FIGURE 1

SITE LOCATION

FORT FLAGLER MILITARY RESERVATION

Shaw Environmental, Inc.

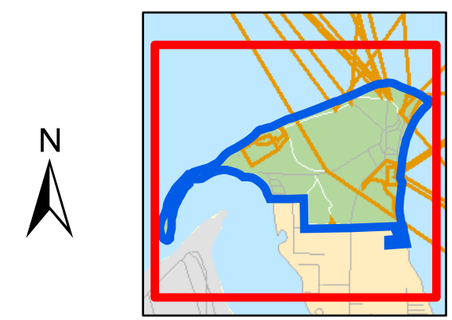


Legend

- Fort Flagler Military Reservation Property Boundary
- Fort Flagler Area of Concern
- Fort Flagler Area of Concern as Identified in the ASR Supplement
- 1992 UXO Clearance Area

NOTES:

1) AOC boundaries were derived from the Fort Flagler Military Reservation ASR, INPR Supplement and State Park historic map.
2) Fort Flagler Military Reservation property is located enitrely within the Ft. Flagler State Park.
3) The aerial photo was obtained from TerraServer (1-meter resolution); the photo is dated June 21, 1990.



N

0 500 1,000 2,000 Feet

REFERENCE/PROJECTION: NAD 83 UTM Zone 10N

U.S. ARMY CORPS OF ENGINEERS
OMAHA DESIGN CENTER

FIGURE 2

FT. FLAGLER MILITARY RESERVATION AOC LOCATION MAP

FORT FLAGLER MILITARY RESERVE

Shaw Environmental, Inc.

OFFICE	DRAWN BY		DRAWING NUMBER
SJ	K. Black	12/13/06	FtFlagler_018_fig02_SiteLayout_TPP

Legend

- Fort Flagler Military Reservation Property Boundary
- Fort Flagler Area of Concern
- Range Fan

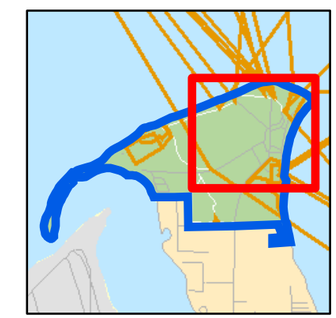
Proposed Sampling Locations (approximate)

- Sediment
- Soil

NOTES:

1) AOC boundaries were derived from the Fort Flagler Military Reservation ASR, INPR Supplement and State Park historic map.
2) The aerial photo was obtained from TerraServer (1-meter resolution); the photo is dated June 21, 1990.

N



0 500 1,000 Feet

REFERENCE/PROJECTION: NAD 83 UTM Zone 10N

U.S. ARMY CORPS OF ENGINEERS
OMAHA DESIGN CENTER

FIGURE 3

RANGE COMPLEX AREA OF CONCERN

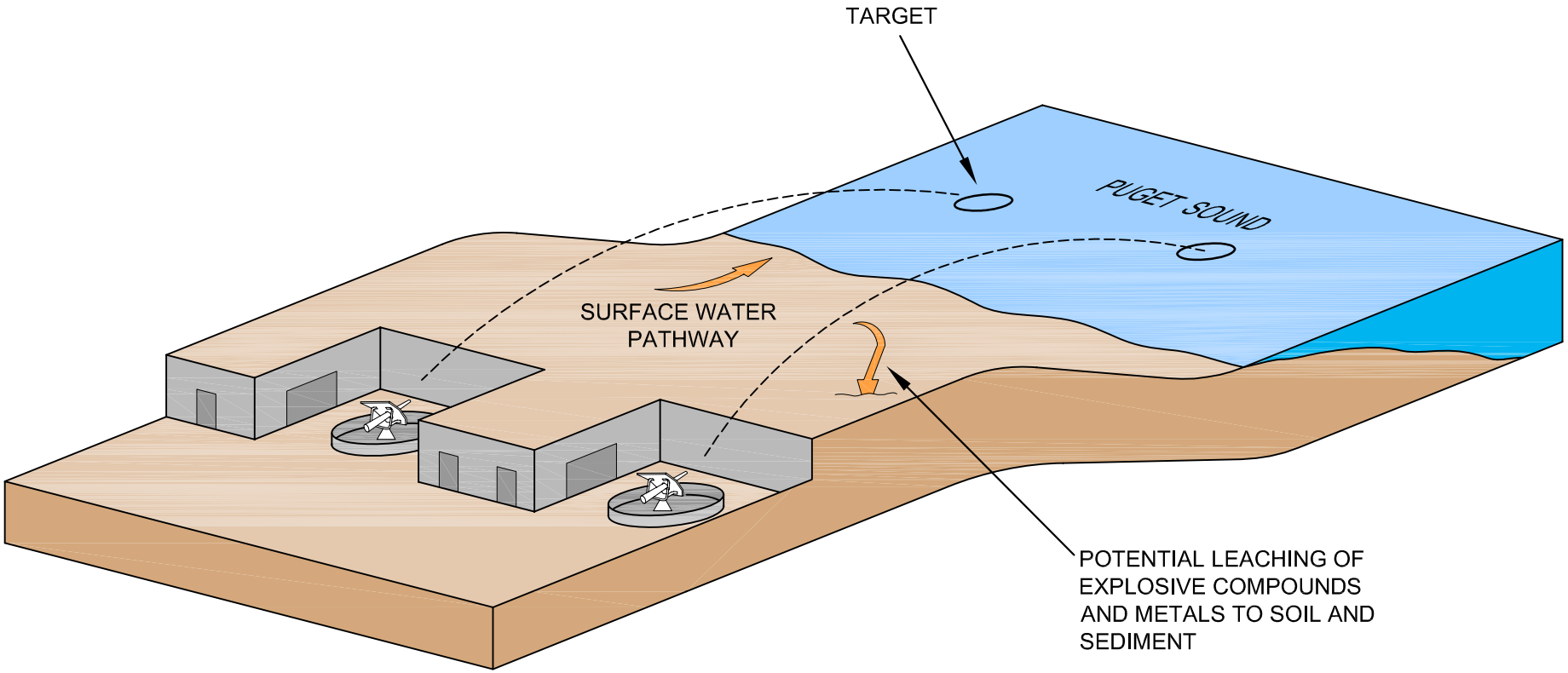
FORT FLAGLER MILITARY RESERVATION

Shaw Environmental, Inc.

OFFICE	DRAWN BY		DRAWING NUMBER
SJ	K. Black	12/13/06	FtFlagler_019_fig03_AOC_battery_E_TPP

XREF Files: IMAGE Files:
File: N:\cad\DWG\116188-FUDS\116188SJ-a58.dwg Layout: Layout User: Karen.Black Oct 04, 2006 - 1:22pm

OFFICE	DRAWN BY		DRAWING NUMBER	116188SJ-A58
SJ	K. Black	10/04/06		



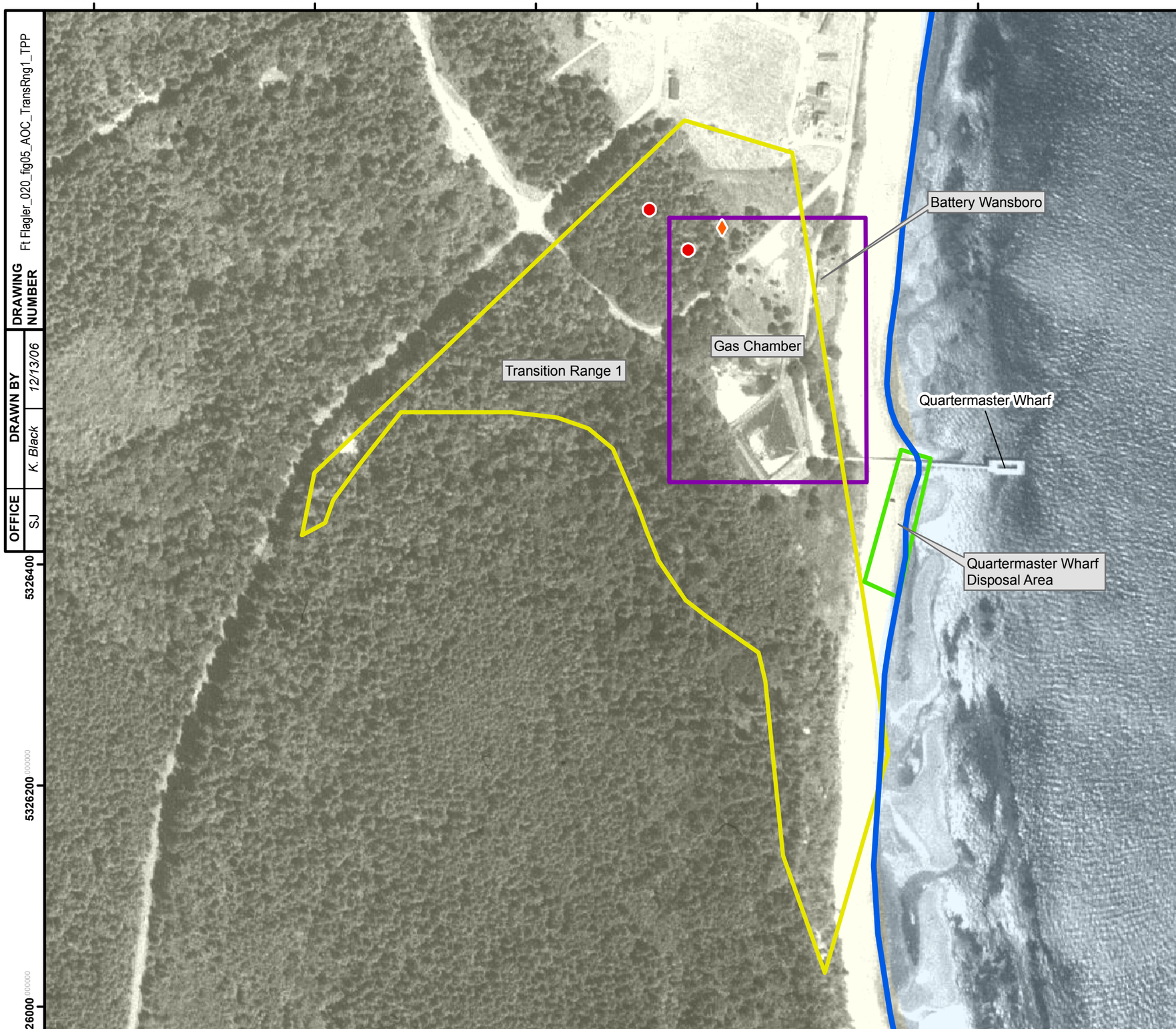
U.S. ARMY CORPS OF ENGINEERS
OMAHA DESIGN CENTER

FIGURE 4

CONCEPTUAL SITE MODEL
COASTAL ARTILLERY BATTERY

FORT FLAGLER MILITARY RESERVATION

Shaw® Shaw Environmental, Inc.



Legend

- Fort Flagler Military Reservation Property Boundary

Fort Flagler Areas of Concern

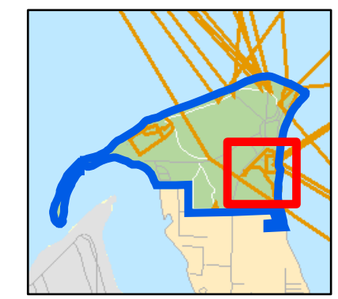
- Gas Chamber
- Quartermaster Wharf Disposal Area
- Transition Range 1

Proposed Sampling Location (approximate)

- Sediment
- Soil

NOTES:
1) AOC boundaries were derived from the Fort Flagler Military Reservation ASR, INPR Supplement and State Park historic map.
2) The aerial photo was obtained from TerraServer (1-meter resolution); the photo is dated June 21, 1990.

N



0 300 600 Feet

REFERENCE/PROJECTION: NAD 83 UTM Zone 10N

U.S. ARMY CORPS OF ENGINEERS
OMAHA DESIGN CENTER

FIGURE 5

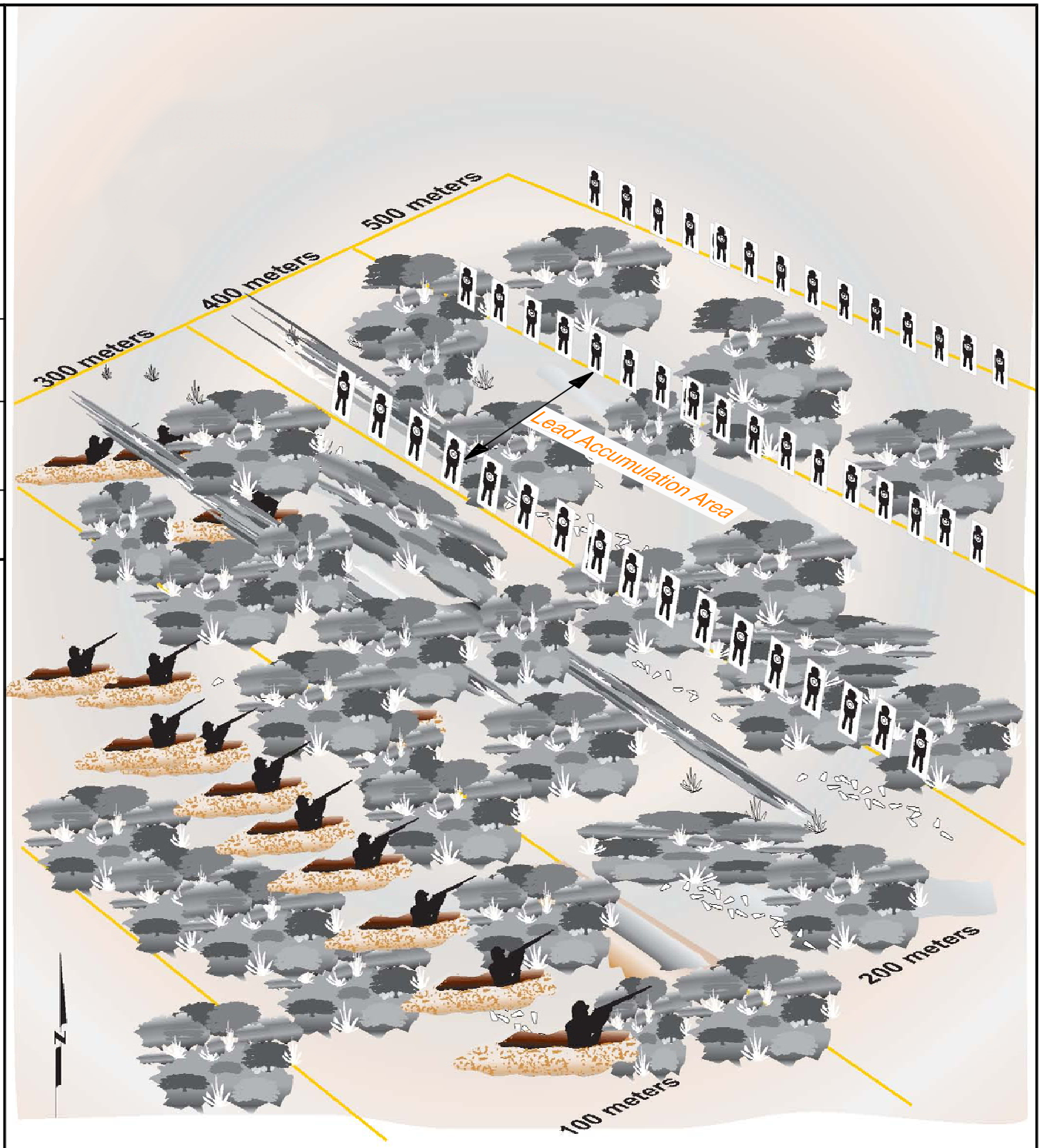
AREA OF CONCERN
TRANSITION RANGE 1

FORT FLAGLER MILITARY RESERVATION

Shaw Environmental, Inc.

OFFICE	DRAWN BY		DRAWING NUMBER
SJ	K. Black	12/13/06	Ft Flagler_020_fig05_AOC_TransRng1_TPP

OFFICE	DRAWN BY		DRAWING NUMBER
SJ	K. Black	10/04/06	116188SJ-A57



U.S. ARMY CORPS OF ENGINEERS
OMAHA DESIGN CENTER

FIGURE 6

CONCEPTUAL SITE MODEL
TRANSITION RANGE

FORT FLAGLER MILITARY RESERVATION

Shaw® Shaw Environmental, Inc.

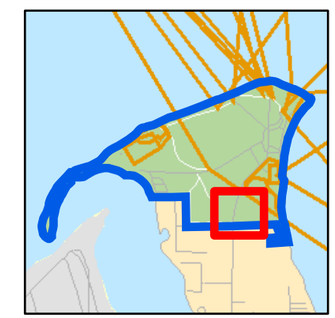
DRAWING NUMBER	DRAWN BY		OFFICE
Ft Flagler_021_fig07_AOC_TransRng2_TPP	K. Black	12/13/06	SJ

Legend

- Fort Flagler Military Reservation Property Boundary
- Fort Flagler Area of Concern
- Proposed Sampling Location (approximate)
  - Sediment
  - Soil

NOTES:
1) AOC boundaries were derived from the Fort Flagler Military Reservation ASR, INPR Supplement and State Park historic map.
2) The aerial photo was obtained from TerraServer (1-meter resolution); the photo is dated June 21, 1990.

N



0 100 200 400 Feet

REFERENCE/PROJECTION: NAD 83 UTM Zone 10N

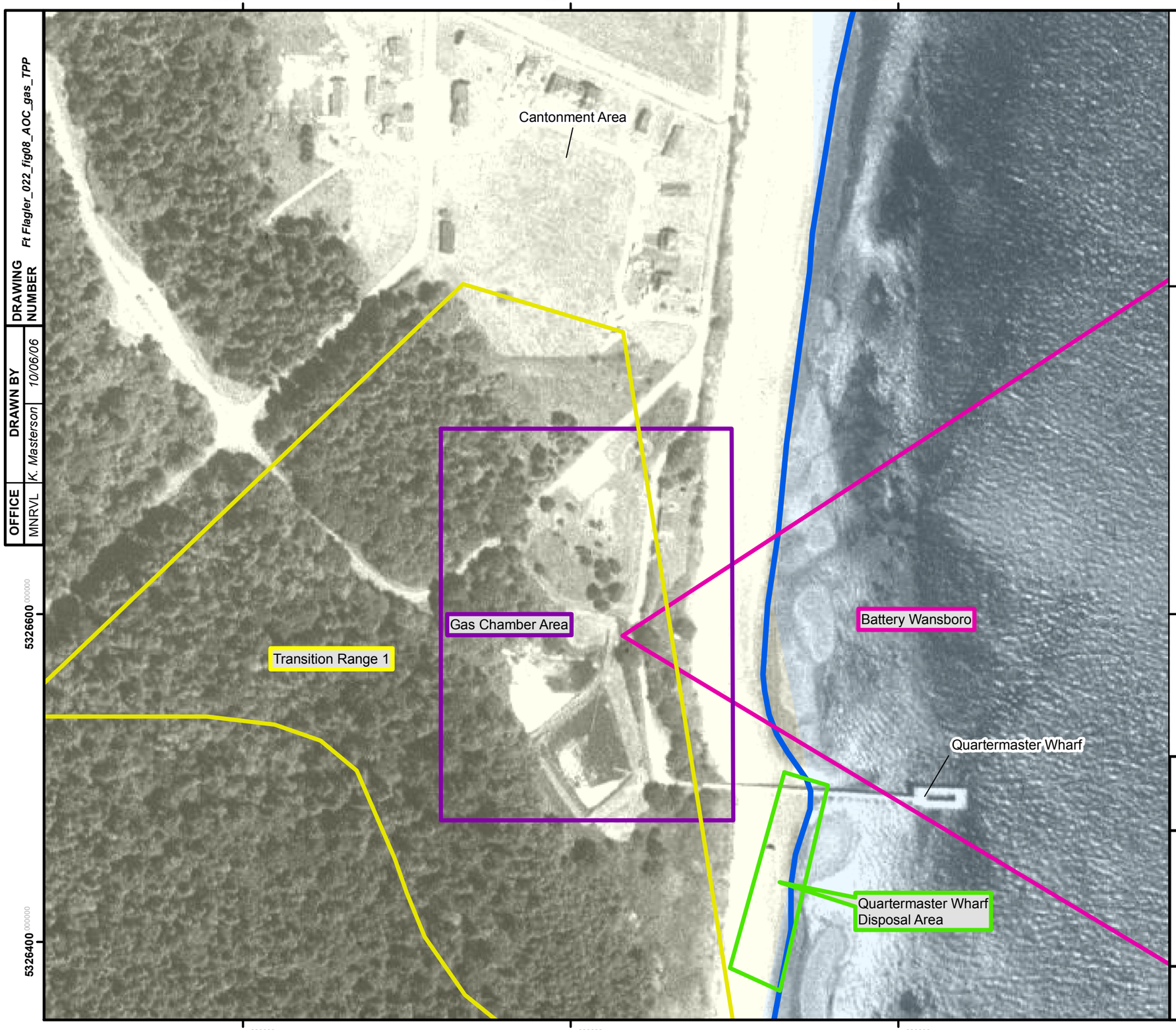
U.S. ARMY CORPS OF ENGINEERS
OMAHA DESIGN CENTER

FIGURE 7

AREA OF CONCERN
TRANSITION RANGE 2

FORT FLAGLER MILITARY RESERVATION

Shaw® Shaw Environmental, Inc.



Legend

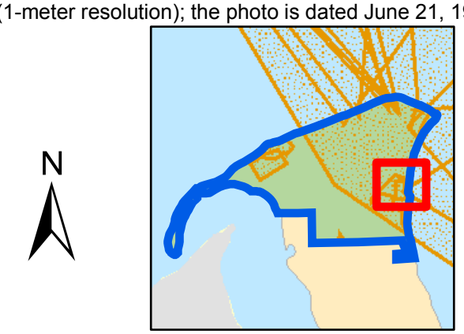
- Fort Flagler Military Reservation Property Boundary

Fort Flagler Areas of Concern

- Battery Wansboro
- Gas Chamber Area
- Quartermaster Wharf Disposal Area
- Transition Range 1

NOTES:

1) AOC boundaries were derived from the Fort Flagler Military Reservation ASR, INPR Supplement and State Park historic map.
2) The aerial photo was obtained from TerraServer (1-meter resolution); the photo is dated June 21, 1990.



0 100 200 400 Feet

REFERENCE/PROJECTION: NAD 83 UTM Zone 10N

U.S. ARMY CORPS OF ENGINEERS
OMAHA DESIGN CENTER

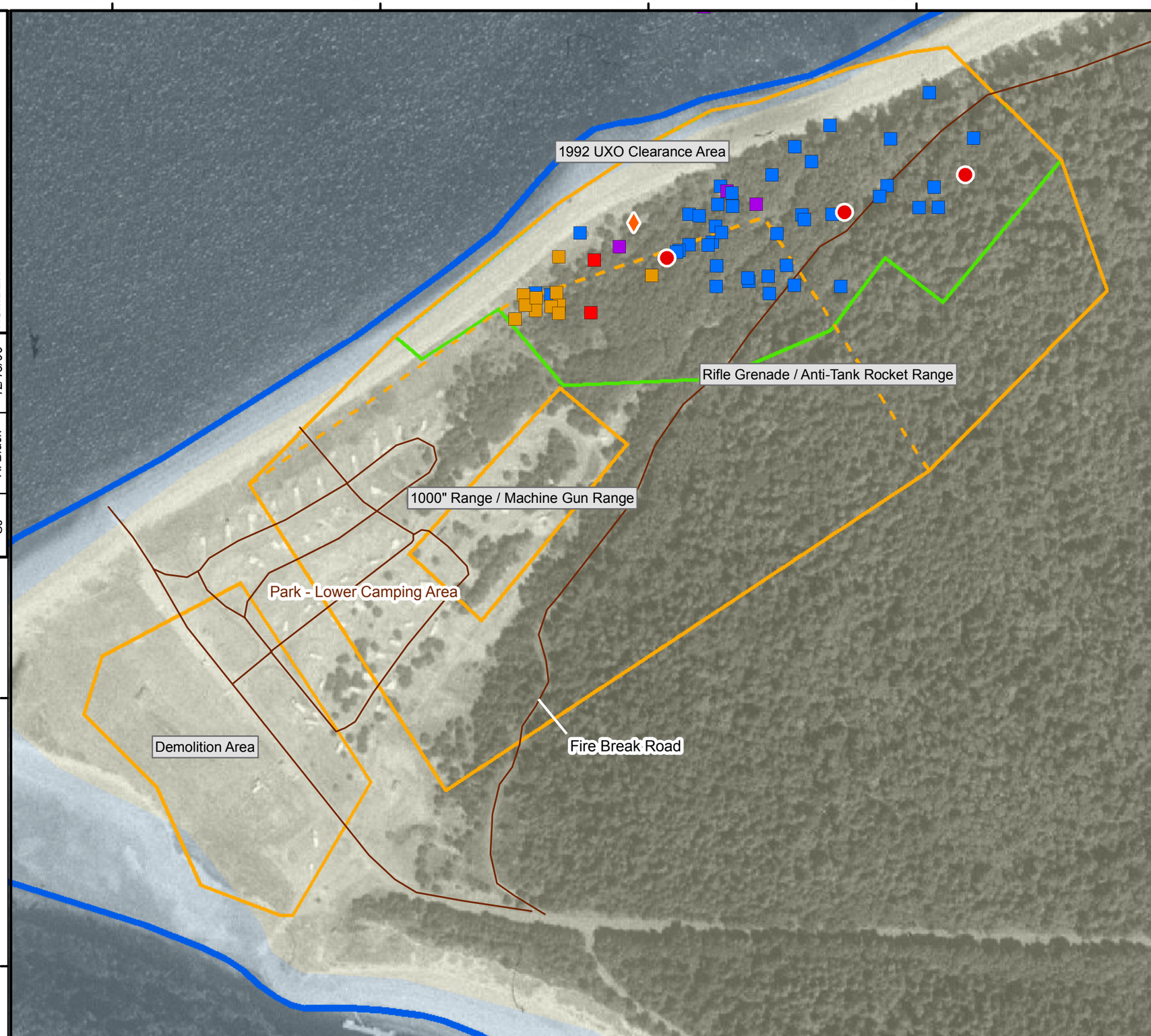
FIGURE 8

AREA OF CONCERN
GAS CHAMBER

FORT FLAGLER MILITARY RESERVATION

Shaw Environmental, Inc.

OFFICE	DRAWN BY		DRAWING NUMBER
MNRVL	K. Masterson	10/06/06	Ft Flagler_022_fig08_AOC_gas_TPP



Legend

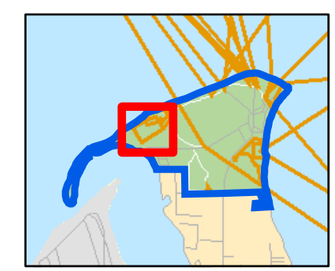
- Fort Flagler Military Reservation Property Boundary
- 1992 UXO Clearance Area
- Fort Flagler Area of Concern
- Fort Flagler Area of Concern as Identified in the ASR Supplement
- Campground Road/Trail
- 2.36" HEAT Rocket Motor
- 3.5" HEAT Rocket Motor
- Bunker Corner
- Mine Anti-Tank/Anti-Vehicle

Proposed Sampling Locations (approximate)

- Sediment
- Soil

NOTES:
1) AOC boundaries were derived from the Fort Flagler Military Reservation ASR, INPR Supplement and State Park historic map.
2) The aerial photo was obtained from TerraServer (1-meter resolution); the photo is dated June 21, 1990.

N



0 125 250 500 Feet

REFERENCE/PROJECTION: NAD 83 UTM Zone 10N

U.S. ARMY CORPS OF ENGINEERS
OMAHA DESIGN CENTER

FIGURE 9

AREA OF CONCERN
RIFLE GRENADE / ANTI-TANK ROCKET RANGE

FORT FLAGLER MILITARY RESERVATION

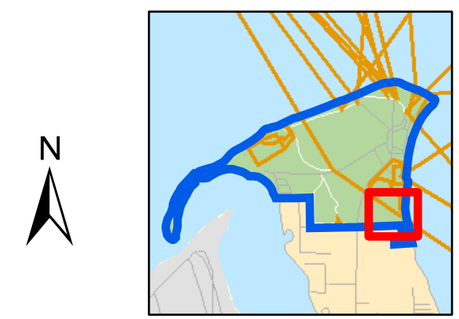
Shaw Environmental, Inc.

OFFICE	DRAWN BY		DRAWING NUMBER
SJ	K. Black	12/13/06	Ft Flagler_023_fig09_AOC_RocketRng_TPP

Legend

- Fort Flagler Military Reservation Property Boundary
- Fort Flagler Area of Concern
- Proposed Sampling Location (approximate)
  - Soil

NOTES:
1) AOC boundaries were derived from the Fort Flagler Military Reservation ASR, INPR Supplement and State Park historic map.
2) The aerial photo was obtained from TerraServer (1-meter resolution); the photo is dated June 21, 1990.



0 100 200 400 Feet

REFERENCE/PROJECTION: NAD 83 UTM Zone 10N

U.S. ARMY CORPS OF ENGINEERS
OMAHA DESIGN CENTER

FIGURE 10

AREA OF CONCERN
LIVE AND PRACTICE GRENADE COURTS

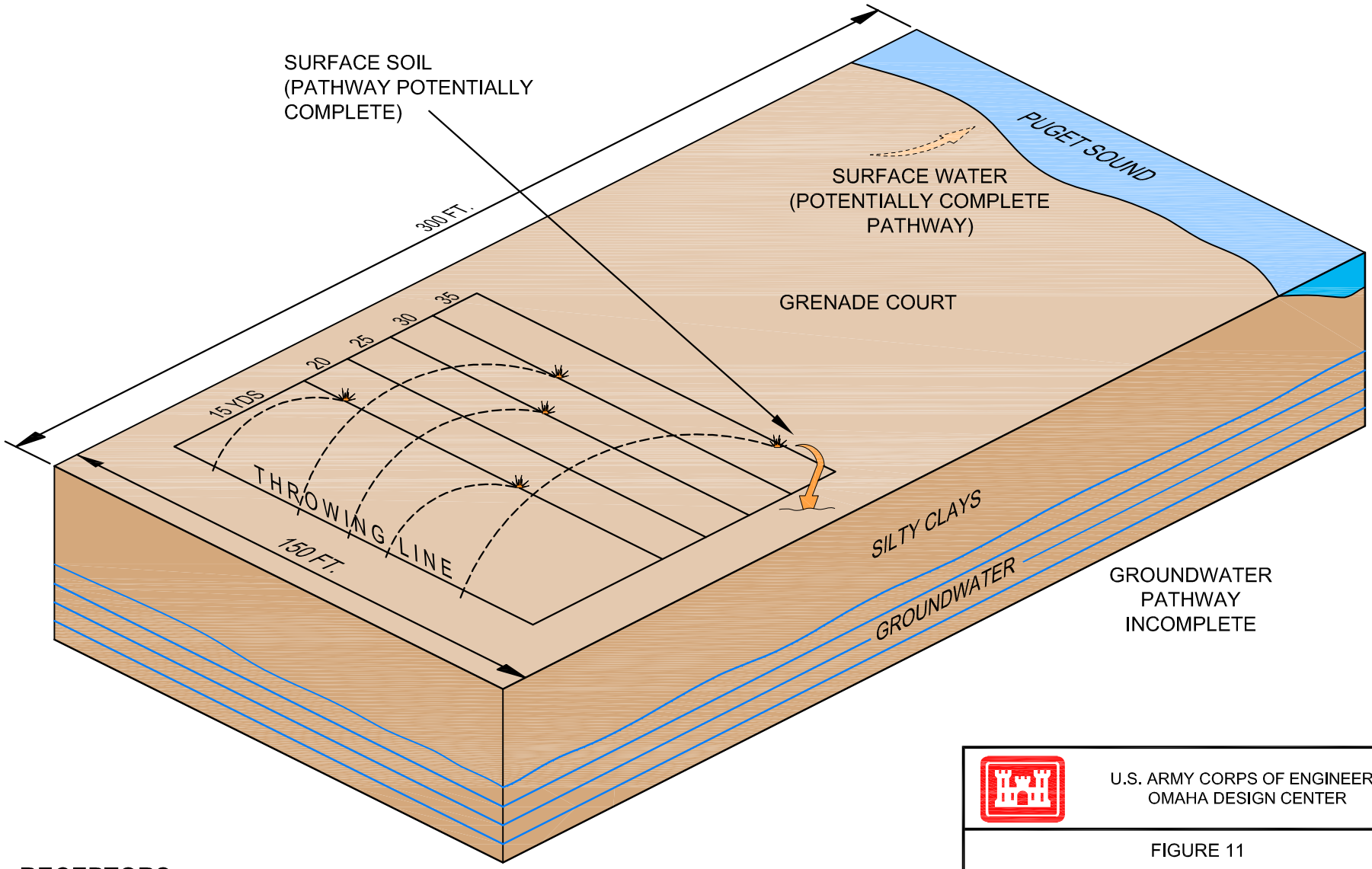
FORT FLAGLER MILITARY RESERVATION

Shaw Environmental, Inc.

OFFICE	DRAWN BY		DRAWING NUMBER
SJ	K. Black	12/13/06	Ft Flagler_024_fig10_AOC_PracticeGrenade_TPP

XREF Files: IMAGE Files:
File: N:\cad\DWG\116188-FUDS\116188SJ-a70.dwg Layout: Layout User: Karen.Black Oct 04, 2006 - 1:32pm

OFFICE	DRAWN BY		DRAWING NUMBER	116188SJ-A70
SJ	K. Black	10/04/06		



RECEPTORS:

- Recreational Site Users (Visitors)
- Site Workers (Park Personnel/Contractors)
- Biota (deer, squirrel, rabbit, etc.)

Note: This site model is a representation of one possible grenade court configuration. The distribution of MEC within the AOC is unknown. However, it seems reasonable to assume that the greatest potential for MEC would lie nearer to the AOC's center than to its perimeter.

U.S. ARMY CORPS OF ENGINEERS
OMAHA DESIGN CENTER

FIGURE 11

CONCEPTUAL SITE MODEL
GRENADE COURT

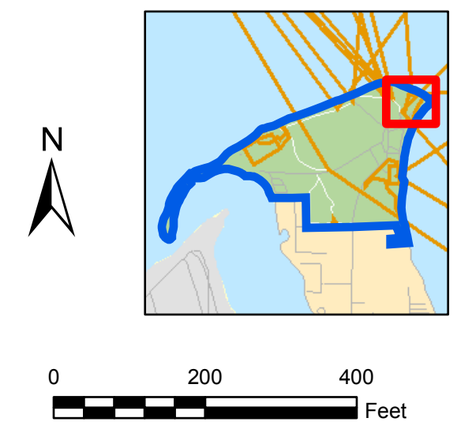
FORT FLAGLER MILITARY RESERVATION

Shaw® Shaw Environmental, Inc.

Legend

- Fort Flagler Military Reservation Property Boundary
- Fort Flagler Area of Concern
- Proposed Sampling Location (approximate)
  - Sediment
  - Soil

NOTES:
1) AOC boundaries were derived from the Fort Flagler Military Reservation ASR, INPR Supplement and State Park historic map.
2) The aerial photo was obtained from TerraServer (1-meter resolution); the photo is dated June 21, 1990.



REFERENCE/PROJECTION: NAD 83 UTM Zone 10N

U.S. ARMY CORPS OF ENGINEERS
OMAHA DESIGN CENTER

FIGURE 12

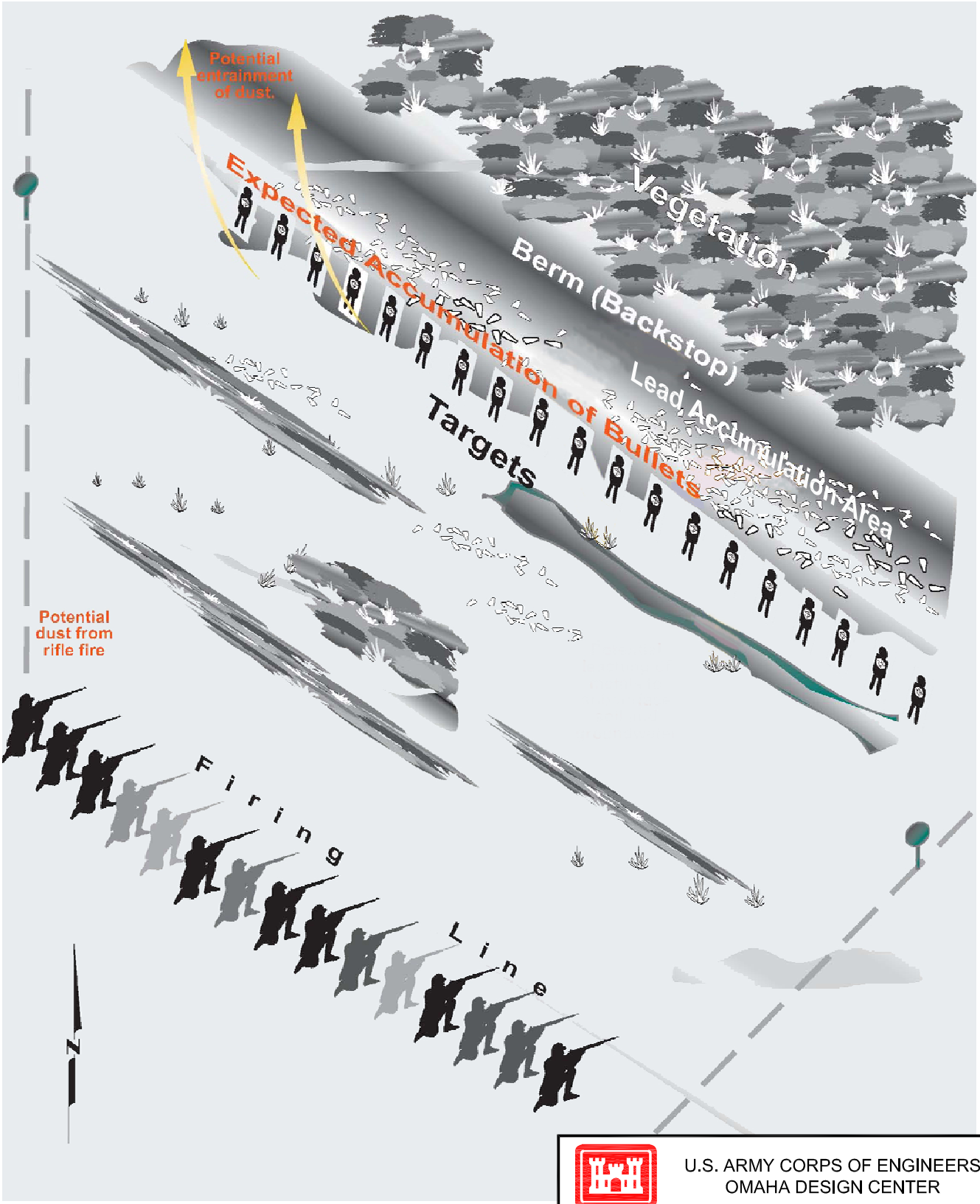
AREA OF CONCERN
RIFLE RANGE

FORT FLAGLER MILITARY RESERVATION

Shaw Environmental, Inc.

OFFICE	DRAWN BY		DRAWING NUMBER
SJ	K. Black	12/13/06	Ft Flagler_025_fig12_AOC_rifle_range_TPP

OFFICE	DRAWN BY		DRAWING NUMBER
SJ	K. Black	10/04/06	116188SJ-A56



U.S. ARMY CORPS OF ENGINEERS
OMAHA DESIGN CENTER

FIGURE 13

CONCEPTUAL SITE MODEL
RIFLE RANGE WITH BERM

FORT FLAGLER MILITARY RESERVATION

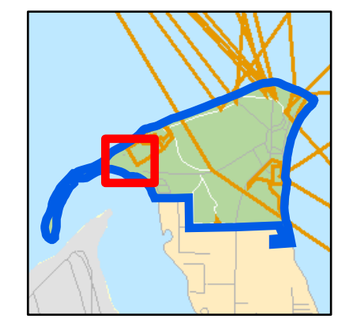
Shaw® Shaw Environmental, Inc.

Legend

- Fort Flagler Military Reservation Property Boundary
- Fort Flagler Area of Concern
- 1992 UXO Clearance Area
- Campground Road/Trail

NOTES:
1) AOC boundaries were derived from the Fort Flagler Military Reservation ASR, INPR Supplement and State Park historic map.
2) The aerial photo was obtained from TerraServer (1-meter resolution); the photo is dated June 21, 1990.

N



0 100 200 400 Feet

REFERENCE/PROJECTION: NAD 83 UTM Zone 10N

U.S. ARMY CORPS OF ENGINEERS
OMAHA DESIGN CENTER

FIGURE 14

AREA OF CONCERN DEMOLITION AREA

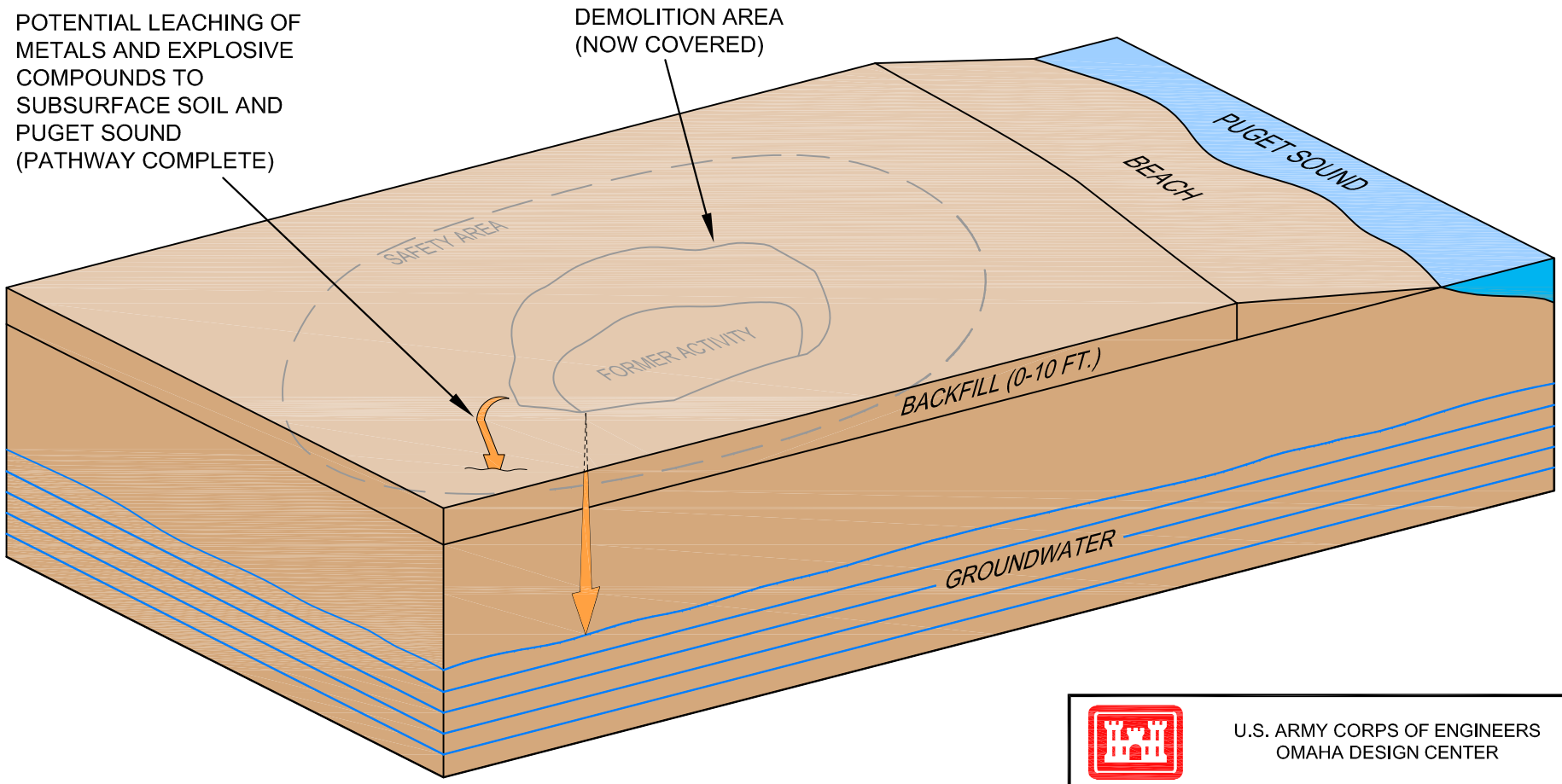
FORT FLAGLER MILITARY RESERVATION

Shaw Environmental, Inc.

OFFICE	DRAWN BY		DRAWING NUMBER
SJ	K. Black	12/13/06	Ft Flagler_026_fig14_AOC_demolition_TPP

XREF Files: IMAGE Files:
File: N:\cad\DWG\116188-FUDS\116188SJ-a71.dwg Layout: Layout User: Karen.Black Oct 04, 2006 - 2:06pm

OFFICE	DRAWN BY		DRAWING NUMBER	116188SJ-A71
SJ	K. Black	10/04/06		



U.S. ARMY CORPS OF ENGINEERS
OMAHA DESIGN CENTER

FIGURE 15

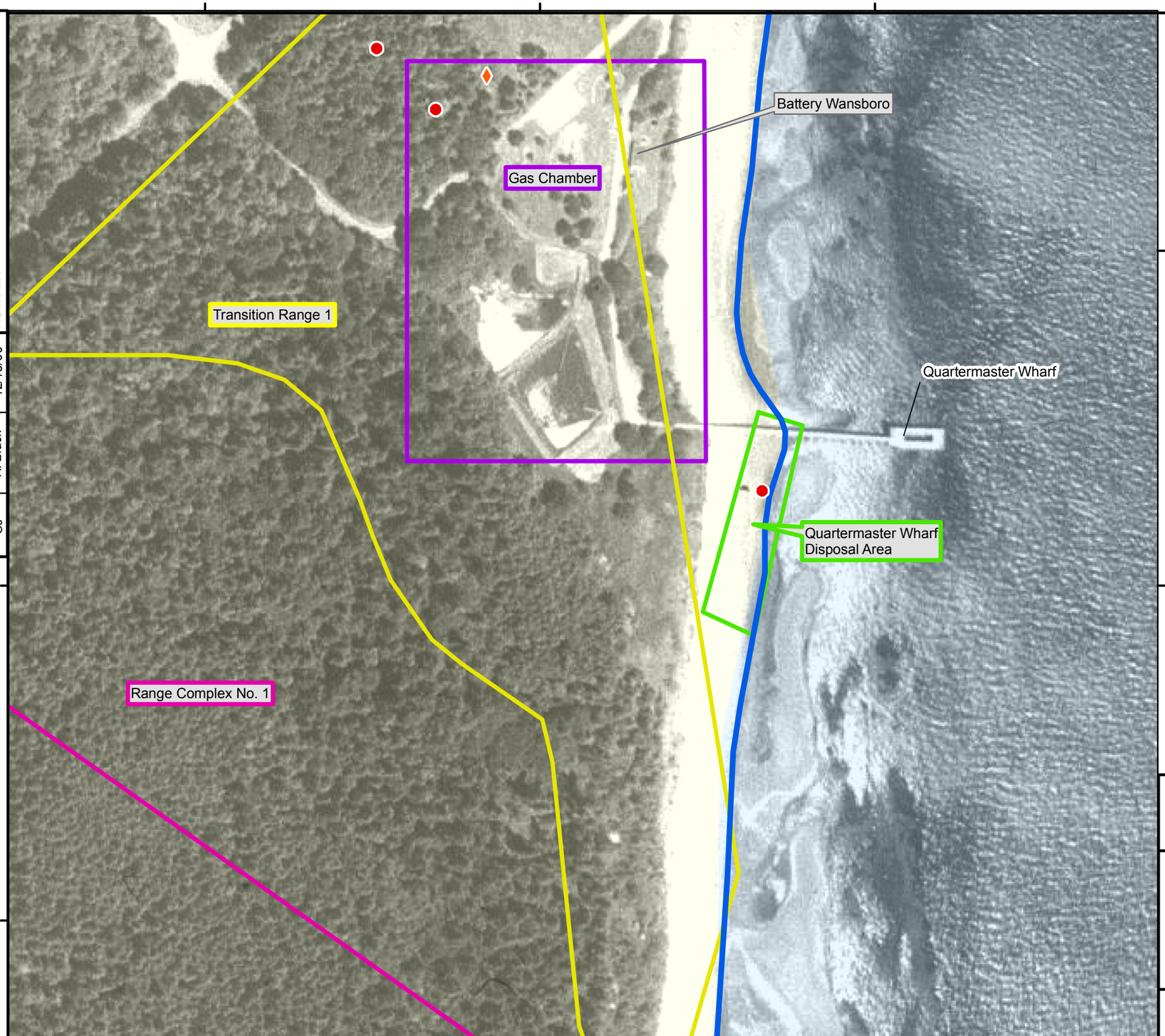
CONCEPTUAL SITE MODEL
DEMOLITION AREA

FORT FLAGLER MILITARY RESERVATION

Shaw® Shaw Environmental, Inc.

RECEPTORS:

- Park Workers Doing Excavation
- Biota (shell fish)



DRAWING NUMBER: Ft Flagler_027_fig16_AOC_quartermaster_TPP

DRAWN BY: K. Black 12/13/06

OFFICE: SJ

Legend

- Fort Flagler Military Reservation Property Boundary
- Fort Flagler Areas of Concern
  - Range Complex No. 1
  - Gas Chamber
  - Quartermaster Wharf Disposal Area
  - Transition Range 1
- Proposed Sampling Location (approximate)
  - Sediment
  - Soil

NOTES:
1) AOC boundaries were derived from the Fort Flagler Military Reservation ASR, INPR Supplement and State Park historic map.
2) The aerial photo was obtained from TerraServer (1-meter resolution); the photo is dated June 21, 1990.

N

0 100 200 400 Feet

REFERENCE/PROJECTION: NAD 83 UTM Zone 10N

U.S. ARMY CORPS OF ENGINEERS
OMAHA DESIGN CENTER

FIGURE 16

AREA OF CONCERN
QUARTERMASTER WHARF DISPOSAL AREA

FORT FLAGLER MILITARY RESERVATION

Shaw Environmental, Inc.

Tables

Table 1
Potential MEC and MC at Ft. Flagler Military Reservation

AOC	Subrange /Battery	Munitions	Munitions Constituents	Land Use Controls
Range Complex	Battery Bankhead	12-inch Mortar, M1889 MI	Propellant – single-base (nitrocellulose) or triple-base (nitrocellulose, NG, and nitroguanidine); HE Projectile – Explosive D (ammonium picrate).	No
	Battery Calwell	6-inch Rapid Fire, M1903	Propellant – single-base (nitrocellulose) double-base (nitrocellulose and NG, or triple base (nitrocellulose, NG, and nitroguanidine); Practice Projectile – spotting charge; HE Projectile – TNT.	
	Battery Downes	3-inch Rapid Fire, M1903	Propellant – single-base (nitrocellulose) or triple base (nitrocellulose, NG, and nitroguanidine); HE Projectile – TNT.	
	Battery Gratton	6-inch Rapid Fire, M1903	Propellant – single-base (nitrocellulose) or triple base (nitrocellulose, NG, and nitroguanidine); Practice Projectile – spotting charge; HE Projectile – Explosive D (ammonium picrate).	
	Battery Lee	5-inch Rapid Fire, M1897	Propellant – single-base (nitrocellulose) or triple base (nitrocellulose, NG, and nitroguanidine); Projectile – unknown.	
	Battery Rawlins	10-inch Rifle, MII	Propellant – single-base (nitrocellulose) or triple base (nitrocellulose, NG, and nitroguanidine); Projectile – unknown.	
	Battery Revere	10-inch Rifle, MII	Propellant – single-base (nitrocellulose) or triple base (nitrocellulose, NG, and nitroguanidine); Projectile – unknown.	
	Battery Wansboro	3-inch Rapid Fire, M1903	Propellant – single-base (nitrocellulose) or triple base (nitrocellulose, NG, and nitroguanidine); Practice Projectile – spotting charge; HE Projectile – TNT.	
	Battery Wilhelm	12-inch Rifle, M1888 MII	Propellant – single-base (nitrocellulose) or triple base (nitrocellulose, NG, and nitroguanidine); HE Projectile – Explosive D (ammonium picrate).	
	Anti-Torpedo Boat Battery	90-mm M1	Propellant – single-base (nitrocellulose), double-base (nitrocellulose and NG, or triple base (nitrocellulose, NG, and nitroguanidine)	
	Anti-Aircraft Artillery Battery	3-inch, M1917M1A2	Propellant – single-base (nitrocellulose) or triple base (nitrocellulose, NG, and nitroguanidine); Practice Projectile – spotting charge; HE Projectile – Explosive D (Ammonium picrate).	

Table 1 (Continued)
Potential MEC and MC at Ft. Flagler Military Reservation

AOC	Munitions	Munitions Constituents	Land Use Controls
Ammunition Bunker	Small Arms	Lead; Propellant – single-base (nitrocellulose) or double-base (nitrocellulose and NG).	No
	Riot Hand Grenade, ABC-M25A1	CN.	
	Rocket, M28, 3.5-inch	NG, nitrocellulose, potassium perchlorate, RDX, TNT.	
	Practice Rocket, M29, 3.5-inch	NG, nitrocellulose, potassium perchlorate.	
	Rocket, M6A1, 2.36-inch, Anti-Tank	Ballistite (nitrocellulose and NG); Pentolite (TNT & PETN).	
	Practice Rocket, M7A1, 2.36-inch, Anti-Tank	Ballistite (nitrocellulose and NG).	
	Mk II Fragment Hand Grenade	TNT, flaked or granular, older models used E.C. blank fire smokeless powder, perchlorate in fuze.	
	M21 Practice Hand Grenade	Black powder (potassium nitrate, sulfur, charcoal), perchlorate in fuze.	
	Mk 1A1 Practice Hand Grenade	Spotting charge.	
	Anti-Tank, Anti-Vehicle Mine	Inert.	
Transition Range 1	Small Arms	Lead; Propellant – single-base (nitrocellulose) or double-base (nitrocellulose and NG).	No
Transition Range 2	Small Arms	Lead; Propellant – single-base (nitrocellulose) or double-base (nitrocellulose and NG).	No
Gas Chamber	Riot Hand Grenade, ABC-M25A1	CN.	No
Rifle Grenade/ Anti-Tank Rocket Range	Rocket, M28, 3.5-inch	NG, nitrocellulose, potassium perchlorate, RDX, TNT.	No
	Practice Rocket, M29, 3.5-inch	NG, nitrocellulose, potassium perchlorate.	
	Rocket, M6A1, 2.36-inch, Anti-Tank	Ballistite (nitrocellulose and NG); Pentolite (TNT & PETN).	
	Practice Rocket, M7A1, 2.36-inch, Anti-Tank	Ballistite (nitrocellulose and NG).	
	Anti-Tank/Anti-Vehicle Mine	Inert	

Table 1 (Continued)
Potential MEC and MC at Ft. Flagler Military Reservation

AOC	Munitions	Munitions Constituents	Land Use Controls
Live Grenade Court	Mk II Fragment Hand Grenade	TNT, flaked or granular, older models used E.C. blank fire smokeless powder, perchlorate in fuze.	No
	M21 Practice Hand Grenade	Black powder (potassium nitrate, sulfur, charcoal), perchlorate in fuze.	
Practice Grenade Court	M21 Practice Hand Grenade	Black powder (potassium nitrate, sulfur, charcoal), perchlorate in fuze.	No
	Mk 1A1 Practice Hand Grenade	Spotting charge.	
Rifle Range	Small Arms	Lead; Propellant – single-base (nitrocellulose) or double-base (nitrocellulose and NG).	No
Demolition Area	Small Arms	Lead; Propellant – single-base (nitrocellulose) or double-base (nitrocellulose and NG).	No
	Riot Hand Grenade, ABC-M25A1	CN.	
	Rocket, M28, 3.5-inch	NG, nitrocellulose, potassium perchlorate, RDX, TNT.	
	Practice Rocket, M29, 3.5-inch	NG, nitrocellulose, potassium perchlorate.	
	Rocket, M6A1, 2.36-inch, Anti-Tank	Ballistite (nitrocellulose and NG); Pentolite (TNT & PETN)	
	Practice Rocket, M7A1, 2.36-inch, Anti-Tank	Ballistite (nitrocellulose and NG).	
	Mk II Fragment Hand Grenade	TNT, flaked or granular, older models used E.C. blank fire smokeless powder, perchlorate in fuze.	
	M21 Practice Hand grenade	Black powder (potassium nitrate, sulfur, charcoal), perchlorate in fuze.	
	Mk 1A1 Practice Hand Grenade	Spotting charge.	

Table 1 (Continued)
Potential MEC and MC at Ft. Flagler Military Reservation

AOC	Munitions	Munitions Constituents	Land Use Controls
Quartermaster Wharf Disposal Area	Small Arms	Lead; Propellant – single-base (nitrocellulose) or double-base (nitrocellulose and NG)	No
	Riot Hand Grenade, ABC-M25A1	CN.	
	Rocket, M28, 3.5-inch	NG, nitrocellulose, potassium perchlorate, RDX, TNT.	
	Practice Rocket, M29, 3.5-inch	NG, nitrocellulose, potassium perchlorate.	
	Rocket M6A1, 2.36-inch, Anti-Tank	Ballistite (nitrocellulose and NG); Pentolite (TNT & PETN).	
	Rocket Practice M7A1, 2.36-inch Anti-Tank	Ballistite (nitrocellulose and NG).	
	Mk II Fragment Hand Grenade	TNT, flaked or granular, older models used E.C. blank fire smokeless powder, perchlorate in fuze.	
	M21 Practice Hand Grenade	Black powder (potassium nitrate, sulfur, charcoal), perchlorate in fuze.	
	Mk 1A1 Practice Hand Grenade	Spotting charge	

Table 2
MEC and MC Exposure Pathway Analysis

Range Area & Type	MMRP Concern	Potential Contaminant of Concern (PCOCs)	Affected Media Potential Contaminant Sources/Fate and Transport	Exposure Routes and Potential Receptors			Data Gaps	Activities to Address Data Gaps (i.e., Sampling)
				Site Workers/ Contractor Personnel	Residents/ General Public	Ecological (Biota)		
Range Complex	MEC	MEC in the form of unfired propellant cartridges or discarded HE projectiles; presence of MEC unlikely based on use and configuration	**Surface Soil** • None.	• Incomplete pathway.	• Incomplete pathway.	• Not applicable.	• None	• Visual reconnaissance to verify current site conditions.
			Subsurface Soil • None	• Incomplete pathway.	• Incomplete pathway.	• Not applicable.	• None.	• Historical documents do not indicate range has buried MEC.
	MC	Select metals, explosives (nitrocellulose, NG, TNT, ammonium picrate); presence of MEC unlikely based on use and configuration	**Soil** • None.	• Incomplete pathway.	• Incomplete pathway.	• Incomplete pathway.	• None	• None
			Sediment/Surface Water • None	• Incomplete pathway.	• Incomplete pathway.	• Incomplete pathway.	• None	• None
			Groundwater • None.	• Incomplete pathway.	• Incomplete pathway.	• Incomplete pathway.	• None.	• None.
			Air • Not an affected media under current land use.	• Incomplete pathway.	• Incomplete pathway.	• Incomplete pathway.	• None.	• None

Table 2 (Continued)
MEC and MC Exposure Pathway Analysis

Range Area & Type	MMRP Concern	Potential Contaminant of Concern (PCOCs)	Affected Media Potential Contaminant Sources/Fate and Transport	Exposure Routes and Potential Receptors			Data Gaps	Activities to Address Data Gaps (i.e., Sampling)
				Site Workers/ Contractor Personnel	Residents/ General Public	Ecological (Biota)		
Ammunition Bunker	MEC	MEC in the form of 2.36-inch and 3.5-inch rockets, hand grenades, land mines, and small arms are a potential hazard.	**Surface Soil** • MEC in the form of unexploded rockets, hand grenades, and land mines are a hazard.	• Complete pathway. • Exposure routes - Vehicle and foot traffic.	• Complete pathway. - Exposure routes - Foot traffic.	• Complete pathway. • Exposure routes - Foot traffic.	• Occurrence of MEC in bunker area is unknown.	• Visual reconnaissance to verify current site conditions.
			Subsurface Soil • MEC in the form of unexploded rockets, hand grenades, and land mines are a hazard.	• Potentially complete pathway. • Exposure routes - Intrusive activities. - Geologic instability.	• Potentially complete pathway. • Exposure routes - Intrusive activities. - Geologic instability.	• Potentially complete pathway. • Exposure routes - Intrusive activities. - Geologic instability.	• Occurrence of MEC in bunker area is unknown.	• No subsurface survey will be performed.
	MC	Select metals, explosives (nitrocellulose, NG, RDX, PETN, TNT), potassium perchlorate.	**Soil** • Directly affected media. • Potential metals and explosives contamination. • Fate & Transport: Secondary source of potential surface water, sediment, and air contamination.	• Potentially complete pathway. • Exposure routes: - Incidental ingestion, - Dermal contact, and - Inhalation of soil particulates during intrusive work.	• Potentially complete pathway. • Exposure routes: - Incidental ingestion, - Dermal contact, and - Inhalation of soil particulates during intrusive work.	• Potentially complete pathway. • Exposure routes: - Ingestion, and - Direct contact by area fauna.	• Analytical data for metals and explosives in soil do not exist.	• One contingency sample if MEC or MEC debris is located. • Analyze sample for select metals (aluminum, chromium, copper, iron, lead, manganese, molybdenum, and nickel) and explosives, including NG and PETN.
			Sediment/Surface Water • Potentially affected media – ponds. • Potential metal and explosive contamination. • Fate & Transport: Via surface runoff from impacted soil.	• Potentially complete pathway. • Exposure routes: - Incidental ingestion, - Dermal contact, and - Inhalation of surface water.	• Potentially complete pathway. • Exposure routes: - Incidental ingestion, - Dermal contact, and - Inhalation of surface water.	• Potentially complete pathway. • Exposure routes: - Ingestion, - Direct contact by area fauna and aquatic organisms.	• Analytical data for metals in sediment/surface water do not exist.	• One contingency sample from water collection area. • Analyze samples for select metals (aluminum, chromium, copper, iron, lead, manganese, molybdenum, and nickel) and explosives, including NG and PETN.
			Groundwater • Potentially affected media. • Potential metals and explosives contamination. • Fate & Transport: Migration of metals directly to groundwater is unlikely because of relatively low mobility of metals lead in soil	• Incomplete pathway. - No local wells.	• Incomplete pathway. - No local wells.	• Incomplete pathway. - No local wells.	• No groundwater analytical data exist for metals.	• No groundwater samples will be collected.
			Air • Not an affected media under current land use.	• Incomplete pathway.	• Incomplete pathway.	• Incomplete pathway.	• None.	• None

Table 2 (Continued)
MEC and MC Exposure Pathway Analysis

Range Area & Type	MMRP Concern	Potential Contaminant of Concern (PCOCs)	Affected Media Potential Contaminant Sources/Fate and Transport	Exposure Routes and Potential Receptors			Data Gaps	Activities to Address Data Gaps (i.e., Sampling)
				Site Workers/ Contractor Personnel	Residents/ General Public	Ecological (Biota)		
Transition Range 1	MEC	MEC in the form of unfired small arms rounds are a potential hazard; low explosive hazard.	**Surface Soil** • MEC (unfired ammunition) are a hazard. • No MEC found.	• Incomplete pathway.	• Incomplete pathway.	• Incomplete pathway.	• None	• Visual reconnaissance to verify current site conditions; very low likelihood of finding MEC after 50 years of heavy use.
			Subsurface Soil • None	• Incomplete pathway.	• Incomplete pathway.	• Not applicable.	• None; subsurface burial not documented.	• Historical documents do not indicate ranges have buried MEC.
	MC	Lead.	**Soil** • Directly affected media. • Potential lead from bullets. • Fate & Transport: Secondary source of potential surface water, sediment, and air contamination.	• Potentially complete pathway. • Exposure routes: - Incidental ingestion, - Dermal contact, and - Inhalation of soil particulates during intrusive work.	• Potentially complete pathway. • Exposure routes: - Incidental ingestion, - Dermal contact, and - Inhalation of soil particulates during intrusive work.	• Potentially complete pathway. • Exposure routes: - Ingestion, and - Direct contact by area fauna.	• Analytical data for lead in soil do not exist.	• Collect two soil samples from location of backstop berm and analyze for lead only.
			Sediment/Surface Water • Potentially affected media – ponds. • Potential lead contamination. • Fate & Transport: Via surface runoff from impacted soil.	• Potentially complete pathway. • Exposure routes: - Incidental ingestion, - Dermal contact, and - Inhalation of surface water.	• Potentially complete pathway. • Exposure routes: - Incidental ingestion, - Dermal contact, and - Inhalation of surface water.	• Potentially complete pathway. • Exposure routes: - Ingestion, - Direct contact by area fauna and aquatic organisms.	• Analytical data for lead in sediment/surface water do not exist.	• Collect one sediment sample from water collection area and analyze for lead only.
			Groundwater • Potentially affected media. • Potential metals and explosives contamination. • Fate & Transport: Migration of metals directly to groundwater is unlikely because of relatively low mobility of metals lead in soil.	• Incomplete pathway. - No local wells.	• Incomplete pathway. - No local wells.	• Incomplete pathway. - No local wells.	• No groundwater analytical data exist for metals.	• No groundwater samples will be collected.
			Air • Not an affected media under current land use.	• Incomplete pathway.	• Incomplete pathway.	• Incomplete pathway.	• None.	• None

Table 2 (Continued)
MEC and MC Exposure Pathway Analysis

Range Area & Type	MMRP Concern	Potential Contaminant of Concern (PCOCs)	Affected Media Potential Contaminant Sources/Fate and Transport	Exposure Routes and Potential Receptors			Data Gaps	Activities to Address Data Gaps (i.e., Sampling)
				Site Workers/ Contractor Personnel	Residents/ General Public	Ecological (Biota)		
Transition Range 2	MEC	MEC in the form of unfired small arms rounds are a potential hazard; low explosive hazard.	**Surface Soil** • MEC (unfired ammunition) are a hazard. • No MEC found.	• Incomplete pathway.	• Incomplete pathway.	• Incomplete pathway.	• None	• Visual reconnaissance to verify current site conditions; very low likelihood of finding MEC after 50 years of heavy use.
			Subsurface Soil • None	• Incomplete pathway.	• Incomplete pathway.	• Not applicable.	• None; subsurface burial not documented.	• Historical documents do not indicate ranges have buried MEC.
	MC	Lead.	**Soil** • Directly affected media. • Potential lead from bullets. • Fate & Transport: Secondary source of potential surface water, sediment, and air contamination.	• Potentially complete pathway. • Exposure routes: - Incidental ingestion, - Dermal contact, and - Inhalation of soil particulates during intrusive work.	• Potentially complete pathway. • Exposure routes: - Incidental ingestion, - Dermal contact, and - Inhalation of soil particulates during intrusive work.	• Potentially complete pathway. • Exposure routes: - Ingestion, and - Direct contact by area fauna.	• Analytical data for lead in soil do not exist.	• Collect two soil samples from location of backstop berm and analyze for lead only.
			Sediment/Surface Water • Potentially affected media – ponds. • Potential lead contamination. • Fate & Transport: Via surface runoff from impacted soil.	• Potentially complete pathway. • Exposure routes: - Incidental ingestion, - Dermal contact, and - Inhalation of surface water.	• Potentially complete pathway. • Exposure routes: - Incidental ingestion, - Dermal contact, and - Inhalation of surface water.	• Potentially complete pathway. • Exposure routes: - Ingestion, - Direct contact by area fauna and aquatic organisms.	• Analytical data for lead in sediment/surface water do not exist.	• Collect one sediment sample from water collection area and analyze for lead only.
			Groundwater • Potentially affected media. • Potential metals and explosives contamination. • Fate & Transport: Migration of metals directly to groundwater is unlikely because of relatively low mobility of metals lead in soil.	• Incomplete pathway. - No local wells.	• Incomplete pathway. - No local wells.	• Incomplete pathway. - No local wells.	• No groundwater analytical data exist for metals.	• No groundwater samples will be collected.
			Air • Not an affected media under current land use.	• Incomplete pathway.	• Incomplete pathway.	• Incomplete pathway.	• None.	• None

Table 2 (Continued)
MEC and MC Exposure Pathway Analysis

Range Area & Type	MMRP Concern	Potential Contaminant of Concern (PCOCs)	Affected Media Potential Contaminant Sources/Fate and Transport	Exposure Routes and Potential Receptors			Data Gaps	Activities to Address Data Gaps (i.e., Sampling)
				Site Workers/ Contractor Personnel	Residents/ General Public	Ecological (Biota)		
Gas Chamber	MEC	MEC not anticipated (riot control gas hand grenades.	**Surface Soil** • MEC - none. • No MEC found.	• Incomplete pathway.	• Incomplete pathway.	• Incomplete pathway.	• None	• Visual reconnaissance to verify current site conditions.
			Subsurface Soil • None	• Incomplete pathway.	• Incomplete pathway.	• Not applicable.	• None	• None.
	MC	Riot Gas (CN-1).	**Soil** • Directly affected media. • Potential CN-1 residue; however, CN-1 not expected to persist over 50 years in soil • Fate & Transport: Secondary source of potential surface water, sediment, and air contamination.	• Incomplete pathway.	• Incomplete pathway.	• Incomplete pathway.	• None	• None.
			Sediment/Surface Water • Potentially affected media – ponds. • Potential CN-1 residue; however, CN-1 not expected to persist over 50 years. • Fate & Transport: Via surface runoff from impacted soil.	• Incomplete pathway.	• Incomplete pathway.	• Incomplete pathway.	• None	• None.
			Groundwater • Potentially affected media. • Potential CN-1 residue; however, CN-1 not expected to persist for over 50 years. • Fate & Transport: Migration of metals directly to groundwater is unlikely because of relatively low mobility of metals lead in soil	• Incomplete pathway. - No local wells.	• Incomplete pathway. - No local wells.	• Incomplete pathway. - No local wells.	• No groundwater analytical data exist for metals.	• No groundwater samples will be collected.
			Air • Not an affected media under current land use.	• Incomplete pathway.	• Incomplete pathway.	• Incomplete pathway.	• None.	• None

Table 2 (Continued)
MEC and MC Exposure Pathway Analysis

Range Area & Type	MMRP Concern	Potential Contaminant of Concern (PCOCs)	Affected Media Potential Contaminant Sources/Fate and Transport	Exposure Routes and Potential Receptors			Data Gaps	Activities to Address Data Gaps (i.e., Sampling)
				Site Workers/ Contractor Personnel	Residents/ General Public	Ecological (Biota)		
Rifle Grenade/ Anti-Tank Rocket Range	MEC	MEC in the form of 2.36-inch and 3.5-inch rockets, hand grenades, land mines are a potential hazard.	**Surface Soil** • MEC in the form of unexploded rockets, hand grenades, and land mines are a hazard. • MEC found historically, cleanup in 1992, may still be MEC in unsurveyed areas.	• Complete pathway. • Exposure routes - Vehicle and foot traffic.	• Complete pathway. - Exposure routes - Foot traffic.	• Complete pathway. • Exposure routes - Foot traffic.	• Occurrence of MEC in area south of Fire Break Road in eastern AOC is unknown.	• Visual reconnaissance with magnetometer will be conducted to: - Assess MEC occurrence. - Practice MEC avoidance.
			Subsurface Soil • MEC in the form of unexploded rockets, hand grenades, and land mines are a hazard. • MEC found historically, cleanup in 1992, may still be MEC in unsurveyed areas.	• Potentially complete pathway. • Exposure routes - Intrusive activities. - Geologic instability.	• Potentially complete pathway. • Exposure routes - Intrusive activities. - Geologic instability.	• Potentially complete pathway. • Exposure routes - Intrusive activities. - Geologic instability.	• Occurrence of MEC in area south of Fire Break Road in eastern AOC is unknown.	• No subsurface survey will be performed.
	MC	Select metals, explosives (nitrocellulose, NG, RDX, PETN, TNT), perchlorate.	**Soil** • Directly affected media. • Potential metals and explosives contamination. • Fate & Transport: Secondary source of potential surface water, sediment, and air contamination.	• Potentially complete pathway. • Exposure routes: - Incidental ingestion, - Dermal contact, and - Inhalation of soil particulates during intrusive work.	• Potentially complete pathway. • Exposure routes: - Incidental ingestion, - Dermal contact, and - Inhalation of soil particulates during intrusive work.	• Potentially complete pathway. • Exposure routes: - Ingestion, and - Direct contact by area fauna.	• Analytical data for metals and explosives in soil do not exist.	• Collect three soil samples. Two at documented MEC locations from 1992 clearance and one from a location in eastern portion of clearance area. • Analyze samples for select metals (aluminum, chromium, copper, iron, lead, manganese, molybdenum, and nickel) and explosives, including NG and PETN.
			Sediment/Surface Water • Potentially affected media – ponds. • Potential metal and explosive contamination. • Fate & Transport: Via surface runoff from impacted soil.	• Potentially complete pathway. • Exposure routes: - Incidental ingestion, - Dermal contact, and - Inhalation of surface water.	• Potentially complete pathway. • Exposure routes: - Incidental ingestion, - Dermal contact, and - Inhalation of surface water.	• Potentially complete pathway. • Exposure routes: - Ingestion, - Direct contact by area fauna and aquatic organisms.	• Analytical data for metals in sediment/surface water do not exist.	• Collect one sediment sample from water collection area. • Analyze samples for select metals (aluminum, chromium, copper, iron, lead, manganese, molybdenum, and nickel) and explosives, including NG and PETN.
			Groundwater • Potentially affected media. • Potential metals and explosives contamination. • Fate & Transport: Migration of metals directly to groundwater is unlikely because of relatively low mobility of metals lead in soil	• Incomplete pathway. - No local wells.	• Incomplete pathway. - No local wells.	• Incomplete pathway. - No local wells.	• No groundwater analytical data exist for metals.	• No groundwater samples will be collected.
			Air • Not an affected media under current land use.	• Incomplete pathway.	• Incomplete pathway.	• Incomplete pathway.	• None.	• None

Table 2 (Continued)
MEC and MC Exposure Pathway Analysis

Range Area & Type	MMRP Concern	Potential Contaminant of Concern (PCOCs)	Affected Media Potential Contaminant Sources/Fate and Transport	Exposure Routes and Potential Receptors			Data Gaps	Activities to Address Data Gaps (i.e., Sampling)
				Site Workers/ Contractor Personnel	Residents/ General Public	Ecological (Biota)		
Live Grenade Court	**MEC**	MEC in the form of ***unexploded*** grenades used at this site.	**Surface & Subsurface Soils** • Unexploded grenades are a hazard.	• Complete pathway (MEC found). • Exposure routes: - foot traffic - Intrusive activity - Geologic instability	• Complete pathway. • Exposure routes: - Foot traffic - Geologic instability	• Potentially complete pathway. • Exposure routes: - Foot traffic - Burrowing - Geologic instability	• Presence of MEC is unknown	Visual reconnaissance aided by a magnetometer sweeps will be conducted to: • Identify MEC or MEC debris • Practice MEC avoidance, and .
	MC	Select metals, explosives (TNT, older models used E.C. blank fire smokeless powder), perchlorate	**Soil** • Incomplete detonation of explosive munitions	• Potentially complete pathway. • Exposure routes (during intrusive work): - incidental ingestion, - dermal contact, and - inhalation of soil particulates.	• Potentially complete pathway. • Exposure routes: - incidental ingestion, - dermal contact, and - inhalation of soil particulates.	• Potentially complete pathway. • Exposure routes: - ingestion, and - direct contact by area fauna.	• Analytical data for metals or explosives do not exist.	One composite soil sample AOC will be analyzed for select metals (aluminum, chromium, copper, iron, lead, manganese, molybdenum, and nickel) and explosives.
			Surface Water/Sediment • Potentially affected media – ponds. • Potential metal and explosive contamination. • Fate & Transport: Via surface runoff from impacted soil.	• Potentially complete pathway. • Exposure routes: - incidental ingestion, - dermal contact, and - inhalation.	• Potentially complete pathway. • Exposure routes: - incidental ingestion, - dermal contact, and - inhalation.	• Potentially complete pathway. • Exposure routes: - ingestion, and - direct contact by area fauna.	• Analytical data for metals and explosives do not exist.	• No sediment samples will be collected. Area is small and no water collection areas at AOC.
			Groundwater • Potentially affected media. • Potential metals and explosives contamination. • Fate & Transport: Migration of metals directly to groundwater is unlikely because of relatively low mobility of metals lead in soil	• Incomplete pathway. - No local wells.	• Incomplete pathway. - No local wells.	• Incomplete pathway. - No local wells.	• No groundwater analytical data exist for metals.	• No groundwater samples will be collected.
			Air • Not an affected media under current land use.	• Incomplete pathway.	• Incomplete pathway.	• Incomplete pathway.	• None.	• None

Table 2 (Continued)
MEC and MC Exposure Pathway Analysis

Range Area & Type	MMRP Concern	Potential Contaminant of Concern (PCOCs)	Affected Media Potential Contaminant Sources/Fate and Transport	Exposure Routes and Potential Receptors			Data Gaps	Activities to Address Data Gaps (i.e., Sampling)
				Site Workers/ Contractor Personnel	Residents/ General Public	Ecological		
Practice Grenade Court	MEC	No indication of munitions being used at this AOC other than spotting charge training grenades and practice grenades with small black powder charges.	**Surface & Subsurface Soils** • A mechanism by which explosive munitions would be present has not been identified.	• Incomplete pathway.	• Incomplete pathway.	• Incomplete pathway.	None	• Visual reconnaissance to verify site conditions.
	MC	No PCOCs in black powder.	**Soil** • Not Applicable	• Incomplete pathway.	• Incomplete pathway.	• Incomplete pathway.	• None.	• None
			Surface Water/Sediment • Not Applicable	• Incomplete pathway.	• Incomplete pathway.	• Incomplete pathway.	• None.	• None
			Air • Not Applicable	• Incomplete pathway.	• Incomplete pathway.	• Incomplete pathway.	• None.	• None

Table 2 (Continued)
MEC and MC Exposure Pathway Analysis

Range Area & Type	MMRP Concern	Potential Contaminant of Concern (PCOCs)	Affected Media Potential Contaminant Sources/Fate and Transport	Exposure Routes and Potential Receptors			Data Gaps	Activities to Address Data Gaps (i.e., Sampling)
				Site Workers/ Contractor Personnel	Residents/ General Public	Ecological (Biota)		
Rifle Range	MEC	MEC in the form of unfired small arms rounds are a potential hazard; low explosive hazard.	**Surface Soil** • MEC (unfired ammunition) are a hazard. • No MEC found.	• Incomplete pathway.	• Incomplete pathway.	• Incomplete pathway.	• None	• Visual reconnaissance to verify current site conditions; very low likelihood of finding MEC after 50 years of heavy use.
			Subsurface Soil • None	• Incomplete pathway.	• Incomplete pathway.	• Not applicable.	• None; subsurface burial not documented.	• Historical documents does not indicate ranges have buried MEC.
	MC	Lead.	**Soil** • Directly affected media. • Potential lead from bullets. • Fate & Transport: Secondary source of potential surface water, sediment, and air contamination.	• Potentially complete pathway. • Exposure routes: - Incidental ingestion, - Dermal contact, and - Inhalation of soil particulates during intrusive work.	• Potentially complete pathway. • Exposure routes: - Incidental ingestion, - Dermal contact, and - Inhalation of soil particulates during intrusive work.	• Potentially complete pathway. • Exposure routes: - Ingestion, and - Direct contact by area fauna.	• Analytical data for lead in soil do not exist.	• Collect two soil samples from location of backstop berm and analyzed for lead only.
			Sediment/Surface Water • Potentially affected media – ponds. • Potential lead contamination. • Fate & Transport: Via surface runoff from impacted soil.	• Potentially complete pathway. • Exposure routes: - Incidental ingestion, - Dermal contact, and - Inhalation of surface water.	• Potentially complete pathway. • Exposure routes: - Incidental ingestion, - Dermal contact, and - Inhalation of surface water.	• Potentially complete pathway. • Exposure routes: - Ingestion, - Direct contact by area fauna and aquatic organisms.	• Analytical data for lead in sediment/surface water do not exist.	• Collect one sediment sample from water collection area and analyzed for lead only.
			Groundwater • Potentially affected media. • Potential metals and explosives contamination. • Fate & Transport: Migration of metals directly to groundwater is unlikely because of relatively low mobility of metals lead in soil	• Incomplete pathway. - No local wells.	• Incomplete pathway. - No local wells.	• Incomplete pathway. - No local wells.	• No groundwater analytical data exist for metals.	• No groundwater samples will be collected.
			Air • Not an affected media under current land use.	• Incomplete pathway.	• Incomplete pathway.	• Incomplete pathway.	• None.	• None

Table 2 (Continued)
MEC and MC Exposure Pathway Analysis

Range Area & Type	MMRP Concern	Potential Contaminant of Concern (PCOCs)	Affected Media Potential Contaminant Sources/Fate and Transport	Exposure Routes and Potential Receptors			Data Gaps	Activities to Address Data Gaps (i.e., Sampling)
				Site Workers/ Contractor Personnel	Residents/ General Public	Ecological (Biota)		
Demolition Area	MEC	MEC in the form of 2.36-inch and 3.5-inch rockets, hand grenades, land mines; small arms are a potential hazard.	**Surface Soil** • No MEC at surface, Site has been backfilled in the form of unexploded rockets, hand grenades, and land mines are a hazard.	• Complete pathway. • Exposure routes - Vehicle and foot traffic.	• Complete pathway. - Exposure routes - Foot traffic.	• Complete pathway. • Exposure routes - Foot traffic.	• None.	• Visual reconnaissance to verify current site conditions; the primary area that will be survey is the area along the beach and shoreline.
			Subsurface Soil • MEC in the form of unexploded rockets, hand grenades, and land mines are a hazard	• Potentially complete pathway. • Exposure routes - Intrusive activities. - Geologic instability.	• Potentially complete pathway. • Exposure routes - Intrusive activities. - Geologic instability.	• Potentially complete pathway. • Exposure routes - Intrusive activities. - Geologic instability.	• Occurrence of MEC in subsurface soil is unknown.	• None
	MC	Select metals explosives (nitrocellulose, NG, RDX, TNT), perchlorate.	**Soil** • Directly affected media. • Potential metals and explosives contamination. • Fate & Transport: Secondary source of potential surface water, sediment, and air contamination.	• Potentially complete pathway. • Exposure routes: - Incidental ingestion, - Dermal contact, and - Inhalation of soil particulates during intrusive work.	• Potentially complete pathway. • Exposure routes: - Incidental ingestion, - Dermal contact, and - Inhalation of soil particulates during intrusive work.	• Potentially complete pathway. • Exposure routes: - Ingestion, and - Direct contact by area fauna.	• None in surface soil	• None
			Sediment/Surface Water • Potentially affected media – Puget Sound. • Potential metal and explosive contamination. • Fate & Transport: via tidal action in subsurface soil.	• Potentially complete pathway. • Exposure routes: - Incidental ingestion, - Dermal contact, and - Inhalation of Puget Sound water.	• Potentially complete pathway. • Exposure routes: - Incidental ingestion, - Dermal contact, and - Inhalation of surface water.	• Potentially complete pathway. • Exposure routes: - Ingestion, - Direct contact by area fauna and aquatic organisms.	• Analytical data for metals or explosives in Puget Sound do not exist.	• None. • Puget Sound is a large body of saline water any contamination resulting from the demolition area has been flushed out via tidal action.
			Groundwater • Potentially affected media. • Potential metals and explosives contamination. • Fate & Transport: Migration of metals directly to groundwater is unlikely because of relatively low mobility of metals lead in soil	• Incomplete pathway. - No local wells.	• Incomplete pathway. - No local wells.	• Incomplete pathway. - No local wells.	• No groundwater analytical data exist for metals.	• No groundwater samples will be collected.
			Air • Not an affected media under current land use.	• Incomplete pathway.	• Incomplete pathway.	• Incomplete pathway.	• None.	• None

Table 2 (Continued)
MEC and MC Exposure Pathway Analysis

Range Area & Type	MMRP Concern	Potential Contaminant of Concern (PCOCs)	Affected Media Potential Contaminant Sources/Fate and Transport	Exposure Routes and Potential Receptors			Data Gaps	Activities to Address Data Gaps (i.e., Sampling)
				Site Workers/ Contractor Personnel	Residents/ General Public	Ecological (Biota)		
Quarter-master Wharf Disposal Site	MEC	MEC in the form of unfired small arms rounds a potential hazard; potential for other MEC.	**Surface Soil** • MEC (unfired ammunition) are a hazard. • Small arms rounds found.	Potentially complete pathway • Exposure routes Foot traffic.	Potentially complete pathway • Exposure routes Foot traffic.	• Incomplete pathway.	• Presence of MEC	• A visual reconnaissance will be performed along the beach.
			Subsurface Soil • None	• Incomplete pathway.	• Incomplete pathway.	• Not applicable.	• None; subsurface burial not documented.	• Historical documents do not indicate ranges have buried MEC.
	MC	Lead.	**Soil** • Directly affected media. • Potential lead and other metals from munitions. Potential for explosives • Fate & Transport: Secondary source of potential surface water and air contamination.	• Potentially complete pathway. • Exposure routes: - Incidental ingestion, - Dermal contact, and - Inhalation of soil particulates during intrusive work.	• Potentially complete pathway. • Exposure routes: - Incidental ingestion, - Dermal contact, and - Inhalation of soil particulates during intrusive work.	• Potentially complete pathway. • Exposure routes: - Ingestion, and - Direct contact by area fauna.	• Analytical data for metals and explosives in soil do not exist.	• Collect one soil sample from near the wharf sample will be analyzed for explosives only. Because the site was used for disposal of non-MEC related items differentiation between metals from MEC and refuse is not possible.
			Sediment/Surface Water • No sediment occurrence, site is a beach.	• Incomplete Pathway.	• Incomplete Pathway.	• Incomplete Pathway.	• None	• None
			Groundwater • Potentially affected media. • Potential metals and explosives contamination. • Fate & Transport: Migration of metals directly to groundwater is unlikely because of relatively low mobility of metals lead in soil	• Incomplete pathway. - No local wells.	• Incomplete pathway. - No local wells.	• Incomplete pathway. - No local wells.	• No groundwater analytical data exist for metals.	• No groundwater samples will be collected.
			Air • Not an affected media under current land use.	• Incomplete pathway.	• Incomplete pathway.	• Incomplete pathway.	• None.	• None

Table 3
Proposed Sampling Approach
Ft. Flagler Military Reservation

Area of Concern	Media	Samples	Contaminants of Concern[a]						
			Lead	Select Metals[b]	TAL Metals and Molybdenum	Explosives	PETN	NG	Sieving (No. 10)
Ammunition Bunker (contingency sample)	Soil	1	0	1	0	1	1	1	0
	Sediment	1	0	1	0	1	1	1	0
	Surface Water	0	0	0	0	0	0	0	0
	Groundwater	0	0	0	0	0	0	0	0
Transition Range 1	Soil	2	2	0	0	0	0	0	2
	Sediment	1	1	0	0	0	0	0	1
	Surface Water	0	0	0	0	0	0	0	0
	Groundwater	0	0	0	0	0	0	0	0
Transition Range 2	Soil	2	2	0	0	0	0	0	2
	Sediment	1	1	0	0	0	0	0	1
	Surface Water	0	0	0	0	0	0	0	0
	Groundwater	0	0	0	0	0	0	0	0
Rifle Grenade/Anti-Tank Rocket Range	Soil	3	0	3	0	3	3	3	0
	Sediment	1	0	1	0	1	1	1	0
	Surface Water	0	0	0	0	0	0	0	0
	Groundwater	0	0	0	0	0	0	0	0
Live Grenade Range	Soil	1	0	1	0	1	1	1	0
	Sediment	0	0	0	0	0	0	0	0
	Surface Water	0	0	0	0	0	0	0	0
	Groundwater	0	0	0	0	0	0	0	0
Rifle Range	Soil	2	2	0	0	0	0	0	2
	Sediment	1	1	0	0	0	0	0	1
	Surface Water	0	0	0	0	0	0	0	0
	Groundwater	0	0	0	0	0	0	0	0
Quartermaster Wharf Disposal Area	Soil	1	0	0	0	1	1	1	0
	Sediment	0	0	0	0	0	0	0	0
	Surface Water	0	0	0	0	0	0	0	0
	Groundwater	0	0	0	0	0	0	0	0
Background	Soil	10	0	0	10	0	0	0	0
	Sediment	1	0	0	1	0	0	0	0
	Beach	1	0	0	1	0	0	0	0
	Surface Water	0	0	0	0	0	0	0	0
	Groundwater	0	0	0	0	0	0	0	0
		Totals	9	7	12	8	8	8	9

Table 3
Proposed Sampling Approach
Ft. Flagler Military Reservation

QC Required Samples[c]	Media	Samples	Contaminants of Concern[a]						
			Lead	Select Metals[b]	TAL Metals and Molybdenum	Explosives	PETN	NG	Sieving (No. 10)
Duplicate	Soil	2	0	1	1	1	1	1	0
	Sediment	1	1	0	0	0	0	0	1
	Surface Water	0	0	0	0	0	0	0	0
	Groundwater	0	0	0	0	0	0	0	0
		Totals	1	1	1	1	1	1	1
MS/MSD	Soil	2	0	1	1	1	1	1	0
	Sediment	0	0	0	0	0	0	0	0
	Surface Water	0	0	0	0	0	0	0	0
	Groundwater	0	0	0	0	0	0	0	0
		Totals	0	1	1	1	1	1	0

Notes:

[a] By USEPA Methods: lead and select metals by SW-846 6020A; TAL metals and molybdenum by SW-846 6020/7471A; explosives by SW-846 8330A. PETN and NG by SW-845 8330A (Modified).

[b] Select metals are aluminum, chromium, copper, iron, lead, manganese, molybdenum, and nickel.

[c] In addition to the QC samples shown temperature blanks will be submitted with samples, one blank per cooler.

MS/MSD = matrix spike/matrix spike duplicate

NG = nitroglycerin

PETN = pentaerythritol tetranitrate

QC = quality control

TAL = Target Analyte List

Table 4
Human Health Soil and Sediment Screening Criteria and Selected Values for Potential Contaminants of Concern
Ft. Flagler Military Reservation

Analyte	USEPA Region 9[a]			Washington Department of Ecology - Soil Cleanup Levels[b]					Proposed Screening Value
	Residential PRGs (mg/kg)	Region 9 Residential PRGs - Adjusted[b] (ug/L)	Industrial PRGs (mg/kg)	Method B Level - Unrestricted[c] (mg/kg)	Leaching - Phase 3 Model - Unrestricted[d] (mg/kg)	Method B Level - Industrial[e] (mg/kg)	Leaching - Phase 3 Model - Industrial[f] (mg/kg)	Natural Background Level[g] (mg/kg)	
Explosives									
1,3,5-Trinitrobenzene	1,800	180	18,000						1,800
1,3-Dinitrobenzene	6.1	0.61	62						6.1
2,4,6-Trinitrotoluene	16	16	57						16
2,4-Dinitrotoluene[h]	0.72	0.72	2.5						0.72
2,6-Dinitrotoluene[h]	0.72	0.72	2.5						0.72
2-Amino-4,6-dinitrotoluene	12	1.2	120						12
2-Nitrotoluene	0.88	0.88	2.2						0.88
3-Nitrotoluene	730	73	1,000						730
4-Amino-2,6-dinitrotoluene	12	1.2	120						12
4-Nitrotoluene	12	12	30						12
HMX	3,100	310	31,000						3,100
NG	35	35	120						35
Nitrobenzene	20	2	100						20
PETN	0.50								0.50
RDX	4.4	4.4	16						4.4
Tetryl	610	61	6,200						610
Metals									
Aluminum	76,000	7,600	100,000					32,600	76,000
Chromium	210		450					48	210
Copper	3,100	310	41,000					36	3,100
Iron	23,000	2,300	100,000					58,700	23,000
Lead	400	400	800		3,000		3,000	24	400
Manganese	1,800	180	19,000					1,200	1,800
Molybdenum	390	39	5,100						390
Nickel	1,600	160	20,000					48	1,600

Acronyms and Abbreviations:
C = Value for carcinogen
CLARC = Cleanup Level and Risk Calculation
mg/kg = milligrams per kilogram
N = Value for noncarcinogen
WAC = Washington Administrative Code
Notes:

Table 4
Human Health Soil and Sediment Screening Criteria and Selected Values for Potential Contaminants of Concern
Ft. Flagler Military Reservation

[a] USEPA Region 9 Preliminary Remediation Goals (PRG) table; October 2004. Values are based on residential and industrial exposure to single chemicals.

[b] Cleanup levels are established under the Model Toxics Control Act (MCTA) Cleanup Regulation. Chapter 173-340 WAC.

[c] Values from Notes on Method A Cleanup Levels WAC 173-340-720, 740, and 745. Table 740-1, Table 5: Method B Calculations for Carcinogens for Soil Ingestion Plus Dermal Contact and Table 6: Method B Calculations for Carcinogens for Soil Ingestion Plus Dermal Contact. Based on unrestricted land use. From CLARC Notes updated on November 23, 2004.

[d] Values from Notes on Method A Cleanup Levels WAC 173-340-720, 740, and 745, Table 740-1, Table 7: 3-Phase Model Assumptions and Results. Based on protection of groundwater. From CLARC Notes updated on November 23, 2004.

[fe] Values from Notes on Method A Cleanup Levels WAC 173-340-720, 740, and 745, Table 745-1, Table 5: Method C Industrial Calculations for Carcinogens for Soil Ingestion Plus Dermal Contact and Table 6: Method C Industrial Calculations for Carcinogens for Soil Ingestion Plus Dermal Contact. Based on industrial land use. From CLARC Notes updated on November 23, 2004.

[f] Values from Notes on Method A Cleanup Levels WAC 173-340-720, 740, and 745, Table 745-1, Table 7: 3-Phase Model Assumptions and Results. Based on protection of groundwater. From CLARC Notes updated on November 23, 2004.

[g] Values from "Natural Background Soil Metals Concentrations in Washington State", Publication #94-115, October 1994. Based on data for Puget Sound.

[h] Carcinogenic DNT mixture values used if more conservative than noncarcinogenic isomer-specific values.

Table 5
Ecological Soil Screening Criteria and Selected Values for Potential Contaminants of Concern
Ft. Flagler Military Reservation

Analyte	Washington Dept of Ecology Lowest Value for Plants/Soil Biota/ Wildlife[a] (mg/kg)	Proposed Benchmarks										Potential Bioaccumulative Constituent? [h]	Final Proposed Ecological Screening Value Soil [i] (mg/kg)
		USEPA Region 5 ESLs [b] (2003) (mg/kg)	USEPA Region 7 [c] (mg/kg)		USEPA Region 8 [d] (mg/kg)		USEPA Region 10 e (mg/kg)			Other Values: Talmage et al. (1999) [f] or LANL (2005) [g] (mg/kg)			
Explosives													
1,3,5-Trinitrobenzene	NVA	0.376	0.376	EPA-R4			0.376		EPA-R4	6.6	LANL		0.376
1,3-Dinitrobenzene	NVA	0.655	0.655	EPA-R4	NVA		0.655		EPA-R4	0.073	LANL		0.655
2,4,6-Trinitrotoluene	NVA	NVA	NVA		NVA		NVA	NVA		6.4	LANL		6.4
2,4-Dinitrotoluene	NVA	1.28	1.28	EPA-R4	NVA		1.28		EPA-R4	0.52	LANL		1.28
2,6-Dinitrotoluene	NVA	0.0328	0.0328	EPA-R4	NVA		0.0328		EPA-R4	0.37	LANL		0.0328
2-Amino-4,6-Dinitrotoluene	NVA	NVA	NVA		NVA		NVA	NVA		2.1	LANL		2.1
2-Nitrotoluene	NVA	NVA	NVA		NVA		NVA			2.0	LANL		2.0
3-Nitrotoluene	NVA	NVA	NVA		NVA		NVA			2.4	LANL		2.4
4-Amino-2,6-Dinitrotoluene	NVA	NVA	NVA		NVA		NVA	NVA		0.73	LANL		0.73
4-Nitrotoluene	NVA	NVA	NVA		NVA		NVA			4.4	LANL		4.4
HMX	NVA	NVA	NVA		NVA		NVA	NVA		27	LANL		27
Nitrobenzene	8	1.31	1.31	EPA-R4	NVA		1.31		EPA-R4	2.2	LANL		8
Nitroglycerin	NVA	NVA	NVA		NVA		NVA			71	LANL		71
PETN	NVA	NVA	NVA		NVA		NVA			8600	LANL		8600
RDX	NVA	NVA	NVA		NVA		NVA			7.5	LANL		7.5
Tetryl	NVA	NVA	NVA		NVA		NVA			0.99	LANL		0.99
Metals													
Aluminum	50	NVA	50	EPA-R4	NVA		50		EPA-R4	5.5	LANL		50
Chromium (total)	0.4	0.4	26	SSL	26	SSL	26		SSL	2.3	LANL	Yes	0.4
Copper	50	5.4	60	ORNL	190	Dutch	60		ORNL	10	LANL	Yes	50
Iron	10 mg/L	NVA	200	EPA-R4	NVA		200	**200**	EPA-R4	NVA			200
Lead	16	0.0537	11	SSL	11	SSL	11		SSL	14	LANL	Yes	16
Manganese	100	NVA	100	EPA-R4	NVA		100		EPA-R4	50	LANL		100
Molybdenum	2	NVA	2	ORNL	2	ORNL	2	2	ORNL	NVA			2
Nickel	30	13.6	30	ORNL	30	ORNL	30		ORNL	20	LANL	Yes	30
Perchlorate	NVA	NVA	NVA		NVA		NVA	NVA		NVA			NVA

Acronyms and Abbreviations:
EPA-R4 = USEPA Region 4
Dutch = Dutch Intervention Values
LANL = Los Alamos National Laboratory
mg/kg = milligrams per kilogram
NVA: No value available
ORNL = Oak Ridge National Laboratory Ecological PRGs (Efroymson et al.)
SSL = USEPA Eco Soil Screening Levels

Notes:

[a] Washington Department of Ecology, Toxics Cleanup Program, Table 749-3, Ecological Indicator Soil Concentrations for Protection of Terrestrial Plants and Animals. Developed under WAC 173-340-7493 (2)(a)(i).

[b] Ecological Screening Levels (ESLs), USEPA Region V, August 2003.

[b] Texas Commission on Environmental Quality (TCEQ), 2005,*Guidance for Conducting Ecological Risk Assessments at Remediation Sites in Texas* , RG-263 (Revised).

[c] USEPA Region 7: Catherine Wooster-Brown (Eco Risk Assessor) recommends the following hierarchy: USEPA EcoSSLs; ORNL Efroymson values; USEPA Region 4 values; other published values.

[d] U.S. Environmental Protection Agency (EPA), 2003,*U.S. EPA Region 5 RCRA Ecological Screening Levels (ESL)* , Website version last updated August 22, 2003: http://www.epa.gov/reg5rcra/ca/edql.htm.

[e] U.S. Environmental Protection Agency (EPA), 2001,*Supplemental Guidance to RAGS: Region 4 Bulletins, Ecological Risk Assessment* . Originally published November 1995. Website version last updated November 30, 2001: http://www.epa.gov/region4/waste/ots/ecolbul.htm.

[f] Talmage, S.S., D.M. Opresko, C.J. Maxwell, C.J.E. Welsh, F.M. Cretella, P.H. Reno, and F.B. Daniel, 1999, Nitroaromatic Munition Compounds: Environmental Effects and Screening Values,**Rev. Environ. Contam. Toxicol.** 161:1-156, Springer-Verlag. Screening concentration used is the lowest of the Plant and Soil Invertebrate concentrations. Wildlife (shrew) values were not included as candidates for screening values. This is consistent with TCEQ's method of only using the Plant and Earthworm values to select their screening values.

[g] Earthworm and plant soil benchmark values in TCEQ 2005 were transposed, the values were corrected to reflect the Eco-SSLs (2005). *Personal Communication* with Vickie Reat, TCEQ, 12/06/05.

[d] USEPA Region 8: Dale Hoff (Eco Risk Assessor) recommends the following hierarchy: USEPA SSLs; Dutch Intervention Values or ORNL Efroymson values.

[e] USEPA Region 10: Joseph Goulet (Eco Risk Assessor) says Region 10 has no recommended hierarchy, therefore, values from the USEPA Region 7 Approach were used.

[f] Talmage, S.S., D.M. Opresko, C.J. Maxwell, C.J.E. Welsh, F.M. Cretella, P.H. Reno, and F.B. Daniel, 1999, Nitroaromatic Munition Compounds: Environmental Effects and Screening Values,

Table 5
Ecological Soil Screening Criteria and Selected Values for Potential Contaminants of Concern
Ft. Flagler Military Reservation

Analyte	Washington Dept of Ecology Lowest Value for Plants/Soil Biota/ Wildlife[a] (mg/kg)	Proposed Benchmarks										Potential Bioaccumulative Constituent? [n]	Final Proposed Ecological Screening Value Soil [i] (mg/kg)
		USEPA Region 5 ESLs [b] (2003) (mg/kg)	USEPA Region 7 [c] (mg/kg)		USEPA Region 8 [d] (mg/kg)		USEPA Region 10 e (mg/kg)			Other Values: Talmage et al. (1999) [f] or LANL (2005) [g] (mg/kg)			
Explosives													
1,3,5-Trinitrobenzene	NVA	0.376	0.376	EPA-R4			0.376		EPA-R4	6.6	LANL		0.376
1,3-Dinitrobenzene	NVA	0.655	0.655	EPA-R4	NVA		0.655		EPA-R4	0.073	LANL		0.655
2,4,6-Trinitrotoluene	NVA	NVA	NVA		NVA		NVA	NVA		6.4	LANL		6.4
2,4-Dinitrotoluene	NVA	1.28	1.28	EPA-R4	NVA		1.28		EPA-R4	0.52	LANL		1.28
2,6-Dinitrotoluene	NVA	0.0328	0.0328	EPA-R4	NVA		0.0328		EPA-R4	0.37	LANL		0.0328
2-Amino-4,6-Dinitrotoluene	NVA	NVA	NVA		NVA		NVA	NVA		2.1	LANL		2.1
2-Nitrotoluene	NVA	NVA	NVA		NVA		NVA			2.0	LANL		2.0
3-Nitrotoluene	NVA	NVA	NVA		NVA		NVA			2.4	LANL		2.4
4-Amino-2,6-Dinitrotoluene	NVA	NVA	NVA		NVA		NVA	NVA		0.73	LANL		0.73
4-Nitrotoluene	NVA	NVA	NVA		NVA		NVA			4.4	LANL		4.4
HMX	NVA	NVA	NVA		NVA		NVA	NVA		27	LANL		27
Nitrobenzene	8	1.31	1.31	EPA-R4	NVA		1.31		EPA-R4	2.2	LANL		8
Nitroglycerin	NVA	NVA	NVA		NVA		NVA			71	LANL		71
PETN	NVA	NVA	NVA		NVA		NVA			8600	LANL		8600
RDX	NVA	NVA	NVA		NVA		NVA			7.5	LANL		7.5
Tetryl	NVA	NVA	NVA		NVA		NVA			0.99	LANL		0.99
Metals													
Aluminum	50	NVA	50	EPA-R4	NVA		50		EPA-R4	5.5	LANL		50
Chromium (total)	0.4	0.4	26	SSL	26	SSL	26		SSL	2.3	LANL	Yes	0.4
Copper	50	5.4	60	ORNL	190	Dutch	60		ORNL	10	LANL	Yes	50
Iron	10 mg/L	NVA	200	EPA-R4	NVA		200	**200**	EPA-R4	NVA			200
Lead	16	0.0537	11	SSL	11	SSL	11		SSL	14	LANL	Yes	16
Manganese	100	NVA	100	EPA-R4	NVA		100		EPA-R4	50	LANL		100
Molybdenum	2	NVA	2	ORNL	2	ORNL	2	2	ORNL	NVA			2
Nickel	30	13.6	30	ORNL	30	ORNL	30		ORNL	20	LANL	Yes	30
Perchlorate	NVA	NVA	NVA		NVA		NVA	NVA		NVA			NVA

Acronyms and Abbreviations:
EPA-R4 = USEPA Region 4
Dutch = Dutch Intervention Values
LANL = Los Alamos National Laboratory
mg/kg = milligrams per kilogram
NVA: No value available
ORNL = Oak Ridge National Laboratory Ecological PRGs (Efroymson et al.)
SSL = USEPA Eco Soil Screening Levels

Notes:

[a] Washington Department of Ecology, Toxics Cleanup Program, Table 749-3, Ecological Indicator Soil Concentrations for Protection of Terrestrial Plants and Animals. Developed under WAC 173-340-7493 (2)(a)(i).

[b] Ecological Screening Levels (ESLs), USEPA Region V, August 2003.

[b] Texas Commission on Environmental Quality (TCEQ), 2005,*Guidance for Conducting Ecological Risk Assessments at Remediation Sites in Texas* , RG-263 (Revised).

[c] USEPA Region 7: Catherine Wooster-Brown (Eco Risk Assessor) recommends the following hierarchy: USEPA EcoSSLs; ORNL Efroymson values; USEPA Region 4 values; other published values.

[d] U.S. Environmental Protection Agency (EPA), 2003,*U.S. EPA Region 5 RCRA Ecological Screening Levels (ESL)* , Website version last updated August 22, 2003: http://www.epa.gov/reg5rcra/ca/edql.htm.

[e] U.S. Environmental Protection Agency (EPA), 2001,*Supplemental Guidance to RAGS: Region 4 Bulletins, Ecological Risk Assessment* . Originally published November 1995. Website version last updated November 30, 2001: http://www.epa.gov/region4/waste/ots/ecolbul.htm.

[f] Talmage, S.S., D.M. Opresko, C.J. Maxwell, C.J.E. Welsh, F.M. Cretella, P.H. Reno, and F.B. Daniel, 1999, Nitroaromatic Munition Compounds: Environmental Effects and Screening Values,**Rev. Environ. Contam. Toxicol.** 161:1-156, Springer-Verlag. Screening concentration used is the lowest of the Plant and Soil Invertebrate concentrations. Wildlife (shrew) values were not included as candidates for screening values. This is consistent with TCEQ's method of only using the Plant and Earthworm values to select their screening values.

[g] Earthworm and plant soil benchmark values in TCEQ 2005 were transposed, the values were corrected to reflect the Eco-SSLs (2005). *Personal Communication* with Vickie Reat, TCEQ, 12/06/05.

[d] USEPA Region 8: Dale Hoff (Eco Risk Assessor) recommends the following hierarchy: USEPA SSLs; Dutch Intervention Values or ORNL Efroymson values.

[e] USEPA Region 10: Joseph Goulet (Eco Risk Assessor) says Region 10 has no recommended hierarchy, therefore, values from the USEPA Region 7 Approach were used.

[f] Talmage, S.S., D.M. Opresko, C.J. Maxwell, C.J.E. Welsh, F.M. Cretella, P.H. Reno, and F.B. Daniel, 1999, Nitroaromatic Munition Compounds: Environmental Effects and Screening Values,

Table 5
Ecological Soil Screening Criteria and Selected Values for Potential Contaminants of Concern
Ft. Flagler Military Reservation

Rev. Environ. Contam. Toxicol.

[g] Los Alamos National Laboratory (LANL), Eco Risk Database, Release 2.2, September 2005.

[h] Potential bioaccumulative constituents will be evaluated in more detail, as some screening values do not take into account bioaccumulation.

Potential bioaccumulative potential from: *Bioaccumulation and Interpretation for the Purposes of Sediment Quality Assessment: Status and Needs* (USEPA, 2000) and ODEQ EQSLVs (ODEQ, 2001).

1. State Value (Washington)

2. USEPA Region State Located In (USEPA Region 10)

3. Lower of Talmage et al. (1999) or LANL (2005) values.

Other References:

U.S. Environmental Protection Agency, 2005, *Guidance for Developing Ecological Soil Screening Levels (Eco-SSLs)* , Office of Solid Waste and Emergency Response, Website version last updated March 15, 2005: http://www.epa.gov/ecotox/ecossl.

U.S. Environmental Protection Agency, 2001, *Supplemental Guidance to RAGS: Region 4 Bulletins, Ecological Risk Assessment* . Originally published November 1995. Website version last updated November 30, 2001: http://www.epa.gov/region4/waste/ots/ecolbul.htm.

Efroymson, R.A., Suter II, G.W., Sample, B.E. and Jones, D.S., 1997. Preliminary Remediation Goals for Ecological Endpoints. Lockheed Martin Energy Systems, Inc. (ORNL) ES/ER/TM-162/R2.

Dutch Intervention Values:

Swartjes, F.A. 1999. *Risk-based Assessment of Soil and Groundwater Quality in the Netherlands: Standards and Remediation Urgency* . Risk Analysis 19(6): 1235-1249

The Netherlands Ministry of Housing, Spatial Planning and Environment's Circular on target values and intervention values for soil remediation http://www2.minvrom.nl/Docs/internationaal/S_I2000.pdf and Annex A: Target Values, Soil Remediation Intervention Values and Indicative Levels for Serious Contamination http://www2.minvrom.nl/Docs/internationaal/annexS_I2000.pdf were also consulted.

Table 6
Ecological Sediment Screening Criteria and Selected Values for Potential Contaminants of Concern
Ft. Flagler Military Reservation

Analyte	Washington Dept. of Ecology Screening Level Values Freshwater[a] (mg/kg) Freshwater	USEPA Region 5 Ecological Screening Levels[b] (mg/kg)	USEPA Region 7 [c] (mg/kg)		USEPA Region 8 [d] (mg/kg)		USEPA Region 10 [e] (mg/kg)		Other Ecological Screening Levels [f] (mg/kg)		Potential Bioaccumulative Constituent? [g]	Final Ecological Screening Value Sediment [h] (mg/kg)
Explosives												
1,3,5-Trinitrobenzene	NVA	NVA	NVA		NVA		NVA		2.40E-02	TAL		2.40E-02
1,3-Dinitrobenzene	NVA	8.61E-03	NVA		NVA		NVA		6.70E-02	TAL		6.70E-02
2,4,6-TNT	NVA	NVA	NVA		NVA		NVA		9.20E-01	TAL		9.20E-01
2,4-Dinitrotoluene	NVA	1.44E-03	NVA		NVA		NVA		2.90E-01	LANL		2.90E-01
2,6-Dinitrotoluene	NVA	3.98E-03	NVA		NVA		NVA		1.90E+00	LANL		1.90E+00
2-Amino-4,6,-Dintrotoluene	NVA	NVA	NVA		NVA		NVA		7.00E+00	LANL		7.00E+00
2-Nitrotoluene	NVA	NVA	NVA		NVA		NVA		5.60E+00	LANL		5.60E+00
3-Nitrotoluene	NVA	NVA	NVA		NVA		NVA		4.90E+00	LANL		4.90E+00
4-Amino-2,6,-Dintrotoluene	NVA	NVA	NVA		NVA		NVA		1.90E+00	LANL		1.90E+00
4-Nitrotoluene	NVA	NVA	NVA		NVA		NVA		1.00E+01	LANL		1.00E+01
HMX	NVA	NVA	NVA		NVA		NVA		4.70E-02	TAL		4.70E-02
Nitrobenzene	NVA	1.45E-01	NVA		NVA		NVA		3.20E+01	LANL		3.20E+01
Nitroglycerin	NVA	NVA	NVA		NVA		NVA		1.70E+03	LANL		1.70E+03
PETN	NVA	NVA	NVA		NVA		NVA		1.20E+05	LANL		1.20E+05
RDX	NVA	NVA	NVA		NVA		NVA		1.30E-01	TAL		1.30E-01
Tetryl	NVA	NVA	NVA		NVA		NVA		1.00E+02	LANL		1.00E+02
Metals												
Aluminum	NVA	NVA	NVA		NVA		NVA		2.80E+02	LANL		2.80E+02
Chromium	3.70E+01	4.34E+01	4.34E+01	MAC	4.34E+01	MAC	4.34E+01	MAC	5.60E+01	LANL	Yes	3.70E+01
Copper	1.00E+01	3.16E+01	3.16E+01	MAC	3.16E+01	MAC	3.16E+01	MAC	1.70E+01	LANL	Yes	1.00E+01
Iron	NVA	NVA	NVA		NVA		NVA		2.00E+01	LANL		2.00E+01
Lead	3.50E+01	3.58E+01	3.58E+01	MAC	3.58E+01	MAC	3.58E+01	MAC	2.70E+01	LANL	Yes	3.50E+01
Manganese	1.10E+03	NVA	NVA		NVA		NVA		7.20E+02	LANL		1.10E+03
Molybdenum	NVA	NVA	NVA		NVA		NVA		NVA			NVA
Nickel	1.80E+01	2.27E+01	2.27E+01	MAC	2.27E+01	MAC	2.27E+01	MAC	3.90E+01	LANL	Yes	1.80E+01
Perchlorate	NVA	NVA	NVA		NVA		NVA		NVA			NVA

Acronyms and Abbreviations:
EPRGs = Oak Ridge National Laboratory Ecological PRGs
ISQGs = Canadian Interim Sediment Quality Guidelines
LANL = Los Alamos National Laboratory
MAC = MacDonald Consensus Values
NVA = No Value Available
TAL = Talmage et al (1999)

Notes:

[a] Washington Department of Ecology, Creation and Analysis of Freshwater Sediment Quality Values in Washington State, July, 1997, Pub. No. 97-323a (Table 11).

[b] Ecological Screening Levels (ESLs), USEPA Region V, August 2003.

[c] USEPA Region 7: Catherine Wooster-Brown (Eco Risk Assessor) recommends the following hierarchy: MacDonald Consensus Values (MacDonald, 2000); ORNL Efroymson values (ORNL, 1977).

[d] USEPA Region 8: Dale Hoff (Eco Risk Assessor) recommends the following hierarchy: MacDonald Consensus Values (MacDonald, 2000); Canadian ISQG values (CCME, 2003) or ORNL Efroymson values (ORNL, 1977).

[e] USEPA Region 10: Joseph Goulet (Eco Risk Assessor) says Region 10 has no recommended hierarchy, therefore, values from the USEPA Region 7 Approach were used.

[f] Talmage, S.S., D.M. Opresko, C.J. Maxwell, C.J.E. Welsh, F.M. Cretella, P.H. Reno, and F.B. Daniel (TAL), 1999, *Nitroaromatic Munition Compounds: Environmental Effects and Screening Values* , **Rev. Environ. Contam. Toxicol**. or Los Alamos National Laboratory (LANL), Eco Risk Database, Release 2.2, September 2005; the Talmage [TAL] screening values assume 10% organic carbon in the sediment.

[g] Potential bioaccumulative constituents will be evaluated in more detail, as some screening values do not take into account bioaccumulation.
Potential bioaccumulative potential from: *Bioaccumulation and Interpretation for the Purposes of Sediment Quality Assessment: Status and Needs* (USEPA, 2000) and ODEQ EQSLVs (ODEQ, 2001).

[h] Final Screening Value selected using the following hierarchy:
1. State Value (Washington)

Table 6
Ecological Sediment Screening Criteria and Selected Values for Potential Contaminants of Concern
Ft. Flagler Military Reservation

2. USEPA Region State Located In (USEPA Region 10)
3. Lower of Talmage et al. [TAL] (1999) or LANL (2005) values.

Other References:

Efroymson, R.A., et al., 1997, P*reliminary Remediation Goals* (EPRGs), ORNL, ES/ER/TM-162/R2,
Canadian Interim Sediment Quality Guidelines (ISQGs) Summary Table, CCME, December 2003.
MacDonald, D.D, C.G. Ingersoll and T.A. Berger, 2000, *Development and Evaluation of Consensus-Based Sediment Quality Criteria for Freshwater Ecosystems* , Archives of Environmental Contamination and Toxicology 39:20-31.

Draft Worksheets

Site Information Worksheet
MRSPP Data Gaps
HRS Data Gaps

Site Inspection
Ft. Flagler Military Reservation

Technical Project Planning Meeting
July 24, 2006

Site Information Worksheet

Site: **Range Complex, Ammunition Bunker, Transition Ranges 1 & 2, Gas Chamber, Rifle Grenade/Anti-Tank Rocket Range, Live and Practice Grenade Courts, Rifle Range, Demolition Area, Quartermaster Wharf Area**

Project: **Ft. Flagler Military Reservation**

	Site Information Needed[a]	Suggested Means to Obtain Site Information	Potential Source(s) of Site Information	Responsible for Obtaining	Deadline for Obtaining Site Information
1	Background metals data	Sampling	Add background sampling	Shaw	For inclusion in TPP Memo
2	Locate MEC at Rocket Range	Site recon	Historical aerial photos/review historical documents	Shaw	For inclusion in Site Specific Work Plan
3	Schedule for sampling Washington sites	Consultation	Washington State Parks	Shaw	Prior to field work
4	Additional historical information	Records review	USACE Seattle District	Shaw	For inclusion in Site Specific Work Plan
5	Washington HH Screening Standards	WDOE regulations	WDOE	Shaw	For inclusion in TPP Memo
6	Washington Ecological Screening Standards	WDOE regulations	WDOE	Shaw	For inclusion in TPP Memo
7	Point of contact for community	Not applicable	USACE Seattle District	USACE	Before start of field work
8	Access agreements	Letters, call, or visit stakeholders	Letters/conversations with stakeholders	USACE	Before start of field work
9	Conceptual site model	Report review	CSMs prepared for AOCs	Shaw	For inclusion in TPP Memo
10	Threatened or endangered species within AOC	Phone	WA Fish and Wildlife U.S. Fish and Wildlife	Shaw	For inclusion in SSWP
11	Areas of cultural significance within AOC	SHPO	Phone SHPO	Shaw	For inclusion in SSWP

[a] Refer to EM 200-1-2, Paragraphs 1.1.3 and 2.2.

Munitions Response Site Prioritization Protocol (MRSPP) Data Gaps
32 CFR Part 179

Installation: Ft. Flagler Military Reservation
AOC: Range Complex
RMIS Range ID: F10WA0316

Module	Table No.	Table Description	Data Gap	Potential Source of Information to Fill Data Gap	No Data Gap	Description of Known Data
Explosive Hazard Evaluation (EHE)	1	Munitions Type			x	Propellant
	2	Source of Hazard			x	Former ground to sea and air to air artillery batteries
	3	Location of Munitions			x	No munitions reported from this MRA
	4	Ease of Access			x	No barrier
	5	Status of Property			x	Non-DoD control
	6	Population Density			x	< 100 persons per square mile
	7	Population Near Hazard			x	26 or more structure
	8	Activities/Structures			x	Parks and recreational areas
	9	Ecological and/or Cultural Resources	x	U.S. Fish and Wildlife, SHPO		
	10	**EHE Module Score**				**60 to 70 EHE Rating D (Preliminary)**
Chemical Warfare Materiel (CWM) Hazard Evaluation (CHE)	11	CWM Configuration			x	Historical evidence indicates that CWM are not present
	12	Sources of CWM			x	Historical evidence indicates that CWM are not present
	13	Location of CWM			x	Historical evidence indicates that CWM are not present
	14	Ease of Access			x	No barrier
	15	Status of Property			x	Non-DoD control
	16	Population Density			x	< 100 persons per square mile
	17	Population Near Hazard			x	0 inhabited structures w/in 2 miles
	18	Activities/Structures			x	Agricultural - livestock grazing
	19	Ecological and/or Cultural Resources			x	Ecological resources present
	20	**CHE Module Score**				**< 38 CHE Rating G (Preliminary)**
Health Hazard Evaluation (HHE)	21	Groundwater Data Element			x	Groundwater not a pathway
	22	Surface Water (Human Endpoint) Data Element			x	Surface Water not a pathway
	23	Sediment (Human Endpoint) Data Element Table	x	Evaluation Pending		
	24	Surface Water (Ecological Endpoint) Data Element	x	Evaluation Pending		
	25	Sediment (Ecological Endpoint) Data Element	x	Evaluation Pending		
	26	Surface Soil Data Element	x	Evaluation Pending		
	27	Supplemental Contaminant Hazard Factor	x	Evaluation Pending		
	28	**HHE Module Score**	**x**	**Module Score Pending**		
MRS Priority	**29**	**MRS Priority (Based on Highest Hazard Evaluation Module Rating)**	**x**	**Final Score Pending**		
	A	**MRS Background Information**	**x**	**Pending**		

Munitions Response Site Prioritization Protocol (MRSPP) Data Gaps
32 CFR Part 179

Installation: Ft. Flagler Military Reservation
AOC: Ammunition Bunker
RMIS Range ID: F10WA0316

Module	Table No.	Table Description	Data Gap	Potential Source of Information to Fill Data Gap	No Data Gap	Description of Known Data
Explosive Hazard Evaluation (EHE)	1	Munitions Type			x	Small Arms, 2.36-in and 3.5 inch Anti-tank rockets, inert AT/AV mines, Hand Grenades
	2	Source of Hazard			x	Ammunition bunker
	3	Location of Munitions			x	No munitions reported from this MRA
	4	Ease of Access			x	No barrier
	5	Status of Property			x	Non-DoD control
	6	Population Density			x	< 100 persons per square mile
	7	Population Near Hazard			x	26 or more structure
	8	Activities/Structures			x	Parks and recreational areas
	9	Ecological and/or Cultural Resources	x	U.S. Fish and Wildlife, SHPO		
	10	**EHE Module Score**				**60 to 70 EHE Rating D (Preliminary)**
Chemical Warfare Materiel (CWM) Hazard Evaluation (CHE)	11	CWM Configuration			x	Historical evidence indicates that CWM are not present
	12	Sources of CWM			x	Historical evidence indicates that CWM are not present
	13	Location of CWM			x	Historical evidence indicates that CWM are not present
	14	Ease of Access			x	No barrier
	15	Status of Property			x	Non-DoD control
	16	Population Density			x	< 100 persons per square mile
	17	Population Near Hazard			x	0 inhabited structures w/in 2 miles
	18	Activities/Structures			x	Agricultural - livestock grazing
	19	Ecological and/or Cultural Resources			x	Ecological resources present
	20	**CHE Module Score**				**< 38 CHE Rating G (Preliminary)**
Health Hazard Evaluation (HHE)	21	Groundwater Data Element			x	Groundwater not a pathway
	22	Surface Water (Human Endpoint) Data Element			x	Surface Water not a pathway
	23	Sediment (Human Endpoint) Data Element Table	x	Evaluation Pending		
	24	Surface Water (Ecological Endpoint) Data Element	x	Evaluation Pending		
	25	Sediment (Ecological Endpoint) Data Element	x	Evaluation Pending		
	26	Surface Soil Data Element	x	Evaluation Pending		
	27	Supplemental Contaminant Hazard Factor	x	Evaluation Pending		
	28	**HHE Module Score**	**x**	**Module Score Pending**		
MRS Priority	**29**	**MRS Priority (Based on Highest Hazard Evaluation Module Rating)**	**x**	**Final Score Pending**		
	A	**MRS Background Information**	**x**	**Pending**		

Munitions Response Site Prioritization Protocol (MRSPP) Data Gaps
32 CFR Part 179

Installation: Ft. Flagler Military Reservation
AOC: Transition Range 1
RMIS Range ID: F10WA0316

Module	Table No.	Table Description	Data Gap	Potential Source of Information to Fill Data Gap	No Data Gap	Description of Known Data
Explosive Hazard Evaluation (EHE)	1	Munitions Type			x	Small Arms
	2	Source of Hazard			x	Transition Range - small arms
	3	Location of Munitions			x	No munitions reported from this MRA
	4	Ease of Access			x	No barrier
	5	Status of Property			x	Non-DoD control
	6	Population Density			x	< 100 persons per square mile
	7	Population Near Hazard			x	26 or more structure
	8	Activities/Structures			x	Parks and recreational areas
	9	Ecological and/or Cultural Resources	x	U.S. Fish and Wildlife, SHPO		
	10	**EHE Module Score**				**60 to 70 EHE Rating D (Preliminary)**
Chemical Warfare Materiel (CWM) Hazard Evaluation (CHE)	11	CWM Configuration			x	Historical evidence indicates that CWM are not present
	12	Sources of CWM			x	Historical evidence indicates that CWM are not present
	13	Location of CWM			x	Historical evidence indicates that CWM are not present
	14	Ease of Access			x	No barrier
	15	Status of Property			x	Non-DoD control
	16	Population Density			x	< 100 persons per square mile
	17	Population Near Hazard			x	0 inhabited structures w/in 2 miles
	18	Activities/Structures			x	Agricultural - livestock grazing
	19	Ecological and/or Cultural Resources			x	Ecological resources present
	20	**CHE Module Score**				**< 38 CHE Rating G (Preliminary)**
Health Hazard Evaluation (HHE)	21	Groundwater Data Element			x	Groundwater not a pathway
	22	Surface Water (Human Endpoint) Data Element			x	Surface Water not a pathway
	23	Sediment (Human Endpoint) Data Element Table	x	Evaluation Pending		
	24	Surface Water (Ecological Endpoint) Data Element	x	Evaluation Pending		
	25	Sediment (Ecological Endpoint) Data Element	x	Evaluation Pending		
	26	Surface Soil Data Element	x	Evaluation Pending		
	27	Supplemental Contaminant Hazard Factor	x	Evaluation Pending		
	28	**HHE Module Score**	**x**	**Module Score Pending**		
MRS Priority	**29**	**MRS Priority (Based on Highest Hazard Evaluation Module Rating)**	**x**	**Final Score Pending**		
	A	**MRS Background Information**	**x**	**Pending**		

Munitions Response Site Prioritization Protocol (MRSPP) Data Gaps
32 CFR Part 179

Installation: Ft. Flagler Military Reservation
AOC: Transition Range 2
RMIS Range ID: F10WA0316

Module	Table No.	Table Description	Data Gap	Potential Source of Information to Fill Data Gap	No Data Gap	Description of Known Data
Explosive Hazard Evaluation (EHE)	1	Munitions Type			x	Small Arms
	2	Source of Hazard			x	Transition Range - small arms
	3	Location of Munitions			x	No munitions reported from this MRA
	4	Ease of Access			x	No barrier
	5	Status of Property			x	Non-DoD control
	6	Population Density			x	< 100 persons per square mile
	7	Population Near Hazard			x	26 or more structure
	8	Activities/Structures			x	Parks and recreational areas
	9	Ecological and/or Cultural Resources	x	U.S. Fish and Wildlife, SHPO		
	10	**EHE Module Score**				**60 to 70 EHE Rating D (Preliminary)**
Chemical Warfare Materiel (CWM) Hazard Evaluation (CHE)	11	CWM Configuration			x	Historical evidence indicates that CWM are not present
	12	Sources of CWM			x	Historical evidence indicates that CWM are not present
	13	Location of CWM			x	Historical evidence indicates that CWM are not present
	14	Ease of Access			x	No barrier
	15	Status of Property			x	Non-DoD control
	16	Population Density			x	< 100 persons per square mile
	17	Population Near Hazard			x	0 inhabited structures w/in 2 miles
	18	Activities/Structures			x	Agricultural - livestock grazing
	19	Ecological and/or Cultural Resources			x	Ecological resources present
	20	**CHE Module Score**				**< 38 CHE Rating G (Preliminary)**
Health Hazard Evaluation (HHE)	21	Groundwater Data Element			x	Groundwater not a pathway
	22	Surface Water (Human Endpoint) Data Element			x	Surface Water not a pathway
	23	Sediment (Human Endpoint) Data Element Table	x	Evaluation Pending		
	24	Surface Water (Ecological Endpoint) Data Element	x	Evaluation Pending		
	25	Sediment (Ecological Endpoint) Data Element	x	Evaluation Pending		
	26	Surface Soil Data Element	x	Evaluation Pending		
	27	Supplemental Contaminant Hazard Factor	x	Evaluation Pending		
	28	**HHE Module Score**	**x**	**Module Score Pending**		
MRS Priority	**29**	**MRS Priority (Based on Highest Hazard Evaluation Module Rating)**	**x**	**Final Score Pending**		
	A	**MRS Background Information**	**x**	**Pending**		

Munitions Response Site Prioritization Protocol (MRSPP) Data Gaps
32 CFR Part 179

Installation: Ft. Flagler Military Reservation
AOC: Gas Chamber
RMIS Range ID: F10WA0316

Module	Table No.	Table Description	Data Gap	Potential Source of Information to Fill Data Gap	No Data Gap	Description of Known Data
Explosive Hazard Evaluation (EHE)	1	Munitions Type			x	Riot Control
	2	Source of Hazard			x	Evidence of no munitions
	3	Location of Munitions			x	No munitions reported from this MRA
	4	Ease of Access			x	No barrier
	5	Status of Property			x	Non-DoD control
	6	Population Density			x	< 100 persons per square mile
	7	Population Near Hazard			x	26 or more structure
	8	Activities/Structures			x	Parks and recreational areas
	9	Ecological and/or Cultural Resources	x	U.S. Fish and Wildlife, SHPO		
	10	**EHE Module Score**				**60 to 70 EHE Rating D (Preliminary)**
Chemical Warfare Materiel (CWM) Hazard Evaluation (CHE)	11	CWM Configuration			x	Evidence of no CWM, CN gas only
	12	Sources of CWM			x	Former Training facility
	13	Location of CWM			x	Historical evidence indicates that CWM are not present
	14	Ease of Access			x	No barrier
	15	Status of Property			x	Non-DoD control
	16	Population Density			x	< 100 persons per square mile
	17	Population Near Hazard			x	26 or more structure
	18	Activities/Structures			x	Parks and recreational areas
	19	Ecological and/or Cultural Resources	x	Ecological resources present		
	20	**CHE Module Score**				**< 38 CHE Rating G (Preliminary)**
Health Hazard Evaluation (HHE)	21	Groundwater Data Element			x	Groundwater not a pathway
	22	Surface Water (Human Endpoint) Data Element			x	Surface Water not a pathway
	23	Sediment (Human Endpoint) Data Element Table			x	Sediment not a pathway
	24	Surface Water (Ecological Endpoint) Data Element			x	Surface Water not a pathway
	25	Sediment (Ecological Endpoint) Data Element			x	Sediment not a pathway
	26	Surface Soil Data Element			x	Soil not a pathway
	27	Supplemental Contaminant Hazard Factor			x	No complete pathways
	28	**HHE Module Score**	**x**	**Module Score Pending**		
MRS Priority	**29**	**MRS Priority (Based on Highest Hazard Evaluation Module Rating)**	**x**	**Final Score Pending**		
	A	**MRS Background Information**	**x**	**Pending**		

Munitions Response Site Prioritization Protocol (MRSPP) Data Gaps
32 CFR Part 179

Installation: Ft. Flagler Military Reservation
AOC: Rifle Grenade/Anti-Tank Rocket Range
RMIS Range ID: F10WA0316

Module	Table No.	Table Description	Data Gap	Potential Source of Information to Fill Data Gap	No Data Gap	Description of Known Data
Explosive Hazard Evaluation (EHE)	1	Munitions Type			x	High Explosive, propellant
	2	Source of Hazard			x	Former Range
	3	Location of Munitions			x	Suspected (historical evidence)
	4	Ease of Access			x	No barrier
	5	Status of Property			x	Non-DoD control
	6	Population Density			x	< 100 persons per square mile
	7	Population Near Hazard			x	26 or more structure
	8	Activities/Structures			x	Parks and recreational areas
	9	Ecological and/or Cultural Resources	x	U.S. Fish and Wildlife, SHPO		
	10	**EHE Module Score**				**60 to 70 EHE Rating D (Preliminary)**
Chemical Warfare Materiel (CWM) Hazard Evaluation (CHE)	11	CWM Configuration			x	Historical evidence indicates that CWM are not present
	12	Sources of CWM			x	Historical evidence indicates that CWM are not present
	13	Location of CWM			x	Historical evidence indicates that CWM are not present
	14	Ease of Access			x	No barrier
	15	Status of Property			x	Non-DoD control
	16	Population Density			x	< 100 persons per square mile
	17	Population Near Hazard			x	0 inhabited structures w/in 2 miles
	18	Activities/Structures			x	Agricultural - livestock grazing
	19	Ecological and/or Cultural Resources			x	Ecological resources present
	20	**CHE Module Score**				**< 38 CHE Rating G (Preliminary)**
Health Hazard Evaluation (HHE)	21	Groundwater Data Element			x	Groundwater not a pathway
	22	Surface Water (Human Endpoint) Data Element			x	Surface Water not a pathway
	23	Sediment (Human Endpoint) Data Element Table	x	Evaluation Pending		
	24	Surface Water (Ecological Endpoint) Data Element			x	Surface Water not a pathway
	25	Sediment (Ecological Endpoint) Data Element	x	Evaluation Pending		
	26	Surface Soil Data Element	x	Evaluation Pending		
	27	Supplemental Contaminant Hazard Factor	x	Evaluation Pending		
	28	**HHE Module Score**	**x**	**Module Score Pending**		
MRS Priority	**29**	**MRS Priority (Based on Highest Hazard Evaluation Module Rating)**	**x**	**Final Score Pending**		
	A	**MRS Background Information**	**x**	**Pending**		

Munitions Response Site Prioritization Protocol (MRSPP) Data Gaps
32 CFR Part 179

Installation: Ft. Flagler Military Reservation
AOC: Live Grenade Court
RMIS Range ID: F10WA0316

Module	Table No.	Table Description	Data Gap	Potential Source of Information to Fill Data Gap	No Data Gap	Description of Known Data
Explosive Hazard Evaluation (EHE)	1	Munitions Type			x	Hand Grenades
	2	Source of Hazard			x	Former Grenade Court
	3	Location of Munitions	x			No munitions reported from this MRA
	4	Ease of Access			x	No barrier
	5	Status of Property			x	Non-DoD control
	6	Population Density			x	< 100 persons per square mile
	7	Population Near Hazard			x	26 or more structure
	8	Activities/Structures			x	Parks and recreational areas
	9	Ecological and/or Cultural Resources	x	U.S. Fish and Wildlife, SHPO		
	10	**EHE Module Score**				**60 to 70 EHE Rating D (Preliminary)**
Chemical Warfare Materiel (CWM) Hazard Evaluation (CHE)	11	CWM Configuration			x	Historical evidence indicates that CWM are not present
	12	Sources of CWM			x	Historical evidence indicates that CWM are not present
	13	Location of CWM			x	Historical evidence indicates that CWM are not present
	14	Ease of Access			x	No barrier
	15	Status of Property			x	Non-DoD control
	16	Population Density			x	< 100 persons per square mile
	17	Population Near Hazard			x	0 inhabited structures w/in 2 miles
	18	Activities/Structures			x	Agricultural - livestock grazing
	19	Ecological and/or Cultural Resources			x	Ecological resources present
	20	**CHE Module Score**				**< 38 CHE Rating G (Preliminary)**
Health Hazard Evaluation (HHE)	21	Groundwater Data Element			x	Groundwater not a pathway
	22	Surface Water (Human Endpoint) Data Element			x	Surface Water not a pathway
	23	Sediment (Human Endpoint) Data Element Table	x	Evaluation Pending		
	24	Surface Water (Ecological Endpoint) Data Element	x	Evaluation Pending		
	25	Sediment (Ecological Endpoint) Data Element	x	Evaluation Pending		
	26	Surface Soil Data Element	x	Evaluation Pending		
	27	Supplemental Contaminant Hazard Factor	x	Evaluation Pending		
	28	**HHE Module Score**	**x**	**Module Score Pending**		
MRS Priority	**29**	**MRS Priority (Based on Highest Hazard Evaluation Module Rating)**	**x**	**Final Score Pending**		
	A	**MRS Background Information**	**x**	**Pending**		

Munitions Response Site Prioritization Protocol (MRSPP) Data Gaps
32 CFR Part 179

Installation: Ft. Flagler Military Reservation
AOC: Practice Grenade Court
RMIS Range ID: F10WA0316

Module	Table No.	Table Description	Data Gap	Potential Source of Information to Fill Data Gap	No Data Gap	Description of Known Data
Explosive Hazard Evaluation (EHE)	1	Munitions Type			x	Practice Hand Grenade
	2	Source of Hazard			x	Former practice grenade court
	3	Location of Munitions			x	No munitions reported from this MRA
	4	Ease of Access			x	No barrier
	5	Status of Property			x	Non-DoD control
	6	Population Density			x	< 100 persons per square mile
	7	Population Near Hazard			x	26 or more structure
	8	Activities/Structures			x	Parks and recreational areas
	9	Ecological and/or Cultural Resources	x	U.S. Fish and Wildlife, SHPO		
	10	**EHE Module Score**				**60 to 70 EHE Rating D (Preliminary)**
Chemical Warfare Materiel (CWM) Hazard Evaluation (CHE)	11	CWM Configuration			x	Historical evidence indicates that CWM are not present
	12	Sources of CWM			x	Historical evidence indicates that CWM are not present
	13	Location of CWM			x	Historical evidence indicates that CWM are not present
	14	Ease of Access			x	No barrier
	15	Status of Property			x	Non-DoD control
	16	Population Density			x	< 100 persons per square mile
	17	Population Near Hazard			x	0 inhabited structures w/in 2 miles
	18	Activities/Structures			x	Agricultural - livestock grazing
	19	Ecological and/or Cultural Resources			x	Ecological resources present
	20	**CHE Module Score**				**< 38 CHE Rating G (Preliminary)**
Health Hazard Evaluation (HHE)	21	Groundwater Data Element			x	Groundwater not a pathway
	22	Surface Water (Human Endpoint) Data Element			x	Surface Water not a pathway
	23	Sediment (Human Endpoint) Data Element Table			x	No known or suspected MC hazard
	24	Surface Water (Ecological Endpoint) Data Element			x	No known or suspected MC hazard
	25	Sediment (Ecological Endpoint) Data Element			x	No known or suspected MC hazard
	26	Surface Soil Data Element			x	No known or suspected MC hazard
	27	Supplemental Contaminant Hazard Factor			x	No known or suspected MC hazard
	28	**HHE Module Score**	**x**	**Module Score Pending**		
MRS Priority	**29**	**MRS Priority (Based on Highest Hazard Evaluation Module Rating)**	**x**	**Final Score Pending**		
	A	**MRS Background Information**	**x**	**Pending**		

Munitions Response Site Prioritization Protocol (MRSPP) Data Gaps
32 CFR Part 179

Installation: Ft. Flagler Military Reservation
AOC: Rifle Range
RMIS Range ID: F10WA0316

Module	Table No.	Table Description	Data Gap	Potential Source of Information to Fill Data Gap	No Data Gap	Description of Known Data
Explosive Hazard Evaluation (EHE)	1	Munitions Type			x	Small Arms
	2	Source of Hazard			x	Former small arms range
	3	Location of Munitions			x	No munitions reported from this MRA
	4	Ease of Access			x	No barrier
	5	Status of Property			x	Non-DoD control
	6	Population Density			x	< 100 persons per square mile
	7	Population Near Hazard			x	26 or more structure
	8	Activities/Structures			x	Parks and recreational areas
	9	Ecological and/or Cultural Resources	x	U.S. Fish and Wildlife, SHPO		
	10	**EHE Module Score**				**60 to 70 EHE Rating D (Preliminary)**
Chemical Warfare Materiel (CWM) Hazard Evaluation (CHE)	11	CWM Configuration			x	Historical evidence indicates that CWM are not present
	12	Sources of CWM			x	Historical evidence indicates that CWM are not present
	13	Location of CWM			x	Historical evidence indicates that CWM are not present
	14	Ease of Access			x	No barrier
	15	Status of Property			x	Non-DoD control
	16	Population Density			x	< 100 persons per square mile
	17	Population Near Hazard			x	0 inhabited structures w/in 2 miles
	18	Activities/Structures			x	Agricultural - livestock grazing
	19	Ecological and/or Cultural Resources			x	Ecological resources present
	20	**CHE Module Score**				**< 38 CHE Rating G (Preliminary)**
Health Hazard Evaluation (HHE)	21	Groundwater Data Element			x	Groundwater not a pathway
	22	Surface Water (Human Endpoint) Data Element			x	Surface Water not a pathway, due to large water body
	23	Sediment (Human Endpoint) Data Element Table	x	Evaluation Pending		
	24	Surface Water (Ecological Endpoint) Data Element				Surface Water not a pathway, due to large water body
	25	Sediment (Ecological Endpoint) Data Element	x	Evaluation Pending		
	26	Surface Soil Data Element	x	Evaluation Pending		
	27	Supplemental Contaminant Hazard Factor	x	Evaluation Pending		
	28	**HHE Module Score**	**x**	**Module Score Pending**		
MRS Priority	**29**	**MRS Priority (Based on Highest Hazard Evaluation Module Rating)**	**x**	**Final Score Pending**		
	A	**MRS Background Information**	**x**	**Pending**		

Munitions Response Site Prioritization Protocol (MRSPP) Data Gaps
32 CFR Part 179

Installation: Ft. Flagler Military Reservation
AOC: Demolition Area
RMIS Range ID: F10WA0316

Module	Table No.	Table Description	Data Gap	Potential Source of Information to Fill Data Gap	No Data Gap	Description of Known Data
Explosive Hazard Evaluation (EHE)	1	Munitions Type			x	small arms, rifle grenade/anti-tank rockets, hand grenades
	2	Source of Hazard			x	OB/OD area
	3	Location of Munitions			x	No munitions reported from this MRA
	4	Ease of Access			x	Burried under as much as 10 ft of soil
	5	Status of Property			x	Non-DoD control
	6	Population Density			x	< 100 persons per square mile
	7	Population Near Hazard			x	26 or more structure
	8	Activities/Structures			x	Parks and recreational areas
	9	Ecological and/or Cultural Resources	x	U.S. Fish and Wildlife, SHPO		
	10	**EHE Module Score**				**60 to 70 EHE Rating D (Preliminary)**
Chemical Warfare Materiel (CWM) Hazard Evaluation (CHE)	11	CWM Configuration			x	Historical evidence indicates that CWM are not present
	12	Sources of CWM			x	Historical evidence indicates that CWM are not present
	13	Location of CWM			x	Historical evidence indicates that CWM are not present
	14	Ease of Access			x	No barrier
	15	Status of Property			x	Non-DoD control
	16	Population Density			x	< 100 persons per square mile
	17	Population Near Hazard			x	0 inhabited structures w/in 2 miles
	18	Activities/Structures			x	Agricultural - livestock grazing
	19	Ecological and/or Cultural Resources			x	Ecological resources present
	20	**CHE Module Score**				**< 38 CHE Rating G (Preliminary)**
Health Hazard Evaluation (HHE)	21	Groundwater Data Element			x	Groundwater not a pathway
	22	Surface Water (Human Endpoint) Data Element			x	Surface Water not a pathway, due to large water body
	23	Sediment (Human Endpoint) Data Element Table			x	Sediment not a pathway
	24	Surface Water (Ecological Endpoint) Data Element			x	Surface Water not a pathway, due to large water body
	25	Sediment (Ecological Endpoint) Data Element			x	Sediment not a pathway
	26	Surface Soil Data Element			x	Surface soil not a complete pathway
	27	Supplemental Contaminant Hazard Factor	x	Evaluation Pending		
	28	**HHE Module Score**	**x**	**Module Score Pending**		
MRS Priority	**29**	**MRS Priority (Based on Highest Hazard Evaluation Module Rating)**	**x**	**Final Score Pending**		
	A	**MRS Background Information**	**x**	**Pending**		

Munitions Response Site Prioritization Protocol (MRSPP) Data Gaps
32 CFR Part 179

Installation: Ft. Flagler Military Reservation
AOC: Quartermaster Wharf Disposal Area
RMIS Range ID: F10WA0316

Module	Table No.	Table Description	Data Gap	Potential Source of Information to Fill Data Gap	No Data Gap	Description of Known Data
Explosive Hazard Evaluation (EHE)	1	Munitions Type			x	small arms
	2	Source of Hazard			x	Disposal Area
	3	Location of Munitions			x	Only small arms reported
	4	Ease of Access			x	unrestricted
	5	Status of Property			x	Non-DoD control
	6	Population Density			x	< 100 persons per square mile
	7	Population Near Hazard			x	26 or more structure
	8	Activities/Structures			x	Parks and recreational areas
	9	Ecological and/or Cultural Resources	x	U.S. Fish and Wildlife, SHPO		
	10	**EHE Module Score**				**60 to 70 EHE Rating D (Preliminary)**
Chemical Warfare Materiel (CWM) Hazard Evaluation (CHE)	11	CWM Configuration			x	Historical evidence indicates that CWM are not present
	12	Sources of CWM			x	Historical evidence indicates that CWM are not present
	13	Location of CWM			x	Historical evidence indicates that CWM are not present
	14	Ease of Access			x	No barrier
	15	Status of Property			x	Non-DoD control
	16	Population Density			x	< 100 persons per square mile
	17	Population Near Hazard			x	0 inhabited structures w/in 2 miles
	18	Activities/Structures			x	Agricultural - livestock grazing
	19	Ecological and/or Cultural Resources			x	Ecological resources present
	20	**CHE Module Score**				**< 38 CHE Rating G (Preliminary)**
Health Hazard Evaluation (HHE)	21	Groundwater Data Element			x	Groundwater not a pathway
	22	Surface Water (Human Endpoint) Data Element			x	Surface Water not a pathway, due to large water body
	23	Sediment (Human Endpoint) Data Element Table			x	Sediment not a pathway
	24	Surface Water (Ecological Endpoint) Data Element			x	Surface Water not a pathway, due to large water body
	25	Sediment (Ecological Endpoint) Data Element			x	Sediment not a pathway
	26	Surface Soil Data Element	x	Evaluation Pending		
	27	Supplemental Contaminant Hazard Factor	x	Evaluation Pending		
	28	**HHE Module Score**	**x**	**Module Score Pending**		
MRS Priority	**29**	**MRS Priority (Based on Highest Hazard Evaluation Module Rating)**	**x**	**Final Score Pending**		
	A	**MRS Background Information**	**x**	**Pending**		

Fort Flagler Military Reservation HRS Data Gaps

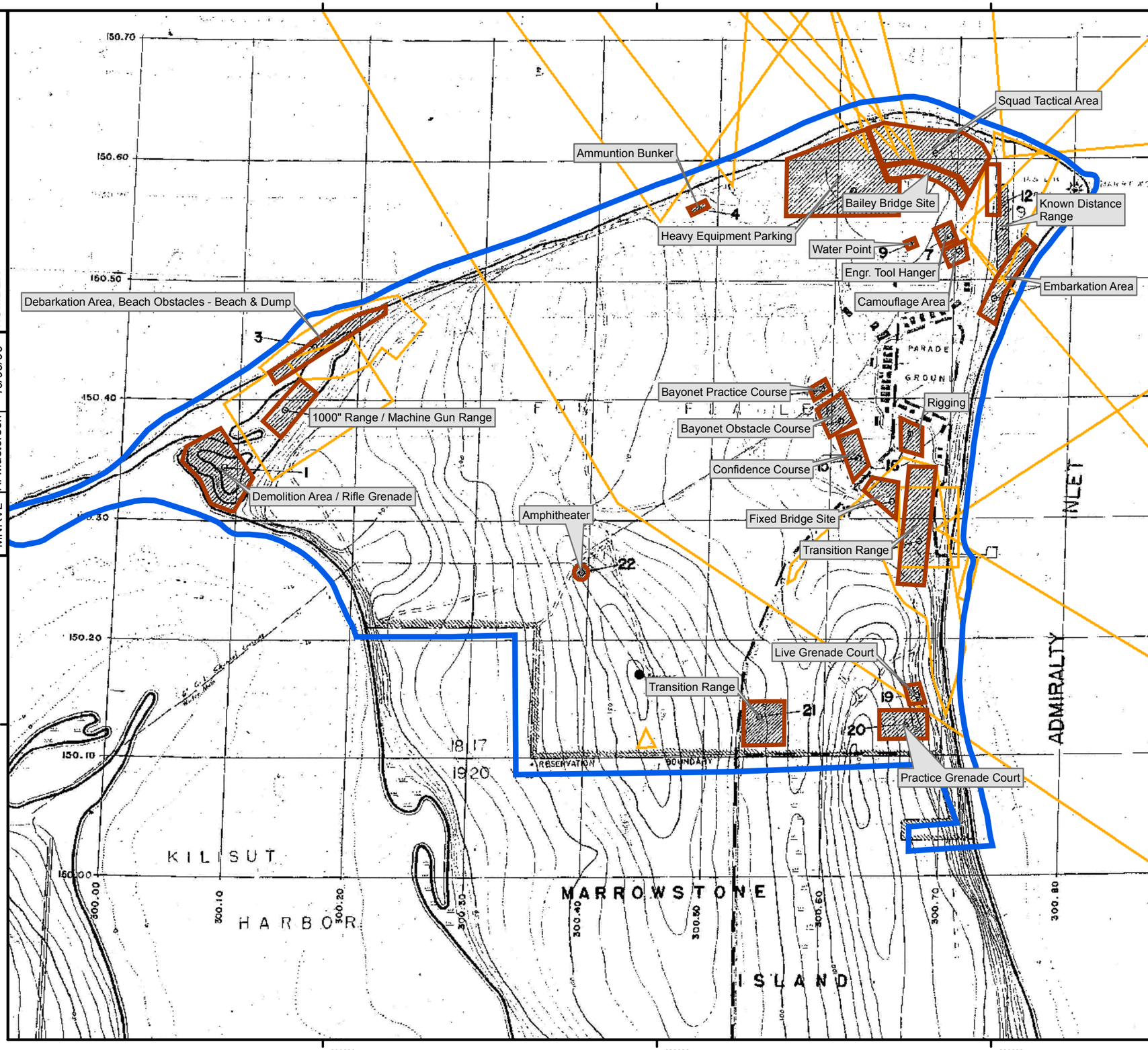
Information required to complete the MEC-HRS data collection form:

Item	Number	Comment – Missing Data Element
1	1.8	Confirm the latitude / longitude of potential source(s) and the accuracy of the information (in meters)
2		Source scale (i.e., 1:24,000, etc.)
3	1.12	Site Permits
4	6	Water use (GW within 4 miles, SW within 15 miles)
5	6.1	Total drinking water population served
6	6.2	Type of drinking water supply system (GW or SW?)
7	6.3	Other water uses of GW within 4 miles
8	6.4	Depth to Aquifer
9	6.5	Other surface water uses
10	7.1	Existence of sensitive or potentially vulnerable environment

Attachment A

Site Inspection
Ft. Flagler Military Reservation

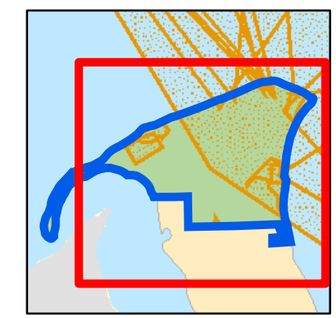
Technical Project Planning Meeting
July 24, 2006



Legend

- Fort Flagler Military Reservation Property Boundary
- Fort Flagler Area of Concern
- Features from State Park historic map (circa 1945)

NOTES:
1) Map was provided by Washington State Parks.



N

0 500 1,000 2,000 Feet

REFERENCE/PROJECTION: NAD 83 UTM Zone 10N

U.S. ARMY CORPS OF ENGINEERS
OMAHA DESIGN CENTER

ATTACHMENT A

STATE PARK HISTORIC MAP
FT. FLAGLER MILITARY RESERVATION

FORT FLAGLER MILITARY RESERVATION

Shaw Environmental, Inc.

OFFICE	DRAWN BY		DRAWING NUMBER
MNRVL	K. Masterson	10/06/06	Ft Flagler_025_attachementA_TPP

Appendix C
Interview Documentation

STATE OF WASHINGTON

DEPARTMENT OF ARCHAEOLOGY & HISTORIC PRESERVATION

1063 S. Capitol Way, Suite 106 • Olympia, Washington 98501
Mailing address: PO Box 48343 • Olympia, Washington 98504-8343
(360) 586-3065 • Fax Number (360) 586-3067 • Website: www.dahp.wa.gov

November 8, 2006

Ms. Lisa P.M. Stahl
Shaw Environmental, Inc.
9201 East Dry Creek Road
Centennial, Colorado 80112

Re: Fort Flagler Munitions Project
Log No.: 110806-10-COE-S

Dear Ms. Stahl:

Thank you for contacting our department. We have reviewed the materials you provided for the proposed Site Inspection Activities for Formerly Used Defense Sites at Fort Flagler State Park, Jefferson County, Washington.

Given the area's landforms and environment that are sensitive for cultural resources in the area, we recommend a professional survey of any area proposed for alteration. We also recommend consultation with the concerned tribe's cultural committees and staff regarding cultural resource issues.

If federal funds or permits are involved Section 106 of the National Historic Preservation Act, as amended, and its implementing regulations, 36CFR800, must be followed. We would appreciate receiving any correspondence or comments from concerned tribes or other parties concerning cultural resource issues that you receive as you consult under the requirements of 36CFR800.4(a)(4).

These comments are based on the information available at the time of this review and on behalf of the State Historic Preservation Officer. Should additional information become available, our assessment may be revised. Thank you for the opportunity to comment on this project and we look forward to receiving the survey report.

Sincerely,

Robert G. Whitlam, Ph.D.
State Archaeologist
(360) 586-3080
Email: rob.whitlam@dahp.wa.gov

cc: D. Meatte

DEPARTMENT OF ARCHAEOLOGY & HISTORIC PRESERVATION
Protect the Past, Shape the Future

FUDS SI, NWO REGION, Shaw Project 116188

MINUTES

12 DECEMBER 2006 3.40 PM INITIATED CALL

MEETING CALLED BY	Lisa Stahl, Shaw
TYPE OF MEETING	Phone Call
ATTENDEES	Robert Whitlam, WA SHPO ☒ Stahl Lisa (Shaw)

DISCUSSION	Phone call regarding SHPO Letter for Ft. Flagler
•	The call was initiated to clarify potentially needed resources to identify and guard against inadvertent intrusion into archaeological/sensitive sites located at Ft. Flagler.
•	Mr. Whitlam indicated that since the FUDS property is on Parks lands, they should have a clear idea as to where any sensitive resources are located. Additionally, the USACE archeologist has been very involved with similar UXO projects in the state and is familiar with the identification and avoidance techniques preferred by the SHPO.
•	He strongly encouraged a review of the work plan by the Parks and USACE archaeologists, as well as some relatively active involvement by them. He also provided the name and contact phone number for the USACE archaeologist who is the SHPO's point of contact: David Grant, 206-746-4466.
•	Furthermore, he encouraged communication with area Tribes and indicated that the USACE is currently involved in similar projects with these Tribes, so there should already be some mechanism in place to raise this project for discussion.
•	It was my impression from this conversation that if we were to involve the Parks and USACE archaeologists to understand and protect sensitive resources and utilize already existing communication lines with Tribes so as to describe this work to them, the SHPO's concerns would be addressed.

FUDS SI, NWO REGION, Shaw Project 116188

MINUTES 18 JULY 2006 12:00 EDT PHONE CALL

MEETING CALLED BY	Derrick Stinson, WDFW Wildlife Management Program. Phone: 360-902-2475
TYPE OF MEETING	Phone Call
ATTENDEES	

		USACE			**Shaw**
☐	Miller	John	☐	Kelsall	Peter
☐	Carlton	Wandell	☐	Richards	Trenton
☐	Jasper	Kevin	☐	Stahl	Lisa
☐	Meacham	Mark	☐	Menke	Bob
☐	Perro	Walt	☐	McBride	Randy
☐	Spillane	Kathy	☐	Lillis	Jen
		USFS	☐	Sadowski	Paul
☐	Franzen	John	x	McGraw	Greg

DISCUSSION	Phone call regarding the presence of any threatened and endangered species at Ft. Flagler, WA

Spoke with Derrick Stinson, Species Biologist, Washington Dept. of Fish and Wildlife at 360-902-2475. Mr. Stinson said he could not think of any species that we may impact in our activities and did not envision any problems. Mr. Stinson said if we wished, we could contact the PHS folks (Priority Habitat and Species) who compile the data for the department. If we would provide the location, they can access the data and provide a listing and possibly a map of the site containing any T&E Species or habitat. PHS can be contacted at 360-902-2543.

-
-
-
-
-

U.S. Fish & Wildlife Service

USFWS Threatened and Endangered Species System (TESS)

TESS Contact ECOS

Notes:

- *This report shows the listed species associated in some way with this state.*
- *This list does not include experimental populations and similarity of appearance listings.*
- *This list includes non-nesting sea turtles and whales in State/Territory coastal waters.*
- *This list includes species or populations under the sole jurisdiction of the National Marine Fisheries Service.*
- *Click on the highlighted scientific names below to view a Species Profile for each listing.*

Listings and occurrences for Washington -- 42 listings

- **37 occurring in Washington**
- **5 not occurring in Washington**
- **3 species listed in some other state occurring in Washington**

Animals -- 33 listings

- **28 occurring in Washington**
- **5 not occurring in Washington**
- **3 species listed in some other state occurring in Washington**

Status	***Species listed in this state and that occur in this state***
E	Albatross, short-tailed (*Phoebastria (=Diomedea) albatrus*)
T	Bear, grizzly lower 48 States, except where listed as an experimental population or the Yellowstone population (*Ursus arctos horribilis*)
T	Butterfly, Oregon silverspot (*Speyeria zerene hippolyta*)
E	Caribou, woodland ID, WA, B.C. (*Rangifer tarandus caribou*)
E	Deer, Columbian white-tailed Columbia River DPS (*Odocoileus virginianus leucurus*)
T	Eagle, bald lower 48 States (*Haliaeetus leucocephalus*)
T	Lynx, Canada lower 48 States DPS (*Lynx canadensis*)
T	Murrelet, marbled CA, OR, WA (*Brachyramphus marmoratus marmoratus*)
T	Owl, northern spotted (*Strix occidentalis caurina*)
E	Pelican, brown except U.S. Atlantic coast, FL, AL (*Pelecanus occidentalis*)
T	Plover, western snowy Pacific coastal pop. (*Charadrius alexandrinus nivosus*)
E	Rabbit, pygmy Columbia Basin DPS (*Brachylagus idahoensis*)
T	Salmon, chinook Puget Sound (*Oncorhynchus (=Salmo) tshawytscha*)

T	Salmon, chinook fall Snake R. (*Oncorhynchus (=Salmo) tshawytscha*)
T	Salmon, chinook lower Columbia R. (*Oncorhynchus (=Salmo) tshawytscha*)
E	Salmon, chinook spring upper Columbia R. (*Oncorhynchus (=Salmo) tshawytscha*)
T	Salmon, chinook spring/summer Snake R. (*Oncorhynchus (=Salmo) tshawytscha*)
T	Salmon, chum Columbia R. (*Oncorhynchus (=Salmo) keta*)
T	Salmon, chum summer-run Hood Canal (*Oncorhynchus (=Salmo) keta*)
T	Salmon, sockeye U.S.A. (Ozette Lake, WA) (*Oncorhynchus (=Salmo) nerka*)
T	Sea turtle, green except where endangered (*Chelonia mydas*)
E	Sea turtle, leatherback (*Dermochelys coriacea*)
T	Sea-lion, Steller eastern pop. (*Eumetopias jubatus*)
T	Steelhead Snake R. Basin (*Oncorhynchus (=Salmo) mykiss*)
T	Steelhead lower Columbia R. (*Oncorhynchus (=Salmo) mykiss*)
E	Steelhead upper Columbia R. Basin (*Oncorhynchus (=Salmo) mykiss*)
E	Whale, humpback (*Megaptera novaeangliae*)
E	Wolf, gray lower 48 States, except MN and where XN; Mexico (*Canis lupus*)

Status	***Species listed in this state that do not occur in this state***
E	Curlew, Eskimo (*Numenius borealis*)
T	Otter, southern sea except where XN (*Enhydra lutris nereis*)
T	Salmon, coho Lower Columbia River (*Oncorhynchus (=Salmo) kisutch*)
E	Sea-lion, Steller western pop. (*Eumetopias jubatus*)
T	Steelhead middle Columbia R. (*Oncorhynchus (=Salmo) mykiss*)

Status	***Listed species occurring in this state that are not listed in this state***
E	Salmon, sockeye U.S.A. (Snake River, ID stock wherever found.) (*Oncorhynchus (=Salmo) nerka*)
T	Steelhead upper Willamette R. (*Oncorhynchus (=Salmo) mykiss*)
T	Trout, bull U.S.A., conterminous, lower 48 states (*Salvelinus confluentus*)

Plants -- 9 listings

- **9 occurring in Washington**
- **0 not occurring in Washington**

- **0 species listed in some other state occurring in Washington**

Status	*Species listed in this state and that occur in this state*
T	Catchfly, Spalding's (*Silene spaldingii*)
T	Checker-mallow, Nelson's (*Sidalcea nelsoniana*)
E	Checkermallow, Wenatchee Mountains (*Sidalcea oregana var. calva*)
E	Desert-parsley, Bradshaw's (*Lomatium bradshawii*)
T	Howellia, water (*Howellia aquatilis*)
T	Ladies'-tresses, Ute (*Spiranthes diluvialis*)
T	Lupine, Kincaid's (*Lupinus sulphureus (=oreganus) ssp. kincaidii (=var. kincaidii)*)
T	Paintbrush, golden (*Castilleja levisecta*)
E	Stickseed, showy (*Hackelia venusta*)

LISTED AND PROPOSED ENDANGERED AND THREATENED SPECIES AND CRITICAL HABITAT; CANDIDATE SPECIES; AND SPECIES OF CONCERN IN WESTERN WASHINGTON AS PREPARED BY THE U.S. FISH AND WILDLIFE SERVICE WESTERN WASHINGTON FISH AND WILDLIFE OFFICE

(Revised December 20, 2005)

JEFFERSON COUNTY

LISTED

Wintering bald eagles (*Haliaeetus leucocephalus*) occur in the county from about October 31 through March 31.

There are three bald eagle communal winter night roosts located in the county.

There are two bald eagle wintering concentrations located in the county along the Quinault River and the Washington coast.

There are 91 bald eagle nesting territories located in the county. Nesting activities occur from about January 1 through August 15.

Brown pelicans (*Pelecanus occidentalis*) occur along the outer coast in the county.

Bull trout (*Salvelinus confluentus*) occur in the county.

Green sea turtles (*Chelonia mydas*) may occur along the outer coast in the county.

Leatherback sea turtles (*Dermochelys coriacea*) may occur along the outer coast in the county.

Loggerhead sea turtles (*Caretta caretta*) may occur along the outer coast in the county.

Marbled murrelets (*Brachyramphus marmoratus*) occur in the county. Nesting murrelets occur from April 1 through September 15.

Northern spotted owls (*Strix occidentalis caurina*) occur in the county throughout the year.

Olive ridley sea turtles (*Lepidochelys olivacea*) may occur along the outer coast in the county.

Short-tailed albatross (*Phoebastria albatrus*) may occur in the county.

Major concerns that should be addressed in your Biological Assessment of project impacts to listed species include:

1. Level of use of the project area by listed species.

2. Effect of the project on listed species' primary food stocks, prey species, and foraging areas in all areas influenced by the project.

3. Impacts from project activities and implementation (e.g., increased noise levels, increased human activity and/or access, loss or degradation of habitat) that may result in disturbance to listed species and/or their avoidance of the project area.

Castilleja levisecta (golden paintbrush) may occur in the county.

Major concerns that should be addressed in your Biological Assessment for this listed plant species include:

1. Distribution of taxon in project vicinity.

2. Disturbance (trampling, uprooting, collecting, etc.) of individual plants and habitat loss.

3. Changes in hydrology where taxon is found.

DESIGNATED

Critical habitat for the northern spotted owl has been designated in Jefferson County.

Critical habitat for the marbled murrelet has been designated in Jefferson County.

Critical habitat for the bull trout has been designated in Jefferson County.

PROPOSED

None

CANDIDATE

Fisher (*Martes pennanti pacifica*) (West Coast distinct population segment)

SPECIES OF CONCERN

Aleutian Canada goose (*Branta canadensis leucopareia*)
California wolverine (*Gulo gulo luteus*)
Cascades frog (*Rana cascadae*)
Coastal cutthroat trout (*Oncorhynchus clarki clarki*)
Destruction Island shrew (*Sorex trowbridgii destructioni*)

Long-eared myotis (*Myotis evotis*)
Long-legged myotis (*Myotis volans*)
Northern goshawk (*Accipiter gentilis*)
Northern sea otter (*Enhydra lutris kenyoni*)
Olive-sided flycatcher (*Contopus cooperi*)
Olympic torrent salamander (*Rhyacotriton olympicus*)
Pacific lamprey (*Lampetra tridentata*)
Pacific Townsend's big-eared bat (*Corynorhinus townsendii townsendii*)
Peregrine falcon (*Falco peregrinus*)
River lamprey (*Lampetra ayresi*)
Tailed frog (*Ascaphus truei*)
Van Dyke's salamander (*Plethodon vandykei*)
Western toad (*Bufo boreas*)

ENDANGERED, THREATENED, PROPOSED, AND CANDIDATE SPECIES, CRITICAL HABITAT, AND SPECIES OF CONCERN IN WESTERN WASHINGTON[1]

COMMON NAME	SCIENTIFIC NAME	RECOVERY PRIORITY NUMBER
Endangered Animals		
Brown pelican	*Pelecanus occidentalis*	9
Columbian white-tailed deer	*Odocoileus virginianus leucurus*	9c
Gray wolf	*Canis lupus*	3c
Leatherback sea turtle	*Dermochelys coriacea*	1
Short-tailed albatross	*Phoebastria albatrus*	8
Endangered Plants		
Bradshaw's desert-parsley	*Lomatium bradshawii*	2
Marsh sandwort	*Arenaria paludicola*	5
Threatened Animals		
Bald eagle	*Haliaeetus leucocephalus*	14c
Bull trout (Coastal-Puget Sound and Columbia River DPS)	*Salvelinus confluentus*	9c
Canada lynx	*Lynx canadensis*	15
Green sea turtle	*Chelonia mydas*	1c
Grizzly bear	*Ursus arctos horribilis*	3c
Loggerhead sea turtle	*Caretta caretta*	7c
Marbled murrelet	*Brachyramphus marmoratus*	3
Northern spotted owl	*Strix occidentalis caurina*	3
Olive ridley sea turtle	*Lepidochelys olivacea*	8c
Oregon silverspot butterfly	*Speyeria zerene hippolyta*	3c
Western snowy plover	*Charadrius alexandrinus nivosus*	3c
Threatened Plants		
Golden paintbrush	*Castilleja levisecta*	2
Kincaid's lupine	*Lupinus sulphureus* ssp. *kincaidii*	9
Nelson's checker-mallow	*Sidalcea nelsoniana*	5
Water howellia	*Howellia aquatilis*	7

Designated Critical Habitat	Proposed Species and Proposed Critical Habitat
Marbled murrelet	Dolly Varden (*Salvelinus malma*) similarity of appearance
Northern spotted owl	
Western snowy plover, Pacific Coast Population	
Bull Trout	

COMMON NAME	SCIENTIFIC NAME	LISTING PRIORITY NUMBER
Candidate[2] Animals		
Fisher (West Coast DPS)	*Martes pennanti*	6
Mardon skipper	*Polites mardon*	5
Mazama pocket gopher	*Thomomys mazama* (ssp. *couchi, glacialis, louiei, melanops, pugetensis, tacomensis, tumuli, yelmensis*)	3
Oregon spotted frog	*Rana pretiosa*	2
Streaked horned lark	*Eremophila alpestris strigata*	6
Taylor's (Whulge or Edith's) checkerspot butterfly	*Euphydryas editha taylori*	3
Yellow-billed cuckoo	*Coccyzus americanus*	3
Candidate[2] Plants		
Northern wormwood	*Artemisia campestris* ssp. *borealis* var. *wormskioldii*	3
Animal Species of Concern[3]		
Aleutian Canada goose	*Branta canadensis leucopareia*	
Beller's ground beetle	*Agonum belleri*	
California bighorn sheep	*Ovis canadensis californiana*	
California floater (mussel)	*Anodonta californiensis*	
California wolverine	*Gulo gulo luteus*	
Cascades frog	*Rana cascadae*	
Cassin's auklet	*Ptychoramphus aleuticus*	
Coastal cutthroat trout	*Oncorhynchus clarki clarki*	
Columbia pebblesnail	*Fluminicola columbianus*	
Columbia torrent salamander	*Rhyacotriton kezeri*	
Destruction Island shrew	*Sorex trowbridgii destructioni*	
Fender's soliperlan stonefly	*Soliperla fenderi*	
Fringed myotis (bat)	*Myotis thysanodes*	
Hatch's click beetle	*Eanus hatchi*	
Island large marble butterfly	*Euchloe ausonides insulanus*	
Larch Mountain salamander	*Plethodon larselli*	
Long-eared myotis	*Myotis evotis*	
Long-legged myotis	*Myotis volans*	
Makah's copper butterfly	*Lycaena mariposa charlottensis*	
Margined sculpin	*Cottus marginatus*	
Newcomb's littorine snail	*Algamorda newcombiana*	
Northern goshawk	*Accipiter gentilis*	
Northern sea otter	*Enhydra lutris kenyoni*	
Northwestern pond turtle	*Emys* (= *Clemmys*) *marmorata marmorata*	

COMMON NAME	SCIENTIFIC NAME
Animal Species of Concern[3] (Cont'd)	
Olive-sided flycatcher	*Contopus cooperi*
Olympic torrent salamander	*Rhyacotriton olympicus*
Oregon vesper sparrow	*Pooecetes gramineus affinis*
Pacific lamprey	*Lampetra tridentata*
Pacific Townsend's big-eared bat	*Corynorhinus townsendii townsendii*
Pale Townsend's big-eared bat	*Corynorhinus townsendii pallescens*
Peregrine falcon	*Falco peregrinus*
River lamprey	*Lampetra ayresi*
Small-footed myotis	*Myotis ciliolabrum*
Slender-billed white-breasted nuthatch	*Sitta carolinensis aculeata*
Tailed frog	*Ascaphus truei*
Tufted puffin	*Fratercula cirrhata*
Valley silverspot butterfly	*Speyeria zerene bremnerii*
Van Dyke's salamander	*Plethodon vandykei*
Western gray squirrel	*Sciurus griseus griseus*
Westslope cutthroat trout	*Oncorhynchus (=Salmo) clarki lewisi*
Western toad	*Bufo boreas*
Plant Species of Concern[3]	
Barrett's beardtongue	*Penstemon barrettiae*
Clackamas corydalis	*Corydalis aquae-gelidae*
Clustered lady's slipper	*Cypripedium fasciculatum*
Columbia yellow-cress	*Rorippa columbiae*
Cotton's milk-vetch	*Astragalus australis* var. *olympicus*
Footsteps of spring; bear's foot sanicle	*Sanicula arctopoides*
Frigid shootingstar	*Dodecatheon austrofrigidum*
Gorge daisy	*Erigeron oreganus*
Howell's daisy	*Erigeron howellii*
Obscure paintbrush	*Castilleja cryptantha*
Oregon sullivantia	*Sullivantia oregana*
Pale blue-eyed grass	*Sisyrinchium sarmentosum*
Pale larkspur	*Delphinium leucophaeum*
Pink sandverbena	*Abronia umbellata* ssp. *acutalata*
Queen of the forest	*Filipendula occidentalis*
Rose checker-mallow	*Sidalcea malviflora* ssp. *virgata*
Seely's silene	*Silene seelyi*
Stalked moonwort	*Botrychium pedunculosum*
Tall bugbane	*Cimicifuga elata*
Torrey's peavine	*Lathyrus torreyi*
Triangular-lobed moonwort	*Botrychium ascendens*
Whitebark pine	*Pinus albicaulis*
White meconella	*Meconella oregana*
White-top aster	*Sericocarpus rigidus*

[1]Hyperlinks are provided for electronic recovery plans where available. Only recovery plans revised or finalized since 1989 are available electronically. Alternate hyperlink to final rule listing the species is substituted where available, or hyperlink connects to status information.

[2]Candidate species are those species for which FWS has sufficient information to propose for listing. Hyperlinks are provided where available for electronic candidate forms or *Federal Register* notice of petition finding.

[3]Species of concern are those species whose conservation status is of concern to FWS, but more information is needed.

NOAA Fisheries threatened and endangered species list:
http://www.nmfs.noaa.gov/prot_res/species/ESA_species.html

Information for eastern Washington species can be found on the Upper Columbia Fish and Wildlife Office web page and for all listed species on the U.S. Fish and Wildlife Service Endangered Species Home Page.

WASHINGTON DEPARTMENT OF FISH AND WILDLIFE

Species of Concern

State Threatened Species

"Any wildlife species native to the state of Washington that is likely to become an endangered species within the foreseeable future throughout a significant portion of its range within the state without cooperative management or removal of threats."
WAC 232-12-297, Section 2.5

Search Species Lists

SORT RESULTS BY:

- Common Name
- Scientific Name
- Animal Type

Search Listings

Advanced Search

Species of Concern Lists

- Endangered Species
- Threatened Species
- Sensitive Species
- State Candidate Species

- Complete SOC List
- Main SOC Page

Status Codes:
FE: Federal Endangered
FT: Federal Threatened
FC: Federal Candidate
FCo: Federal Species of Concern
SE: State Endangered
ST: State Threatened
SC: State Candidate
SS: State Sensitive

Related Links

- State Monitor Species

State Threatened Species

Current through June 7, 2006

COMMON NAME	SCIENTIFIC NAME	ANIMAL
ALEUTIAN CANADA GOOSE	*BRANTA CANADENSIS LEUCOPAREIA*	Bird
BALD EAGLE	*HALIAEETUS LEUCOCEPHALUS*	Bird
FERRUGINOUS HAWK	*BUTEO REGALIS*	Bird
SHARP-TAILED GROUSE	*TYMPANUCHUS PHASIANELLUS*	Bird
SAGE-GROUSE	*CENTROCERCUS UROPHASIANUS*	Bird
MARBLED MURRELET	*BRACHYRAMPHUS MARMORATUS*	Bird
WESTERN GRAY SQUIRREL	*SCIURUS GRISEUS*	Mammal
MAZAMA (WESTERN) POCKET GOPHER	*THOMOMYS MAZAMA*	Mammal
LYNX	*LYNX CANADENSIS*	Mammal
STELLER SEA LION	*EUMETOPIAS JUBATUS*	Mammal
GREEN SEA TURTLE	*CHELONIA MYDAS*	Reptile
LOGGERHEAD SEA TURTLE	*CARETTA CARETTA*	Reptile

Find a bug or error in the system? Let us know about it!
© 2000-2004 Washington Department of Fish and Wildlife
E-mail <webmaster@dfw.wa.gov>

WASHINGTON DEPARTMENT OF FISH AND WILDLIFE

Species of Concern

State Endangered Species

"Any wildlife species native to the state of Washington that is seriously threatened with extinction throughout all or a significant portion of its range within the state."
WAC 232-12-297, Section 2.4

Search Species Lists

SORT RESULTS BY:

- Common Name
- Scientific Name
- Animal Type

Search Listings

Advanced Search

Species of Concern Lists

- Endangered Species
- Threatened Species
- Sensitive Species
- State Candidate Species

- Complete SOC List
- Main SOC Page

Status Codes:
FE: Federal Endangered
FT: Federal Threatened
FC: Federal Candidate
FCo: Federal Species of Concern
SE: State Endangered
ST: State Threatened
SC: State Candidate
SS: State Sensitive

Related Links

- State Monitor Species

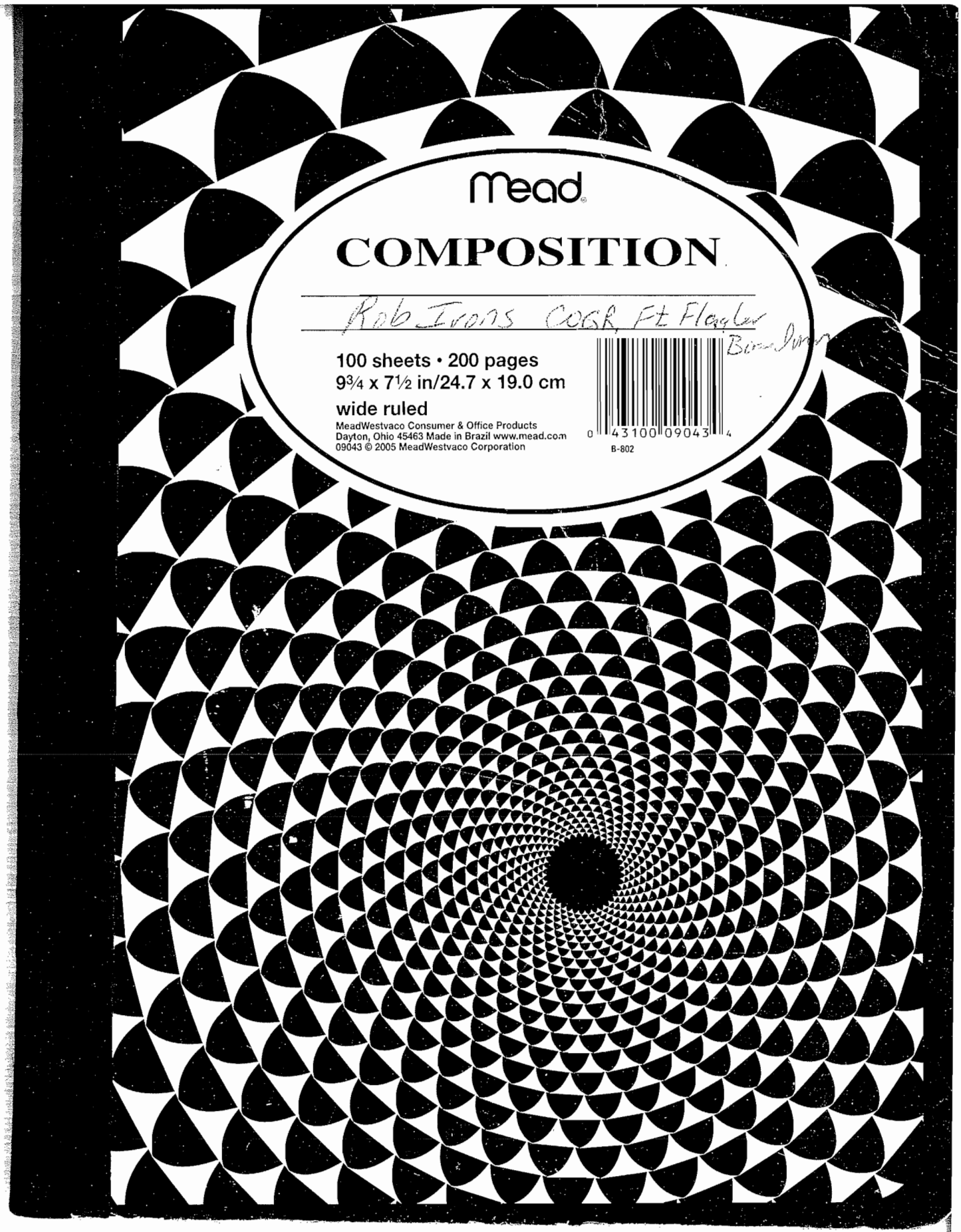
State Endangered Species

Current through June 7, 2006

COMMON NAME	SCIENTIFIC NAME	ANIMAL
NORTHERN LEOPARD FROG	*RANA PIPIENS*	Amphibia
OREGON SPOTTED FROG	*RANA PRETIOSA*	Amphibia
AMERICAN WHITE PELICAN	*PELECANUS ERYTHRORHYNCHOS*	Bird
BROWN PELICAN	*PELECANUS OCCIDENTALIS*	Bird
SANDHILL CRANE	*GRUS CANADENSIS*	Bird
SNOWY PLOVER	*CHARADRIUS ALEXANDRINUS*	Bird
UPLAND SANDPIPER	*BARTRAMIA LONGICAUDA*	Bird
SPOTTED OWL	*STRIX OCCIDENTALIS*	Bird
STREAKED HORNED LARK	*EREMOPHILA ALPESTRIS STRIGATA*	Bird
OREGON SILVERSPOT BUTTERFLY	*SPEYERIA ZERENE HIPPOLYTA*	Butterfly
MARDON SKIPPER	*POLITES MARDON*	Butterfly
TAYLOR'S (WHULGE) CHECKERSPOT	*EUPHYDRYAS EDITHA TAYLORI*	Butterfly
PYGMY RABBIT	*BRACHYLAGUS IDAHOENSIS*	Mammal
GRAY WOLF	*CANIS LUPUS*	Mammal
GRIZZLY BEAR	*URSUS ARCTOS*	Mammal
FISHER	*MARTES PENNANTI*	Mammal
SEA OTTER	*ENHYDRA LUTRIS*	Mammal
SEA OTTER	*ENHYDRA LUTRIS LUTRIS*	Mammal
SEI WHALE	*BALAENOPTERA BOREALIS*	Mammal
FIN WHALE	*BALAENOPTERA PHYSALUS*	Mammal
BLUE WHALE	*BALAENOPTERA MUSCULUS*	Mammal
HUMPBACK WHALE	*MEGAPTERA NOVAEANGLIAE*	Mammal
BLACK RIGHT WHALE	*BALAENA GLACIALIS*	Mammal
KILLER WHALE	*ORCINUS ORCA*	Mammal
SPERM WHALE	*PHYSETER MACROCEPHALUS*	Mammal
COLUMBIAN WHITE-TAILED DEER	*ODOCOILEUS VIRGINIANUS LEUCURUS*	Mammal
WOODLAND CARIBOU	*RANGIFER TARANDUS*	Mammal
WESTERN POND TURTLE	*CLEMMYS MARMORATA*	Reptile
LEATHERBACK SEA TURTLE	*DERMOCHELYS CORIACEA*	Reptile

Find a bug or error in the system? Let us know about it!
© 2000-2004 Washington Department of Fish and Wildlife
E-mail <webmaster@dfw.wa.gov>

Appendix D
Field Notes and Field Forms


Mead
COMPOSITION
Rob Irons COGR Ft Flagler
Brandon
100 sheets • 200 pages
9¾ x 7½ in/24.7 x 19.0 cm
wide ruled
MeadWestvaco Consumer & Office Products
Dayton, Ohio 45463 Made in Brazil www.mead.com
09043 © 2005 MeadWestvaco Corporation
0 43100 09043 4
B-802

FT FLAGLER MILITARY RESERVATION
Rob Irons

20 Feb 07

0800 Kick off Meeting, Shaw, COE, WPE, 0645
1015 Start Track Leg WP001, Start Point
1115 WP002 pic # 1, 2, 3, 4 / NESW, Live grenade 1700
court, minor subsurface anamolies, No 1720
Surface MEC encantered, Heavy Vegatation 2030
1140 WP003 pic # 5, 6, Grenade practice Range
NO Anomalies, Heavy vegatation
1245 Arrived Sample Location 039A019 WP004 pic # 7
1300 Collected Sample # NWO-039-5002
1315 Arrived Sample Location 039A020 WP# 5 pic # 8
1325 Collected Sample # NWO 039~~A~~ CM 5003
1341 Arrived Sample location 039A028 WP#6 pic # 9
1345 Collected sample NWO 039 5012
1355 Arrived sample location 039A022 WP # 7 pic # 10
1400 Collected sample # NWO 0395005
1415 Arrived sample Location 039A021 WP # 8 pic # 11
1425 Collected Sample # NWO 039-5004
1440 Arrived sample Location 039A024 WP # 9 pic #12
1445 Collected Sample ~~Loc~~ CM NWO-039-
1500 Arrived Sample Loc 039A027 WP#10 pic # 13
1515 Collected sample NWO-039-5010 - Field Dup 5011
1540 Arrived Sample Loc 039A023 WP # 11 pic # 14
1545 Collected sample NWO-039-5006
1600 Arrived Sample Loc 039A001/2 - No Sample Taken
See WP 13 Pic # 15

Mead®

COMPOSITION

Simon Payne - Ft Flagler

Coca-R. Polyen / BAFR

R. Polyen

100 sheets • 200 pages

9¾ x 7½ in/24.7 x 19.0 cm

wide ruled

MeadWestvaco Consumer & Office Products, Dayton, Ohio 45463, Made in Brazil

www.mead.com 09053 © 2005 MeadWestvaco Corporation

0 43100 09053 3

B-802

1645 Arrived sample Loc # 039A026 wp 13 pic 16

Collected sample NWO 039 5009

1700 Stop track log. Departing site

1720 Arrived Hotel

2030 Stop work. Log Entry

21Feb07

0700- Packed coolers, arranged and Labeled Bottles; Got Ice

0920- Start Track Log.

0940 Arrived Sample locat 039A018 wp 014 pic #1 (17)

0945 Collected Sample # NWO-039-5001/MS/MSD

1000- Arrived Sample Location 039A013 wp 015 pic #2 (18)

1005 Collected Sample NWO-039-0010

1020 Arrived sample Location 039A017 wp 016 2pics, 3,4 (19) (20)

1025- Collected Sample NWO-039-0013, No Slag Found.

1040- Arrived Sample Location 039A0034,5, wp# 17, 18, 19

1045 Collected Sample NWO-039-1002, wp # 17 pic 5 (21)

1050- Collected Sample NWO-039-0003 wp# 18 pic 6 (22)

1055 Collected Sample NWO-039-0002 - wp# 19 pic 7 (23)

1100- wp#20 possible berm Location, see photo # 8 (24)

1125 Arrived Rifle Range Sample Location 039A014, 15, 16

1130 Collected Sample NWO-039-1006 wp# 21 pic # 9 (25)

1140- Collected Sample NWO-039-0011 wp# 22 pic # 10 (26)

1145 Collected Sample NWO-039-0012 wp# 23 pic #11 (27)

1305- Arrived sample location 039A011,

1315- Collected sample NWO-039-0008, 0009 Field Dup wp# 24 pic# 12 (28).

1320 Conducted Mag sweep of Rifle Grenade / Anti tank Rocket Range, Dense vegetation, minor subsurface anomalies, minor Surface Anomalies, barbed wire, Cable Strands. See picture # 12

1335 Arrive Location 039A010 - WP# 25 pic#13 (29)

1340 Collected sample NWO-039-0007 / explosives / metals. 2 Jars

1350 Arrive Location 039A009-12 - WP# 26 pic#14 (30)

1400 Collected Sample NWO-039-0006, explosive, metals. 2 Jars

1405 Collected sample NWO-039-1005, exp. Metals. 2 Jars

WP# 27 pic# 15 (31)

1445 Arrived SL-039A025

1450 Collected sample NWO-039-5008 WP# 28 pic#16 (32)

1500- Arrived Location 039A029

1510 Collected Sample NWO-039-5013, WP# 29 pic#17 (33)

1535 Arrived Transition Range Sample location 039A006, 7, 8

1600 Collected Sample NWO-039-0005 WP# 30 pic# 18 (34)

Dense vegetation, visual Recon pointless.

1605 Collected sample NWO-039-1003, 1004, WP# 31 pic# 19 (35)

Moderate vegetation, No visual signs of MEC.

1610. Collected Sample NWO-039-0004, WP# 32 pic# 20 (36)

Moderate vegetation No visual sign of MEC.

1620 Stopped Track Log. Departed site

1700- Arrived Hotel After Stop for Ice, and Gas

Working on GPS Reconciliation

1930- Stop WIR, Last Entry

22Feb07

0700 Start Day - Review work plan, Call Dale London. 142:

Established work schedule for day, 143:

Preformed Tailgate Briefing, JSA,

0920 Start Track log at FFMR. 1510

0930 Arrived Wansboro Battery for Gas chamber visual

wp#33 pic #1, No evidence of actual gas chamber

0955 Visual inspection of transition Range 1 wp# 34 pic #2 15:

No Surface MEC encountered.

1015 Visual inspection of Rifle Range wp# 35 pic # 3 15

1030 Northern Tip of visual on Rifle Range wp# 36 pic 4

1050 Visual inspection of Grattan Battery, No 155

Evidence of Surface MEC/MC wp#37 pic 5

1130 Visual of Rawlins Battery wp# 38 pic 6 180

No Evidence of MEC/MC

1135 Visual of Wilhelm Battery wp # 39 pic 7

No Evidence of MEC/MC

1140 Visual of Revere Battery wp# 40 pic 8

No Evidence of MEC/MC

1145 Visual of Lee Battery wp# 41 pic 9

No Evidence of MEC/MC

1200 Rechecked Quartermasters wharf for Slag during low tide, found metal debree with concrete attached

Not slag!

1205 Stop Track log Departing Site to Mail Samples

← Cont

1425 Start Track Log - back on site

1435 Visual of Bankhead Battery wp# 42 pic #10
No evidence of MEC/MC

1510 Completed Visual of Demolition Area, wp # 43 pic 11
Grassy area, No surface debree of any
type, NO MEC/MC

1530 Arrived Battery Calwell, wp # 44 pic #12
No evidence of MEC/MC during visual

1540 Arrived Battery Downes wp # 45 pic #13
No Evidence of MEC/MC

1555 Depart site Stop track log - Return
to hotel for GPS Reconciliation

1800 END work. Last entry

FORT FLAGLER MILITARY RESERVATION
SIMON PAYWE

02/20/07 Tuesday
0800 Arrive on site
Meet w/ USACE, USGS, WDOE, State Parks, Shaw - discuss work plan, site access
0915 Conduct tailgate safety meeting
discuss HASP also slips, trips, falls
10:15 mob to Transition Range 1 area
recon of area for evidence of transition range
heavily dense forest with grassy open area
~2' tall berm trending aprox E to W along N part of grass area, berm appears to be modern engineering
recon area around Wansboro battery
no evidence of distressed veg or MECS
10:45 mob to Live Grenade Court
Rob Irons makes magnetometer surveys
LGC not clearly defined - heavy veg
although aprox 75'x75' area of new growth fir trees surrounded by old growth cedar trees

Rob Irons finds metal debris (non-MEC)
Rob Irons unable to traverse entire area due
KS, to heavy vegetation
11:20 Traverse the (PGC) Practice Grenade Court
Rob Irons uses magnetometer
Heavy vegetation — unable to proceed in
straight traverses
No evidence of MECs
12:15 arrive at sample loc 039A019 (background
sample) had to move sample location
to ~~~20'~~ SP ~30' West of road.
Sample collected at 13:00
12:10 arrive at sample loc 039A020 — sample
NWO-039-5003 at ~~12:25~~ SP 13:25
13:30 arrive at background sample ~~A~~ 039A028
13:45 Sample NWO-039-5012
13:50 arrive at background sample loc. ~~A~~ 039A022
14:00 Collect Sample NWO-039-5005
14:10 arrive at background sample loc. ~~A~~ 039A021
14:25 Collect Sample NWO-039-5004
14:35 arrive at background sample loc. ~~A~~ 039A024
14:45 Collect Sample NWO-039-5007
15:00 arrive at background sample loc. ~~A~~ 039A027
Collect Sample NWO-39-5010 and

NWO-039-5011 Field Duplicate 07:

15:35 arrive at background sample loc 09:
039-A023

15:45 Collect sample NWO-039-5006

16:00 arrive at Ammunitions Dump 09:

Search for Ammo Dump – ~~not~~ sp 09:

No evidence of structure – heavy 09:
vegetation

Samples NWO-039-0001 and NWO-039-1001 10:
were not collected as there is no 10:
evidence of MECs in this area 10:

16:40 arrive at background ~~s~~ sp loc. 039A026 10:

16:50 Collect sample NWO-039-5009

17:00 mob to Transition Range 1 10:

investigate berm like structure along 10:
SE boundary no observable MECs 10:
appears to be berm along drainage

17:20 leave site; return to hotel

Complete daily reports

11:

11:3

left intentionally blank 11:

02/21/07 Wednesday Simon Payne

07:00 prep for today's field work

09:00 arrive on site; perform tailgate safety meeting - discuss walking through heavy vegetation

09:25 locate 039A018 - background sample

09:45 Collect samples NWO-039-5001, MS, MSD

09:50 locate ~~sample~~ SP 039A013 soil sample location in Live Grenade Court

10:05 Collect Sample NWO-039-0010

10:15 locate 039A017 - Quartermaster's Wharf

10:25 Collect Sample NWO-039-0013

10:35 Mob to Transition Range 1
locate 039A003, 4, 5

10:45 Collect Sample NWO-039-1002

10:50 Collect Sample NWO-039-0003

10:55 Collect Sample NWO-039-0002
examine TR 1 for target area berm
R Irons could not find any evidence.
area covered in dense vegetation

11:25 Mob to Rifle Range; ~~se~~ SP locate 039A014, 15, 16 along and below target berm

11:30 Collect Sample NWO-039-1006 (Sediment)

11:40 Collect Sample NWO-039-0011 on top of target berm

11:45 Collect sample NW0-039-0012 along target berm

12:00 take lunch; prep samples; dispose of waste

13:00 arrive at rifle Grenade / Anti tank area

locate ~~pt.~~ sp 039A011

R. Irons perform visual inspection for MECs

R. Irons perform survey w/ magnetometer

clears area around 039A011

13:15 Collect samples NW0-039-0008, 9 (Field Duplicate)

R. Irons continues magnetometer survey while remaining in view

Dense forest vegetation prevents straight line transects

wire/cable debris observed along survey at surface, Minor subsurface anomalies

No evidence of MECs

13:35 arrive at loc 039A010

13:40 Collect sample NW0-039-0007

13:50 arrive at loc. 039A009 and 039A012

14:00 Collect sample NW0-039-0006

14:05 Collect sample NW0-039-1005

14:45 arrive at loc 039A025 background sample
14:50 collect sample NWO-039-5008
15:00 arrive at loc 039A029
15:10 collect sample NWO-039-5013
15:35 arrive at Transition Range 2
R. Irons conducts visual recon to locate 039A006, 7, 8
visual recon in very dense forest; difficult to see acual ground
16:00 collect sample NWO-039-0005
16:05 vegetation less dense; visual recon shows no evidence of MECs
~~collects~~ SP collect samples NWO-039-1003, 1004
16:10 collect sample NWO-039-0004
R. Irons - no visual signs of MEC
16:20 ~~prep samples; fuel vehicle~~ leave site; fuel vehicle; prep samples
17:00 begin daily reports

left intentionally blank

02/22/07 Thursday Simon Payne

0700 reveiw work plan; phone call to D. Landon (Shaw) submit progress report; conduct Tailgate Safety Meeting — adverse weather precautions 10 4

0900 arrive on site 1045

0920 start GPS tracking log 11:0

0930 arrive at Battery Wansboro / Gas Chamber for visual survey

no evidence of actual location of Gas chamber 11:4

visual inspection of BW / GC reveals no MECS

0945 traverse Eastern boundary of Transition Range 1 for visual survey 12:0

Way Pt. 34 (Rob Irons) ; photo (09:55)

No visual evidence of MEC along this traverse

Eastern area of TR1 is forested although slightly less dense than the Weston area

1015 Mob to rifle range conduct N-S visual survey for surface MEC; R. Irons collects GPS points and photos 12:10

visual survey shows no indication of surface 14:

MECs

10 40 visual inspect area south of Rifle Range Firing line; R. Irons finds no evidence of MECs

1045 mob to Battery Bratton; visual inspect reveals no evidence of surface MECs

11:00 ~~11:30~~ mob to Battery Rawlings / Wilhelm / Revere perform visual survey for mechs; R. Irons finds no evidence of MECs along surface

11:45 Mob to Battery Lee - perform visual survey for MEC - none observed along surface

12:00 Mob to Quartermaster's Wharf area during low tide to look for slag deposit as described by WDOE; lower tide revealed scattered concrete encased metal debris in same area as soil sample was collected on 02/20/07. Deem soil sample NWO-039-013 sufficient for purposes of investigation and sample location request made by WDOE

12:10 leave site for Pt. Townsend in order to ship soil and sed samples for laboratory analysis

14:10 arrive back on site

1425 arrive at Battery Bankhead; perform visual survey; visual recon reveals no evidence of MECs along ground surface

1440 arrive at Demolition area; walk along beach boundary - look for confirmation that Demo Area has been backfilled and visually survey for MECs

R. Irons and I agree that the Demo area looks likely to have been filled and engineered so that now it is flat and less humocky than the surrounding areas. ~~e~~ sp

No evidence of MECs along surface

1530 arrive at Battery Calwell; perform visual survey for MECs

No visual evidence of MECs along surface

1540 arrive at Battery Downes; visual survey for MECs - no evidence

1600 leave site; return to hotel to complete daily reports

Shaw® Shaw Environmental, Inc.
Report No.: 01
P

USACE PROJECT MANAGER:
Mike Watson
PROJECT NUMBER: **116188.39**
CTO/WAD NO.: NA
CONTRACT NO.: **W912DY-04-D-0010**

Site Inspections at Multiple Sites, NWO Region
Formerly Used Defense Sites — Ft. Flagler MR

DAY OF THE WEEK

S	M	T	W	TH	F	S
		X				

February 20, 2007

WEATHER CONDITIONS

WEATHER	40 – 55F, light wind, mostly cloudy	
TEMP: F	am: 40 pm: 55	
WIND	Slight Breeze	Report No.: 1
HUMIDITY	Low	

1. Contract/Subcontractor Personnel and Areas of Responsibility:

Number	Trade	Hours	Employer	Location & Description of Work
1	Site Supervisor	11	Shaw Environmental, Inc	Fort Flagler Military Reservation Soil Sampling.
1	UXO Tech II	11	Shaw Environmental, Inc	Fort Flagler Military Reservation UXO Site Clearance.
1	Technical Lead	11	Shaw Environmental, Inc.	Fort Flagler Military Reservation Project Oversight

2. Operating Plant or Equipment (Not hand tools):

Plant / Equipment	Subcontractor Equipment? (Y / N)	Date of Arr. / Dep.	Date of Safety Check	Hours Used[a]	Hours Idle[a]	Hours Repair[a]
SUV	N –Rental (Avis)	Arr. 02/20/07 Dep.	02/20/07	10	14	0

[a] Total hours used, idle, and repair is based upon 24 hour day.
Hours based upon 12 hour day.

3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number.

Activities Conducted

Activities Conducted
0745: Mob to FFMR. **0800:** Meeting with reps from WA State Parks (Don Ross, Bob Brown), WDOE (Greg Johnson), USACE (Mike Nelson), USGS (Jake Gregg, Kyle Sato), and Shaw: Dale Landon, Robert Irons, and Simon Payne. Discuss work plan and site access. **Tailgate Safety Meeting.** **1015:** Mob to Transition Range 1. Performs visual site recon to verify conceptual site model. Area consists primarily of heavy forested vegetation with a grassy area toward the north end of TR 1, north of grass area is an approximately 2' tall berm trending east-west. South of berm is a mowed grassy area that has appears to be used as a picnic area for park. Further south in a sewage treatment lagoon. No evidence of use as a transition range. No evidence of MEC. Perform visual site recon. around Battery Wansboro. **1045:** Mob to Live Grenade Court, LGC not clearly defined and heavily vegetated with forest. A 75' by 75' area of new growth fir trees surrounded by old growth cedar trees in the area. Rob Irons performs several magnetometer surveys although is not able to traverse entire area due to heavy vegetation. Rob Irons finds non-MEC metal debris (wire). No direct evidence of grenade court **1120:** Traverse the Practice Grenade Court, Rob Irons uses magnetometer. Area is covered in dense forest and underbrush, Rob Irons cannot traverse area in straight transects. No evidence of MEC. **1245:** Arrive at location 039A019 moved sample location 30' west of road to avoid possible impacts from human activitiy. **1300:** Collect background sample NWO-039-5002. **1310:** Arrive at location 039A020 **1325:** Collect background sample NWO-039-5003. **1330:** Arrive at location 039A028 **1345:** Collect background sample NWO-039-5012 **1350:** Arrive at location 039A022 **1400:** Collect background sample NWO-039-5005. **1410:** Arrive at location 039A021 **1425:** Collect background sample NWO-039-5004. **1435:** Arrive at location 039A024. **1445:** Collect background sample NWO-039-5007. **1500:** Arrive at location 039A027; collect background sample NWO-039-5010 and NWO-39-5011 (field duplicate). **1535:** Arrive at location 039A23. **1545:** Collect background sample NWO-039-5006. **1600:** Arrive at Ammunition Bunker, no evidence of the structure, dense forest and underbrush. Optional soil and sediment samples NWO-039-0001 and NWO-039-1001 were not collected as there is no evidence of Ammo Bunker and any associated MEC. **1640:** Arrive at location 039A026. **1650:** Collect background sample NWO-039-5009. **1700:** Mob to Transition Range 1, visually investigate berm-like structure along SE boundary on TR1. No observable MEC, appears to be berm alongside a drainage ditch and associated with ditch. **1720:** Leave work site; return to hotel to complete daily reports (eat dinner – 2 hours). **2030: End shift.**

4. Control Activities Performed: (Specify feature of work/NAS number and indicate whether P for Preparatory, I for Initial, or F for Follow-up Phase. For Preparatory Inspections: Identify feature of work and attach completed checklist, list RFIs issued and responses. For Initial Inspections: Identify feature of work and attach completed checklist. For Follow-up Inspections: List inspection milestones reached (hold/witness points), inspections performed, results of inspection compared to specification requirements, CARs issued/closed, and corrective actions taken.)

None

5. Tests Performed and Test Results: (Identify test requirements by paragraph number in specifications and/or sheet number in plans).

None

6. Material Received: (Note inspection results and storage provided).

None

7. Submittals Reviewed:

Submittal No.	Spec/Plan Reference	By Whom	Action
NA			

8. Off-site Surveillance Activities, including Action Taken:

None

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

Tailgate Safety Meeting @ 0915.

10. Remarks: (Instructions received or given. Conflict(s) in plans and/or specifications. Delays encountered).

- No evidence of Ammunition Bunker, no structure located or MEC in area; optional samples NWO-039-0001 and NWO-039-1001 not collected.

11. List of Attachments: (List all attachments to this report, include date and reference number where applicable. Attachments are to include copies of inspection checklists, test reports, data reports, and field measurement/calculation sheets.)

Daily Health and Safety Report
Sample Collection Logs for samples:
NWO-039-5002
NWO-039-5003
NWO-039-5012
NWO-039-5005
NWO-039-5004
NWO-039-5007
NWO-039-5006
NWO-039-5009
NOW-039-5010 & NWO-039-5011
Boring Logs for Locations:
039A019
039A020
039A028
039A022
039A021
039A024
039A027
039A023
039A026
Tailgate Safety Meeting Log

Contractor's Verification: On behalf of Shaw Environmental, Inc., I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as may be noted above.

Dale Landon	2/22/07
CQC Representative	Date

Shaw® Shaw Environmental, Inc.
Report No.: 02
P

USACE PROJECT MANAGER:
Mike Watson
PROJECT NUMBER: **116188.39**
CTO/WAD NO.: NA
CONTRACT NO.: **W912DY-04-D-0010**

Site Inspections at Multiple Sites, NWO Region
Formerly Used Defense Sites — Ft. Flagler MR

DAY OF THE WEEK

S	M	T	W	TH	F	S
			X			

February 21 2007

WEATHER CONDITIONS

WEATHER	40 – 55F, light wind, mostly cloudy	
TEMP: F	am: 40 pm: 55	
WIND	Moderate Breeze	Report No.: 2
HUMIDITY	Low	

1. Contract/Subcontractor Personnel and Areas of Responsibility:

Number	Trade	Hours	Employer	Location & Description of Work
1	Site Supervisor	11	Shaw Environmental, Inc	Fort Flagler Military Reservation Soil Sampling.
1	UXO Tech II	11	Shaw Environmental, Inc	Fort Flagler Military Reservation UXO Site Clearance.

2. Operating Plant or Equipment (Not hand tools):

Plant / Equipment	Subcontractor Equipment? (Y / N)	Date of Arr. / Dep.	Date of Safety Check	Hours Used[a]	Hours Idle[a]	Hours Repair[a]
SUV	N –Rental (Avis)	Arr. 02/20/07 Dep.	02/20/07	9	14	0

[a] Total hours used, idle, and repair is based upon 24 hour day.
Hours based upon 12 hour day.

3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number.

Activities Conducted

Activities Conducted
0700: Prepare sampling jars and routes for work day. **0900:** Rob Irons and Simon Payne arrive on site. Tailgate Safety Meeting – discuss walking/working in dense vegetation**.** **0925:** Arrive at location 039A018 **0945:** Collect background sample NWO-039-018 and MS/MSD. **0950:** Mob to Live Grenade Court and locate soil sample 039A013. **1005:** Collect sample NWO-039-0010. **1015:** Mob to the Quartermaster's Wharf, visually investigate beach area around the QW, look for slag pile as identified by WDOE, cannot locate. Locate 039A017. **1025:** Collect soil sample NWO-039-0013 at location 039A017. **1035:** Mob to Transition Range 1, locate 039A003, 039A004, 039A005 **1045:** Collect sample NWO-039-1002 **1050:** Collect sample NWO-039-0003 **1055:** Collect sample NWO-039-0002. Examine TR1 for target area berm. Rob Irons could not find any evidence, area predominately covered in dense forest. **1125:** Mob to Rifle Range, locate 039A014, 039A015, 039A016 along and below target berm. **1130:** Collect sediment sample NWO-039-1006 **1140:** Collect soil sample NWO-039-0011 on top of target berm **1145:** Collect soil sample NWO-039-0012 along target berm. **1200:** Take lunch, prep samples collected, appropriately dispose of waste. **1300:** Arrive at Rifle Grenade/Anti-Tank Rocket area, Rob Irons performs visual inspection for MECs and performs magnetometer survey to clear location around 039A011. No evidence of MECs. **1315:** Collect soil sample NWO-039-0008 and NWO-039-0009 (field duplicate). Rob Irons continues magnetometer survey performing transects throughout the area. Rob Irons is unable to traverse in a straight line due to the dense forest and underbrush. Wire/cable debris was observed at the surface along with minor subsurface anomalies. Rob Irons finds no evidence of MECs. **1335:** Arrive at location 039A010. **1340:** Collect soil sample NWO-039-0007. **1350:** Arrive at location 039A009 and 039A012 **1400:** Collect soil sample NWO-039-0006. **1405:** Collect sediment sample NWO-039-1005. **1445:** Arrive at location 039A025. **1500:** Collect background sample NWO-039-5008. **1445:** Arrive at location 039A029. **1500:** Collect background sample NWO-039-5013. **1535:** Mob to Transition Range 2, Rob Irons performs visually recon to locate 039A006, 038A007, and 038A008. Visual survey transects are difficult to perform to the dense vegetation and underbrush. In much of this area it difficult to see the ground as its is covered in thick brush and fallen trees. Visual survey does not indicate the presence of MECs. **1600:** Collect soil sample NWO-039-0005. **1605:** Vegetation less dense in this area, although no evidence of MECs, collect sediment sample NWO-039-1003 and field duplicate NWO-039-1004. **1610:** Collect soil sample NWO-039-0004. No visual evidence of MECs **1620:** Leave work site; prep samples; fuel vehicle. **1700:** Begin daily reports **1930: End shift.**

Activities Conducted

4. Control Activities Performed: (Specify feature of work/NAS number and indicate whether P for Preparatory, I for Initial, or F for Follow-up Phase. For Preparatory Inspections: Identify feature of work and attach completed checklist, list RFIs issued and responses. For Initial Inspections: Identify feature of work and attach completed checklist. For Follow-up Inspections: List inspection milestones reached (hold/witness points), inspections performed, results of inspection compared to specification requirements, CARs issued/closed, and corrective actions taken.)

None

5. Tests Performed and Test Results: (Identify test requirements by paragraph number in specifications and/or sheet number in plans).

None

6. Material Received: (Note inspection results and storage provided).

None

7. Submittals Reviewed:

Submittal No.	Spec/Plan Reference	By Whom	Action
NA			

8. Off-site Surveillance Activities, including Action Taken:

None

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

Tailgate Safety Meeting @ 0915.

10. Remarks: (Instructions received or given. Conflict(s) in plans and/or specifications. Delays encountered).

- Metal slag pile identified by the WDOE was not observed along the beach area surrounding the Quartermaster's Wharf, a soil sample was taken in the approximate vicinity.

11. List of Attachments: (List all attachments to this report, include date and reference number where applicable. Attachments are to include copies of inspection checklists, test reports, data reports, and field measurement/calculation sheets.)

Daily Health and Safety Report
Sample Collection Logs for samples:
NWO-039-5001, MS/MSD
NWO-039-0010
NWO-039-0013
NWO-039-1002
NWO-039-0003
NWO-039-0002
NWO-039-1006
NWO-039-0011
NWO-039-0012
NWO-039-0008 & NWO-039-0009 (field duplicate)
NWO-039-0007
NWO-039-0006
NWO-039-1005
NWO-039-5008
NWO-039-5013
NWO-039-0005
NWO-039-1003 & NWO-039-1004 (field duplicate)
NWO-039-0004
Boring Logs for Locations:
039A018
039A013
039A017
039A003
039A004
039A005
039A014
039A015
039A016
039A022
039A011
039A010
039A009
039A012
039A025
039A029
039A006
039A007
039A008
Tailgate Safety Meeting Log

Contractor's Verification: On behalf of Shaw Environmental, Inc., I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as may be noted above.

Dale Landon	2/22/07
CQC Representative	Date

Shaw® Shaw Environmental, Inc.
Report No.: 03
P

USACE PROJECT MANAGER:
Mike Watson
PROJECT NUMBER: **116188.39**
CTO/WAD NO.: NA
CONTRACT NO.: **W912DY-04-D-0010**

Site Inspections at Multiple Sites, NWO Region
Formerly Used Defense Sites — Ft. Flagler MR

DAY OF THE WEEK

S	M	T	W	TH	F	S
				X		

February 22, 2007

WEATHER CONDITIONS

WEATHER	45 – 55F, light wind, mostly cloudy	
TEMP: F	am: 45 pm: 55	
WIND	Slight Breeze	Report No.: 3
HUMIDITY	Low	

1. Contract/Subcontractor Personnel and Areas of Responsibility:

Number	Trade	Hours	Employer	Location & Description of Work
1	Site Supervisor	10.5	Shaw Environmental, Inc	Fort Flagler Military Reservation Field Supervisor.
1	UXO Tech II	10.5	Shaw Environmental, Inc	Fort Flagler Military Reservation UXO Site Clearance.

2. Operating Plant or Equipment (Not hand tools):

Plant / Equipment	Subcontractor Equipment? (Y / N)	Date of Arr. / Dep.	Date of Safety Check	Hours Used[a]	Hours Idle[a]	Hours Repair[a]
SUV	N –Rental (Avis)	Arr. 02/20/07 Dep.	02/20/07	9	14	0

[a] Total hours used, idle, and repair is based upon 24 hour day.
Hours based upon 12 hour day.

3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number.

Activities Conducted

Shaw® Shaw Environmental, Inc.
Report No.: 03
P

Activities Conducted
0700: Review work plan, discuss planned activities for day. Phone call to Dale Landon for progress report. Tailgate Safety Meeting – discuss adverse weather conditions. **0900:** Rob Irons and Simon Payne arrive on site. **0920:** Start GPS tracking log. **0930:** Arrive at Battery Wansboro/Gas Chamber. Conduct visual survey of area – no evidence of MEC. No evidence of actual location of gas chamber, assume it was part of the battery complex. **0945:** Traverse eastern boundary of Transition Range 1 for visual survey. No evidence of MEC. Eastern area of TR1 slightly less dense than the western area. **1015:** Mob to Rifle Range, conduct N-S trending visual survey for MEC – no evidence of MEC. Visually inspect area south of Rifle Range firing line – no evidence of MEC. **1045:** Mob to Battery Gratton, perform visual survey of area – no evidence of MEC. **1100:** Mob to Battery Rawlings, Wilhelm, and Revere, perform visual survey of area – no evidence of MEC. **1145:** Mob to Battery Lee, perform visual survey of area – no evidence of MEC. **1200:** Mob to Quartermaster's Wharf area during low tide to take a second look for the slag deposit described by the WDOE. Low tide revealed several scattered pieces of concrete-encased metal debris. This debris was concentrated in the same area that sample NWO-039-0013 was collected. It was deemed that soil sample NWO-039-0013 is sufficient for the investigation of this area. **1210:** Leave site for Port Townsend, send collected soil and sediment samples to analytical laboratory along with associated Chain of Custody documents. **1410:** Arrive back on site. **1425:** Mob to Battery Bankhead, perform visual survey of area – no evidence of MEC. **1440:** Mob to Demolition area, walk along beach/grass field boundary. Confirm that field area is likely to have been filled in as it does not resemble the hummocky topography of the surrounded area at similar elevations. No evidence of MEC was observed during this visual survey. **1530:** Mob to Battery Calwell, perform visual survey of area – no evidence of MEC. **1540:** Mob to Battery Downes, perform visual survey of area – no evidence of MEC. **1600:** Leave site, complete field work **1630:** Begin daily reports **1730: End shift.**

4. Control Activities Performed: (Specify feature of work/NAS number and indicate whether P for Preparatory, I for Initial, or F for Follow-up Phase. For <u>Preparatory</u> Inspections: Identify feature of work and attach completed checklist, list RFIs issued and responses. For <u>Initial</u> Inspections: Identify feature of work and attach completed checklist. For <u>Follow-up</u> Inspections: List inspection milestones reached (hold/witness points), inspections performed, results of inspection compared to specification requirements, CARs issued/closed, and corrective actions taken.)

None

Shaw® Shaw Environmental, Inc.
Report No.: 03
P

5. Tests Performed and Test Results: (Identify test requirements by paragraph number in specifications and/or sheet number in plans).

None

6. Material Received: (Note inspection results and storage provided).

None

7. Submittals Reviewed:

Submittal No.	Spec/Plan Reference	By Whom	Action
NA			

8. Off-site Surveillance Activities, including Action Taken:

None

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

Tailgate Safety Meeting @ 0715.

10. Remarks: (Instructions received or given. Conflict(s) in plans and/or specifications. Delays encountered).

- A second attempt to locate the metal slag deposit described by WDOE at lowest tide revealed several scattered pieces of concrete encased metal debris. This debris was in the same vicinity as the soil sample NWO-039-0013 and therefore deemed an acceptable location for a sample.
- A slight delay was encountered while trying to locate the Fed-Ex office to mail out the soil samples.

11. List of Attachments: (List all attachments to this report, include date and reference number where applicable. Attachments are to include copies of inspection checklists, test reports, data reports, and field measurement/calculation sheets.)

Daily Health and Safety Report
Tailgate Safety Meeting Log
Chain of Custody NWO039-001, NWO039-002, and NWO039-003

Shaw® Shaw Environmental, Inc.
Report No.: 03
P

Contractor's Verification: On behalf of Shaw Environmental, Inc., I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as may be noted above.

Dale Landon	2/23/07
CQC Representative	Date

Shaw™ Shaw Environmental, Inc.

Boring Log

FUDS MMRP SI – NWO Region
Project No: 116188

MMRP SITE ID: 039A

LOCATION ID: 039A003

LOCATION CLASSIFICATION (Circle one): BH - Borehole SI - Surface location ____ - Other

Geohydrologic Flow Classification (Circle one): NA = Upgradient D = Downgradient C = Crossgradient

LOCATION CLASSIFICATION (Circle one): I = Inside or O = Outside - Base Boundaries

LOCATION PROXIMITY (Circle one): I = Inside Site Boundary O = Outside Site Boundary

ELEVATION: 70'

NORTH COORDINATE: N 4805.604

EAST COORDINATE: W 12241.705

ESTABLISHING COMPANY: Shaw Environmental, Inc.

DRILLING COMPANY: NA

CONSTRUCTION METHOD (Circle one): HA - hand augered DT - driven tube (direct push) NA - not applicable

EXCAVATING COMPANY: NA

DATE ESTABLISHED: 02/21/07 (Date finished)

DEPTH: ~~0.50~~ feet (XXXX.XX in Feet)

BORING HOLE DIAMETER: ~~1.00~~ feet (XX.XX in In.)

LOCATION DESCRIPTION:

Transition Range 1

Prepared by: S. Payne **Reviewed by:** RDL 2/26/07

Shaw™ Shaw Environmental, Inc.

Boring Log

FUDS MMRP SI – NWO Region
Project No: 116188

MMRP SITE ID: 039A

LOCATION ID: 039A004

LOCATION CLASSIFICATION (Circle one): BH - Borehole (SL) - Surface location ____ - Other

Geohydrologic Flow Classification (Circle one): NA U = Upgradient D = Downgradient C = Crossgradient

LOCATION CLASSIFICATION (Circle one): (I) = Inside or O = Outside - Base Boundaries

LOCATION PROXIMITY (Circle one): (I) = Inside Site Boundary O = Outside Site Boundary

ELEVATION: 61'

NORTH COORDINATE: N 4805.589

EAST COORDINATE: W 12241.691

ESTABLISHING COMPANY: Shaw Environmental, Inc.

DRILLING COMPANY: NA

CONSTRUCTION METHOD (Circle one): HA - hand augered DT - driven tube (direct push) (NA) - not applicable

EXCAVATING COMPANY: NA

DATE ESTABLISHED: 02/21/07 (Date finished)

DEPTH: ~~0.500~~ (XXXX.XX in Feet)

BORING HOLE DIAMETER: ~~1.00~~ (XX.XX in In.)

LOCATION DESCRIPTION:

Transition Range 1

Prepared by: S. Payne **Reviewed by:** 2/26/07

Shaw™ Shaw Environmental, Inc.

Boring Log

FUDS MMRP SI – NWO Region
Project No: 116188

MMRP SITE ID: 039A

LOCATION ID: 039A005

LOCATION CLASSIFICATION (Circle one): BH - Borehole (SL) - Surface location ____ - Other

Geohydrologic Flow Classification (Circle one): NA U = Upgradient D = Downgradient C = Crossgradient

LOCATION CLASSIFICATION (Circle one): (I) = Inside or O = Outside - Base Boundaries

LOCATION PROXIMITY (Circle one): (I) = Inside Site Boundary O = Outside Site Boundary

ELEVATION: 56'

NORTH COORDINATE: N 4805.580

EAST COORDINATE: W 12241.654

ESTABLISHING COMPANY: Shaw Environmental, Inc.

DRILLING COMPANY: NA

CONSTRUCTION METHOD (Circle one): HA - hand augered DT - driven tube (direct push) (NA) - not applicable

EXCAVATING COMPANY: NA

DATE ESTABLISHED: 02/21/07 (Date finished)

DEPTH: ~~0.50~~ Rd (XXXX.XX in Feet)

BORING HOLE DIAMETER: ~~1.00~~ Rd (XX.XX in In.)

LOCATION DESCRIPTION:

Transition Range 1

Prepared by: S. Payne **Reviewed by:** RDL 2/26/07

Shaw™ Shaw Environmental, Inc.

Boring Log

FUDS MMRP SI – NWO Region
Project No: 116188

MMRP SITE ID: 039A

LOCATION ID: 039A006

LOCATION CLASSIFICATION (Circle one): BH - Borehole SL - Surface location ____ - Other

Geohydrologic Flow Classification (Circle one): NA U = Upgradient D = Downgradient C = Crossgradient

LOCATION CLASSIFICATION (Circle one): I = Inside or O = Outside - Base Boundaries

LOCATION PROXIMITY (Circle one): I = Inside Site Boundary O = Outside Site Boundary

ELEVATION: 116'

NORTH COORDINATE: N4805.233

EAST COORDINATE: W12242.004

ESTABLISHING COMPANY: Shaw Environmental, Inc.

DRILLING COMPANY: NA

CONSTRUCTION METHOD (Circle one): HA - hand augered DT - driven tube (direct push) NA - not applicable

EXCAVATING COMPANY: NA

DATE ESTABLISHED: 02/21/07 (Date finished)

DEPTH: ~~0.50~~ NA (XXXX.XX in Feet)

BORING HOLE DIAMETER: ~~1.00~~ NA (XX.XX in In.)

LOCATION DESCRIPTION:

Transition Range 2

Prepared by: S. Payne **Reviewed by:** [illegible] 2/26/07

Shaw™ Shaw Environmental, Inc.

Boring Log

FUDS MMRP SI – NWO Region
Project No: 116188

MMRP SITE ID: 039A

LOCATION ID: 039A007

LOCATION CLASSIFICATION (Circle one): BH - Borehole SL - Surface location ____ - Other

Geohydrologic Flow Classification (Circle one): NA U = Upgradient D = Downgradient C = Crossgradient

LOCATION CLASSIFICATION (Circle one): I = Inside or O = Outside - Base Boundaries

LOCATION PROXIMITY (Circle one): I = Inside Site Boundary O = Outside Site Boundary

ELEVATION: 127'

NORTH COORDINATE: N 4805.207

EAST COORDINATE: W 12242.026

ESTABLISHING COMPANY: Shaw Environmental, Inc.

DRILLING COMPANY: NA

CONSTRUCTION METHOD (Circle one): HA - hand augered DT - driven tube (direct push) NA - not applicable

EXCAVATING COMPANY: NA

DATE ESTABLISHED: 02/21/07 (Date finished)

DEPTH: ~~0.50~~ bgl (XXXX.XX in Feet)

BORING HOLE DIAMETER: ~~1.00~~ bgl (XX.XX in In.)

LOCATION DESCRIPTION:

Transition Range 2

Prepared by: S. Payne **Reviewed by:** RA 2/26/07

Shaw™ Shaw Environmental, Inc.

Boring Log

FUDS MMRP SI – NWO Region
Project No: 116188

MMRP SITE ID: 039A

LOCATION ID: 039A 008

LOCATION CLASSIFICATION (Circle one): BH - Borehole (SL) Surface location ____ - Other

Geohydrologic Flow Classification (Circle one): NA U = Upgradient D = Downgradient C = Crossgradient

LOCATION CLASSIFICATION (Circle one): (I) = Inside or O = Outside - Base Boundaries

LOCATION PROXIMITY (Circle one): (I) = Inside Site Boundary O = Outside Site Boundary

ELEVATION: 124'

NORTH COORDINATE: N4805.202

EAST COORDINATE: W12242.011

ESTABLISHING COMPANY: Shaw Environmental, Inc.

DRILLING COMPANY: NA

CONSTRUCTION METHOD (Circle one): HA - hand augered DT - driven tube (direct push) (NA) - not applicable

EXCAVATING COMPANY: NA

DATE ESTABLISHED: 02/21/07 (Date finished)

DEPTH: 0.50 (XXXX.XX in Feet)

BORING HOLE DIAMETER: ~~1.00~~ (XX.XX in In.)

LOCATION DESCRIPTION:

Transition Range 2

Prepared by: S. Payne **Reviewed by:** 2/26/07

Shaw™ Shaw Environmental, Inc.

Boring Log

FUDS MMRP SI – NWO Region
Project No: 116188

MMRP SITE ID: 039A

LOCATION ID: 039A009

LOCATION CLASSIFICATION (Circle one): BH - Borehole SL - Surface location ____ - Other

Geohydrologic Flow Classification (Circle one): NA U = Upgradient D = Downgradient C = Crossgradient

LOCATION CLASSIFICATION (Circle one): I = Inside or O = Outside - Base Boundaries

LOCATION PROXIMITY (Circle one): I = Inside Site Boundary O = Outside Site Boundary

ELEVATION: 29'

NORTH COORDINATE: N4805.825

EAST COORDINATE: W12243.062

ESTABLISHING COMPANY: Shaw Environmental, Inc.

DRILLING COMPANY: NA

CONSTRUCTION METHOD (Circle one): HA - hand augered DT - driven tube (direct push) NA - not applicable

EXCAVATING COMPANY: NA

DATE ESTABLISHED: 02/21/07 (Date finished)

DEPTH: ~~0.58~~ 100 (XXXX.XX in Feet)

BORING HOLE DIAMETER: ~~1.00~~ 100 (XX.XX in In.)

LOCATION DESCRIPTION:

Rifle Grenade / Anti-Tank Rocket Range

Prepared by: S. Payne **Reviewed by:** [illegible] 2/26/07

Shaw™ Shaw Environmental, Inc.

Boring Log

FUDS MMRP SI – NWO Region
Project No: 116188

MMRP SITE ID: 039A

LOCATION ID: 039A010

LOCATION CLASSIFICATION (Circle one): BH - Borehole (SL) - Surface location ____ - Other

Geohydrologic Flow Classification (Circle one): NA U = Upgradient D = Downgradient C = Crossgradient

LOCATION CLASSIFICATION (Circle one): (I) = Inside or O = Outside - Base Boundaries

LOCATION PROXIMITY (Circle one): (I) = Inside Site Boundary O = Outside Site Boundary

ELEVATION: 74'

NORTH COORDINATE: N 4805.843

EAST COORDINATE: W 12242.955

ESTABLISHING COMPANY: Shaw Environmental, Inc.

DRILLING COMPANY: NA

CONSTRUCTION METHOD (Circle one): HA - hand augered DT - driven tube (direct push) (NA) - not applicable

EXCAVATING COMPANY: NA

DATE ESTABLISHED: 02/21/07 (Date finished)

DEPTH: ~~0.50~~ (XXXX.XX in Feet)

BORING HOLE DIAMETER: ~~1.00~~ (XX.XX in In.)

LOCATION DESCRIPTION:

Rifle Grenade / Anti-Tank Rocket Range

Prepared by: S. Payne **Reviewed by:** 2/26/07

Shaw™ Shaw Environmental, Inc.

Boring Log

FUDS MMRP SI – NWO Region
Project No: 116188

MMRP SITE ID: 039A

LOCATION ID: 039A011

LOCATION CLASSIFICATION (Circle one): BH - Borehole (SL) - Surface location ____ - Other

Geohydrologic Flow Classification (Circle one): NA U = Upgradient D = Downgradient C = Crossgradient

LOCATION CLASSIFICATION (Circle one): (I) = Inside or O = Outside - Base Boundaries

LOCATION PROXIMITY (Circle one): (I) = Inside Site Boundary O = Outside Site Boundary

ELEVATION: 108'

NORTH COORDINATE: N 4805.858

EAST COORDINATE: W 12242.889

ESTABLISHING COMPANY: Shaw Environmental, Inc.

DRILLING COMPANY: NA

CONSTRUCTION METHOD (Circle one): HA - hand augered DT - driven tube (direct push) (NA) - not applicable

EXCAVATING COMPANY: NA

DATE ESTABLISHED: 02/21/07 (Date finished)

DEPTH: ~~0.50~~ ft (XXXX.XX in Feet)

BORING HOLE DIAMETER: ~~1.00~~ ft (XX.XX in In.)

LOCATION DESCRIPTION:

Rifle Grenade / Anti-Tank Rocket Range

Prepared by: S. Payne **Reviewed by:** [illegible] 2/26/07

Shaw™ Shaw Environmental, Inc.

Boring Log

FUDS MMRP SI – NWO Region
Project No: 116188

MMRP SITE ID: 039A

LOCATION ID: 039A012

LOCATION CLASSIFICATION (Circle one): BH - Borehole (SL) - Surface location ____ - Other

Geohydrologic Flow Classification (Circle one): NA U = Upgradient D = Downgradient C = Crossgradient

LOCATION CLASSIFICATION (Circle one): (I) = Inside or O = Outside - Base Boundaries

LOCATION PROXIMITY (Circle one): (I) = Inside Site Boundary O = Outside Site Boundary

ELEVATION: 24'

NORTH COORDINATE: N 4805.842

EAST COORDINATE: W 12243.088

ESTABLISHING COMPANY: Shaw Environmental, Inc.

DRILLING COMPANY: NA

CONSTRUCTION METHOD (Circle one): HA - hand augered DT - driven tube (direct push) (NA) - not applicable

EXCAVATING COMPANY: NA

DATE ESTABLISHED: 02/21/07 (Date finished)

DEPTH: ~~0.50~~ RC (XXXX.XX in Feet)

BORING HOLE DIAMETER: ~~1.00~~ RC (XX.XX in In.)

LOCATION DESCRIPTION:

Rifle Grenade / Anti-Tank Rocket Range

Prepared by: S. Payne **Reviewed by:** RC 2/26/07

Shaw™ Shaw Environmental, Inc.

Boring Log

FUDS MMRP SI – NWO Region
Project No: 116188

MMRP SITE ID: 039A

LOCATION ID: 039A013

LOCATION CLASSIFICATION (Circle one): BH - Borehole (SL) - Surface location ____ - Other

Geohydrologic Flow Classification (Circle one): NA U = Upgradient D = Downgradient C = Crossgradient

LOCATION CLASSIFICATION (Circle one): (I) = Inside or O = Outside - Base Boundaries

LOCATION PROXIMITY (Circle one): (I) = Inside Site Boundary O = Outside Site Boundary

ELEVATION: 198'

NORTH COORDINATE: N 4805.265

EAST COORDINATE: W 12241.658

ESTABLISHING COMPANY: Shaw Environmental, Inc.

DRILLING COMPANY: NA

CONSTRUCTION METHOD (Circle one): HA - hand augered DT - driven tube (direct push) (NA) - not applicable

EXCAVATING COMPANY: NA

DATE ESTABLISHED: 02/21/07 (Date finished)

DEPTH: ~~0.50~~ feet (XXXX.XX in Feet)

BORING HOLE DIAMETER: ~~1.00~~ feet (XX.XX in In.)

LOCATION DESCRIPTION:

Live Grenade Range

Prepared by: S. Payne **Reviewed by:** [illegible] 2/24/07

Shaw™ Shaw Environmental, Inc.

Boring Log

FUDS MMRP SI – NWO Region
Project No: 116188

MMRP SITE ID: 039A

LOCATION ID: 039A014

LOCATION CLASSIFICATION (Circle one): BH - Borehole (SL) - Surface location ____ - Other

Geohydrologic Flow Classification (Circle one): NA U = Upgradient D = Downgradient C = Crossgradient

LOCATION CLASSIFICATION (Circle one): (I) = Inside or O = Outside - Base Boundaries

LOCATION PROXIMITY (Circle one): (I) = Inside Site Boundary O = Outside Site Boundary

ELEVATION: 13'

NORTH COORDINATE: N 4806.093

EAST COORDINATE: W 12241.449

ESTABLISHING COMPANY: Shaw Environmental, Inc.

DRILLING COMPANY: NA

CONSTRUCTION METHOD (Circle one): HA - hand augered DT - driven tube (direct push) (NA) - not applicable

EXCAVATING COMPANY: NA

DATE ESTABLISHED: 02/21/07 (Date finished)

DEPTH: ~~0.50~~ 1.00 (XXXX.XX in Feet)

BORING HOLE DIAMETER: ~~1.00~~ (XX.XX in In.)

LOCATION DESCRIPTION:

Rifle Range

Prepared by: S. Payne **Reviewed by:** KDL 2/26/07

Shaw™ Shaw Environmental, Inc.

Boring Log

FUDS MMRP SI – NWO Region
Project No: 116188

MMRP SITE ID: 039A

LOCATION ID: 039A015

LOCATION CLASSIFICATION (Circle one): BH - Borehole (SL) - Surface location ____ - Other

Geohydrologic Flow Classification (Circle one): NA U = Upgradient D = Downgradient C = Crossgradient

LOCATION CLASSIFICATION (Circle one): (I) = Inside or O = Outside - Base Boundaries

LOCATION PROXIMITY (Circle one): (I) = Inside Site Boundary O = Outside Site Boundary

ELEVATION: 13'

NORTH COORDINATE: N 4806.090

EAST COORDINATE: W 12241.460

ESTABLISHING COMPANY: Shaw Environmental, Inc.

DRILLING COMPANY: NA

CONSTRUCTION METHOD (Circle one): HA - hand augered DT - driven tube (direct push) NA - not applicable

EXCAVATING COMPANY: NA

DATE ESTABLISHED: 02/21/07 (Date finished)

DEPTH: ~~0.50~~ na (XXXX.XX in Feet)

BORING HOLE DIAMETER: ~~1.00~~ na (XX.XX in In.)

LOCATION DESCRIPTION:

Rifle Range

Prepared by: S. Payne **Reviewed by:** [illegible] 2/26/07

Shaw™ Shaw Environmental, Inc.

Boring Log

FUDS MMRP SI – NWO Region
Project No: 116188

MMRP SITE ID: 039A

LOCATION ID: 039A016

LOCATION CLASSIFICATION (Circle one): BH - Borehole (SI) - Surface location ____ - Other

Geohydrologic Flow Classification (Circle one): NA U = Upgradient D = Downgradient C = Crossgradient

LOCATION CLASSIFICATION (Circle one): (I) = Inside or O = Outside - Base Boundaries

LOCATION PROXIMITY (Circle one): (I) = Inside Site Boundary O = Outside Site Boundary

ELEVATION: 0'

NORTH COORDINATE: N 4806.087

EAST COORDINATE: W 12241.453

ESTABLISHING COMPANY: Shaw Environmental, Inc.

DRILLING COMPANY: NA

CONSTRUCTION METHOD (Circle one): HA - hand augered DT - driven tube (direct push) (NA) - not applicable

EXCAVATING COMPANY: NA

DATE ESTABLISHED: 02/21/07 (Date finished)

DEPTH: ~~0.50~~ Rel (XXXX.XX in Feet)

BORING HOLE DIAMETER: ~~1.00~~ Rel (XX.XX in In.)

LOCATION DESCRIPTION:

Rifle Range

Prepared by: S. Payne **Reviewed by:** RDL 2/26/07

Shaw™ Shaw Environmental, Inc.

Boring Log

FUDS MMRP SI – NWO Region
Project No: 116188

MMRP SITE ID: 039A

LOCATION ID: 039A017

LOCATION CLASSIFICATION (Circle one): BH - Borehole SL - Surface location ____ - Other

Geohydrologic Flow Classification (Circle one): NA U = Upgradient D = Downgradient C = Crossgradient

LOCATION CLASSIFICATION (Circle one): I = Inside or O = Outside - Base Boundaries

LOCATION PROXIMITY (Circle one): I = Inside Site Boundary O = Outside Site Boundary

ELEVATION: 24'

NORTH COORDINATE: N 4805.453

EAST COORDINATE: W 12241.547

ESTABLISHING COMPANY: Shaw Environmental, Inc.

DRILLING COMPANY: NA

CONSTRUCTION METHOD (Circle one): HA - hand augered DT - driven tube (direct push) NA - not applicable

EXCAVATING COMPANY: NA

DATE ESTABLISHED: 02/21/07 (Date finished)

DEPTH: ~~0.50~~ ft (XXXX.XX in Feet)

BORING HOLE DIAMETER: ~~1.00~~ ft (XX.XX in In.)

LOCATION DESCRIPTION:

Quartermaster's Wharf

Prepared by: S. Payne **Reviewed by:** RA 2/26/07

Shaw™ Shaw Environmental, Inc.

Boring Log

FUDS MMRP SI – NWO Region
Project No: 116188

MMRP SITE ID: 039A

LOCATION ID: 039A018

LOCATION CLASSIFICATION (Circle one): BH - Borehole (SL) - Surface location ____ - Other

Geohydrologic Flow Classification (Circle one): NA U = Upgradient D = Downgradient C = Crossgradient

LOCATION CLASSIFICATION (Circle one): (I) = Inside or O = Outside - Base Boundaries

LOCATION PROXIMITY (Circle one): (I) = Inside Site Boundary O = Outside Site Boundary

ELEVATION: 189'

NORTH COORDINATE: N 4805.174

EAST COORDINATE: W 12241.845

ESTABLISHING COMPANY: Shaw Environmental, Inc.

DRILLING COMPANY: NA

CONSTRUCTION METHOD (Circle one): HA - hand augered DT - driven tube (direct push) (NA) - not applicable

EXCAVATING COMPANY: NA

DATE ESTABLISHED: 02/21/07 (Date finished)

DEPTH: ~~0.50~~ ft (XXXX.XX in Feet)

BORING HOLE DIAMETER: ~~1.00~~ ft (XX.XX in In.)

LOCATION DESCRIPTION:
Ft. Flagler, along roadside
location 039A018

Prepared by: S. Payne **Reviewed by:** [illegible] 2/26/07

Shaw™ Shaw Environmental, Inc.

Boring Log

FUDS MMRP SI – NWO Region
Project No: 116188

MMRP SITE ID: 039A

LOCATION ID: ~~NWO-039-5002~~ SP 039A019

LOCATION CLASSIFICATION (Circle one): BH - Borehole (SL) - Surface location ____ - Other

Geohydrologic Flow Classification (Circle one): U = Upgradient D = Downgradient C = Crossgradient NA

LOCATION CLASSIFICATION (Circle one): (I) = Inside or O = Outside - Base Boundaries

LOCATION PROXIMITY (Circle one): (I) = Inside Site Boundary O = Outside Site Boundary

ELEVATION: 118'

NORTH COORDINATE: N 4805.331

EAST COORDINATE: W 12242.076

ESTABLISHING COMPANY: Shaw Environmental, Inc.

DRILLING COMPANY: NA

CONSTRUCTION METHOD (Circle one): HA - hand augered DT - driven tube (direct push) (NA) - not applicable

EXCAVATING COMPANY: NA

DATE ESTABLISHED: 02/20/07 (Date finished)

DEPTH: ~~0.50~~ ft (XXXX.XX in Feet)

BORING HOLE DIAMETER: ~~1.00~~ ft (XX.XX in In.)

LOCATION DESCRIPTION:

Ft. Flagler, along roadside
location 039A019

Prepared by: S. Payne **Reviewed by:** RAK 2/26/07

Shaw™ Shaw Environmental, Inc.

Boring Log

FUDS MMRP SI – NWO Region
Project No: 116188

MMRP SITE ID: 039A

LOCATION ID: 039A020

LOCATION CLASSIFICATION (Circle one): BH - Borehole (SL) - Surface location ____ - Other

Geohydrologic Flow Classification (Circle one): U = Upgradient D = Downgradient C = Crossgradient NA

LOCATION CLASSIFICATION (Circle one): (I) = Inside or O = Outside - Base Boundaries

LOCATION PROXIMITY (Circle one): (I) = Inside Site Boundary O = Outside Site Boundary

ELEVATION: 131'

NORTH COORDINATE: N 4805,275

EAST COORDINATE: W 12242.552

ESTABLISHING COMPANY: Shaw Environmental, Inc.

DRILLING COMPANY: NA

CONSTRUCTION METHOD (Circle one): HA - hand augered DT - driven tube (direct push) (NA) - not applicable

EXCAVATING COMPANY: NA

DATE ESTABLISHED: 02/20/07 (Date finished)

DEPTH: ~~0.50~~ (XXXX.XX in Feet)

BORING HOLE DIAMETER: ~~1.00~~ (XX.XX in In.)

LOCATION DESCRIPTION:

Ft. Flagler along roadside
location 039A020

Prepared by: S. Payne **Reviewed by:** 2/26/07

Shaw™ Shaw Environmental, Inc.

Boring Log

FUDS MMRP SI – NWO Region
Project No: 116188

MMRP SITE ID: 039A

LOCATION ID: 039A021

LOCATION CLASSIFICATION (Circle one): BH - Borehole (SL) - Surface location ____ - Other

Geohydrologic Flow Classification (Circle one): NA/U = Upgradient D = Downgradient C = Crossgradient

LOCATION CLASSIFICATION (Circle one): (I) = Inside or O = Outside - Base Boundaries

LOCATION PROXIMITY (Circle one): (I) = Inside Site Boundary O = Outside Site Boundary

ELEVATION: 116'

NORTH COORDINATE: N4805.537

EAST COORDINATE: W12242.722

ESTABLISHING COMPANY: Shaw Environmental, Inc.

DRILLING COMPANY: NA

CONSTRUCTION METHOD (Circle one): HA - hand augered DT - driven tube (direct push) (NA) - not applicable

EXCAVATING COMPANY: NA

DATE ESTABLISHED: 02/20/07 (Date finished)

DEPTH: ~~0.50~~ 1.00 (XXXX.XX in Feet)

BORING HOLE DIAMETER: ~~4.00~~ 1.00 (XX.XX in In.)

LOCATION DESCRIPTION:
Ft. Flagler, along roadside
location 039A021

Prepared by: S. Payne **Reviewed by:** [illegible] 2/26/07

Shaw™ Shaw Environmental, Inc.

Boring Log

FUDS MMRP SI – NWO Region
Project No: 116188

MMRP SITE ID: 039A

LOCATION ID: 039A022

LOCATION CLASSIFICATION (Circle one): BH - Borehole (SL) - Surface location ____ - Other

Geohydrologic Flow Classification (Circle one): (NA) = Upgradient D = Downgradient C = Crossgradient

LOCATION CLASSIFICATION (Circle one): (I) = Inside or O = Outside - Base Boundaries

LOCATION PROXIMITY (Circle one): (I) = Inside Site Boundary O = Outside Site Boundary

ELEVATION: 61'

NORTH COORDINATE: N 4805.563

EAST COORDINATE: W 12243.070

ESTABLISHING COMPANY: Shaw Environmental, Inc.

DRILLING COMPANY: NA

CONSTRUCTION METHOD (Circle one): HA - hand augered DT - driven tube (direct push) (NA) - not applicable

EXCAVATING COMPANY: NA

DATE ESTABLISHED: 02/20/07 (Date finished)

DEPTH: ~~0.50~~ ft (XXXX.XX in Feet)

BORING HOLE DIAMETER: ~~1.00~~ ft (XX.XX in In.)

LOCATION DESCRIPTION:

Ft. Flagler, along roadside
location 039A022

Prepared by: S. Payne **Reviewed by:** 2/26/07

Shaw™ Shaw Environmental, Inc.

Boring Log

FUDS MMRP SI – NWO Region
Project No: 116188

MMRP SITE ID: 039A

LOCATION ID: 039A023

LOCATION CLASSIFICATION (Circle one): BH - Borehole (SL) - Surface location ____ - Other

Geohydrologic Flow Classification (Circle one): NA U = Upgradient D = Downgradient C = Crossgradient

LOCATION CLASSIFICATION (Circle one): (I) = Inside or O = Outside - Base Boundaries

LOCATION PROXIMITY (Circle one): (I) = Inside Site Boundary O = Outside Site Boundary

ELEVATION: 134'

NORTH COORDINATE: N 4805.934

EAST COORDINATE: W 12242.645

ESTABLISHING COMPANY: Shaw Environmental, Inc.

DRILLING COMPANY: NA

CONSTRUCTION METHOD (Circle one): HA - hand augered DT - driven tube (direct push) (NA) - not applicable

EXCAVATING COMPANY: NA

DATE ESTABLISHED: 02/20/07 (Date finished)

DEPTH: ~~0.50~~ ft (XXXX.XX in Feet)

BORING HOLE DIAMETER: ~~1.00~~ ft (XX.XX in In.)

LOCATION DESCRIPTION:

Ft. Flagler, along roadside
location 039A023

Prepared by: S. Payne **Reviewed by:** RDH 2/26/07

Shaw™ Shaw Environmental, Inc.

Boring Log

FUDS MMRP SI – NWO Region
Project No: 116188

MMRP SITE ID: 039A

LOCATION ID: 039A024

LOCATION CLASSIFICATION (Circle one): BH - Borehole (SL) Surface location ____ - Other

Geohydrologic Flow Classification (Circle one): NA U = Upgradient D = Downgradient C = Crossgradient

LOCATION CLASSIFICATION (Circle one): (I) = Inside or O = Outside - Base Boundaries

LOCATION PROXIMITY (Circle one): (I) = Inside Site Boundary O = Outside Site Boundary

ELEVATION: 102'

NORTH COORDINATE: N4805.670

EAST COORDINATE: W 12242.062

ESTABLISHING COMPANY: Shaw Environmental, Inc.

DRILLING COMPANY: NA

CONSTRUCTION METHOD (Circle one): HA - hand augered DT - driven tube (direct push) (NA) - not applicable

EXCAVATING COMPANY: NA

DATE ESTABLISHED: 02/20/07 (Date finished)

DEPTH: ~~0.50~~ (XXXX.XX in Feet)

BORING HOLE DIAMETER: ~~4.00~~ (XX.XX in In.)

LOCATION DESCRIPTION:

Ft. Flagler, along roadside
location 039A024

Prepared by: S. Payne **Reviewed by:** 2/26/07

Shaw™ Shaw Environmental, Inc.

Boring Log

FUDS MMRP SI – NWO Region
Project No: 116188

MMRP SITE ID: 039A

LOCATION ID: 039A025

LOCATION CLASSIFICATION (Circle one): BH - Borehole (SL) - Surface location ____ - Other

Geohydrologic Flow Classification (Circle one): NA U = Upgradient D = Downgradient C = Crossgradient

LOCATION CLASSIFICATION (Circle one): (I) = Inside or O = Outside - Base Boundaries

LOCATION PROXIMITY (Circle one): (I) = Inside Site Boundary O = Outside Site Boundary

ELEVATION: 105'

NORTH COORDINATE: N 4805.529

EAST COORDINATE: W 12241.917

ESTABLISHING COMPANY: Shaw Environmental, Inc.

DRILLING COMPANY: NA

CONSTRUCTION METHOD (Circle one): HA - hand augered DT - driven tube (direct push) (NA) - not applicable

EXCAVATING COMPANY: NA

DATE ESTABLISHED: 02/21/07 (Date finished)

DEPTH: ~~0.50~~ RCL (XXXX.XX in Feet)

BORING HOLE DIAMETER: ~~1.00~~ RCL (XX.XX in In.)

LOCATION DESCRIPTION:

Ft. Flagler, along roadside
location 039A025

Prepared by: S. Payne **Reviewed by:** RCL 2/26/07

Shaw™ Shaw Environmental, Inc.

Boring Log

FUDS MMRP SI – NWO Region
Project No: 116188

MMRP SITE ID: 039A

LOCATION ID: 039A026

LOCATION CLASSIFICATION (Circle one): BH - Borehole (SL) - Surface location ____ - Other

Geohydrologic Flow Classification (Circle one): NA U = Upgradient D = Downgradient C = Crossgradient

LOCATION CLASSIFICATION (Circle one): (I) = Inside or O = Outside - Base Boundaries

LOCATION PROXIMITY (Circle one): (I) = Inside Site Boundary O = Outside Site Boundary

ELEVATION: 80'

NORTH COORDINATE: N 4805.660

EAST COORDINATE: W 12241.874

ESTABLISHING COMPANY: Shaw Environmental, Inc.

DRILLING COMPANY: NA

CONSTRUCTION METHOD (Circle one): HA - hand augered DT - driven tube (direct push) (NA) - not applicable

EXCAVATING COMPANY: NA

DATE ESTABLISHED: 02/20/07 (Date finished)

DEPTH: ~~0.50~~ ft (XXXX.XX in Feet)

BORING HOLE DIAMETER: ~~1.00~~ ft (XX.XX in In.)

LOCATION DESCRIPTION:
Ft. Flagler, along roadside
location 039A026

Prepared by: S. Payne **Reviewed by:** [illegible] 2/26/07

Shaw™ Shaw Environmental, Inc.

Boring Log

FUDS MMRP SI – NWO Region
Project No: 116188

MMRP SITE ID: 039A

LOCATION ID: 039A027

LOCATION CLASSIFICATION (Circle one): BH - Borehole SL - Surface location ____ - Other

Geohydrologic Flow Classification (Circle one): NA U = Upgradient D = Downgradient C = Crossgradient

LOCATION CLASSIFICATION (Circle one): I = Inside or O = Outside - Base Boundaries

LOCATION PROXIMITY (Circle one): I = Inside Site Boundary O = Outside Site Boundary

ELEVATION: 91'

NORTH COORDINATE: N 4805.851

EAST COORDINATE: W 12241.891

ESTABLISHING COMPANY: Shaw Environmental, Inc.

DRILLING COMPANY: NA

CONSTRUCTION METHOD (Circle one): HA - hand augered DT - driven tube (direct push) NA - not applicable

EXCAVATING COMPANY: NA

DATE ESTABLISHED: 02/20/07 (Date finished)

DEPTH: ~~0.50~~ Rd (XXXX.XX in Feet)

BORING HOLE DIAMETER: ~~1.00~~ Rd (XX.XX in In.)

LOCATION DESCRIPTION:
Ft. Flagler, along roadside
location 039A027

Prepared by: S. Payne **Reviewed by:** [illegible] 2/26/07

Shaw™ Shaw Environmental, Inc.

Boring Log

FUDS MMRP SI – NWO Region
Project No: 116188

MMRP SITE ID: 039A

LOCATION ID: 039A028

LOCATION CLASSIFICATION (Circle one): BH - Borehole SL - Surface location ____ - Other

Geohydrologic Flow Classification (Circle one): NA U = Upgradient D = Downgradient C = Crossgradient

LOCATION CLASSIFICATION (Circle one): I = Inside or O = Outside - Base Boundaries

LOCATION PROXIMITY (Circle one): I = Inside Site Boundary O = Outside Site Boundary

ELEVATION: 58'

NORTH COORDINATE: N 4805.500

EAST COORDINATE: W 12243.001

ESTABLISHING COMPANY: Shaw Environmental, Inc.

DRILLING COMPANY: NA

CONSTRUCTION METHOD (Circle one): HA - hand augered DT - driven tube (direct push) NA - not applicable

EXCAVATING COMPANY: NA

DATE ESTABLISHED: 02/20/07 (Date finished)

DEPTH: ~~0.50~~ RL (XXXX.XX in Feet)

BORING HOLE DIAMETER: ~~4.00~~ RL (XX.XX in In.)

LOCATION DESCRIPTION:

Ft. Flagler, along roadside
location 039A028

Prepared by: S. Payne **Reviewed by:** RL 2/24/07

Shaw™ Shaw Environmental, Inc.

Boring Log

FUDS MMRP SI – NWO Region
Project No: 116188

MMRP SITE ID: 039A

LOCATION ID: 039A029

LOCATION CLASSIFICATION (Circle one): BH - Borehole SL - Surface location ____ - Other

Geohydrologic Flow Classification (Circle one): NA U = Upgradient D = Downgradient C = Crossgradient

LOCATION CLASSIFICATION (Circle one): I = Inside or O = Outside - Base Boundaries

LOCATION PROXIMITY (Circle one): I = Inside Site Boundary O = Outside Site Boundary

ELEVATION: 241'

NORTH COORDINATE: N 4805,762

EAST COORDINATE: W 12241.531

ESTABLISHING COMPANY: Shaw Environmental, Inc.

DRILLING COMPANY: NA

CONSTRUCTION METHOD (Circle one): HA - hand augered DT - driven tube (direct push) NA - not applicable

EXCAVATING COMPANY: NA

DATE ESTABLISHED: 02/21/07 (Date finished)

DEPTH: ~~0.50~~ rec (XXXX.XX in Feet)

BORING HOLE DIAMETER: ~~1.00~~ rec (XX.XX in In.)

LOCATION DESCRIPTION:

Fort Flagler, along roadside

location 039A029

Prepared by: S. Payne **Reviewed by:** [illegible] 2/26/07

Shaw™
Shaw E & I, Inc.

Sample Collection Log

116188 - FUDS SI - NWO Region

Manager: Peter Kelsall

RFA / COC Number: NWO 039 - ~~003~~ SP 002

Location Code: **039A003**

Sample Number: **NWO-039-0002**

Sample Name: **039A003-SS-NWO-039-0002-REG**

Sampling Method: **COMP**

Sample Type: **SS** *Sample Purpose:* **REG**

Sampling Equip: plastic hand scoop

QC Partners:

(TB) N/A **(ER)** N/A **(FB)** N/A

Task: **116188-39A**

Collection Date: 02/21/07

Collection Time: 10:55

Start Depth: 0'

End Depth: 0.5'

Sample Matrix: **SOIL**

Sample Team: S. Payne / R. Irons

ERPIMS Values:

Sacode:

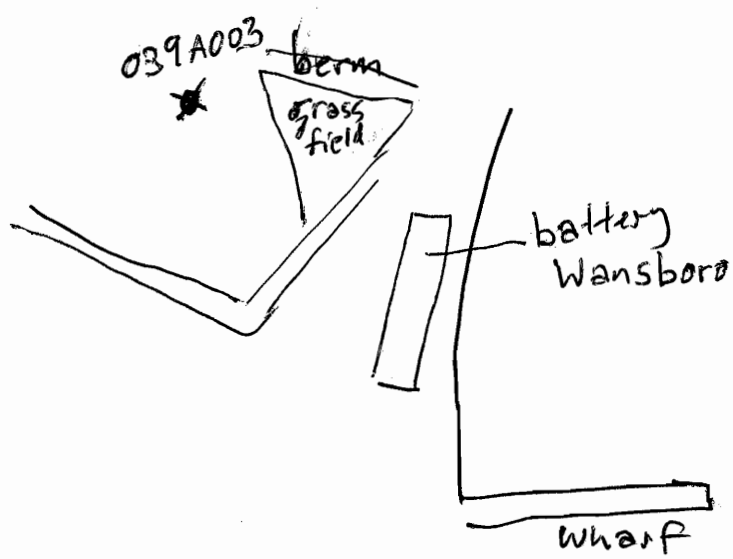
Lot Control#:

Containers

Analytical Suite	Flt	Frtn	Qty	Size	Units	Type
PB ONLY	N	A	1	8	oz	CWM

Comments:

Sketch Location:



Logged BY / Date: 02/21/07 SP *Reviewed BY / Date:* 2/26/07

Shaw™
Shaw E & I, Inc.

Sample Collection Log

116188 - FUDS SI - NWO Region

Manager: Peter Kelsall

RFA / COC Number: NWO039-~~003~~ SP 002

Location Code: **039A004**
Sample Number: **NWO-039-0003**
Sample Name: **039A004-SS-NWO-039-0003-REG**
Sampling Method: **COMP**
Sample Type: **SS** *Sample Purpose:* **REG**
Sampling Equip: plastic hand Scoop

Task: **116188-39A**
Collection Date: 02/21/07
Collection Time: 10:50
Start Depth: 0 '
End Depth: 0.5 '
Sample Matrix: **SOIL**
Sample Team: S. Payne / R. Irons

QC Partners:
(TB) N/A (ER) N/A (FB) N/A

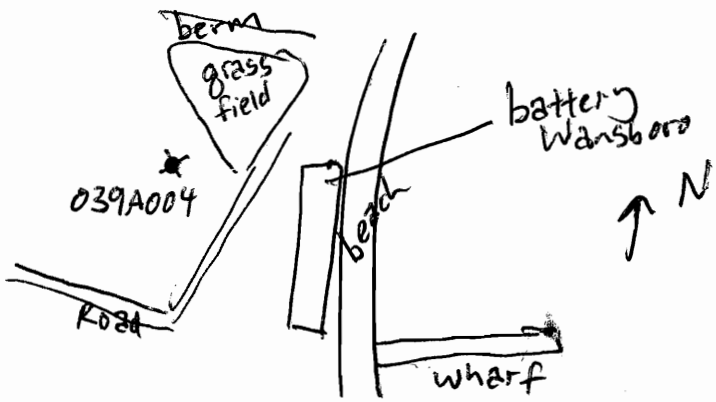
Containers

Analytical Suite	Flt	Frtn	Qty	Size	Units	Type
PB ONLY	N	A	1	8	oz	CWM

ERPIMS Values:
Sacode:
Lot Control#:

Comments:

Sketch Location:



Logged BY / Date: 02/21/07 SP *Reviewed BY / Date:* RLL 2/26/07

Shaw™
Shaw E & I, Inc.

Sample Collection Log

116188 - FUDS SI - NWO Region

Manager: Peter Kelsall

RFA / COC Number: NWO 039 - ~~003~~ SI 002

Location Code: **039A005**
Sample Number: **NWO-039-1002**
Sample Name: **039A005-SD-NWO-039-1002-REG**
Sampling Method: **GRAB**
Sample Type: **SD** *Sample Purpose:* **REG**
Sampling Equip: plastic hand scoop

QC Partners:
(TB) N/A (ER) N/A (FB) N/A

Task: **116188-39A**
Collection Date: 02/21/07
Collection Time: 10:45
Start Depth: 0 '
End Depth: 0.5'
Sample Matrix: **SOIL**
Sample Team: S. Payne / R Irons

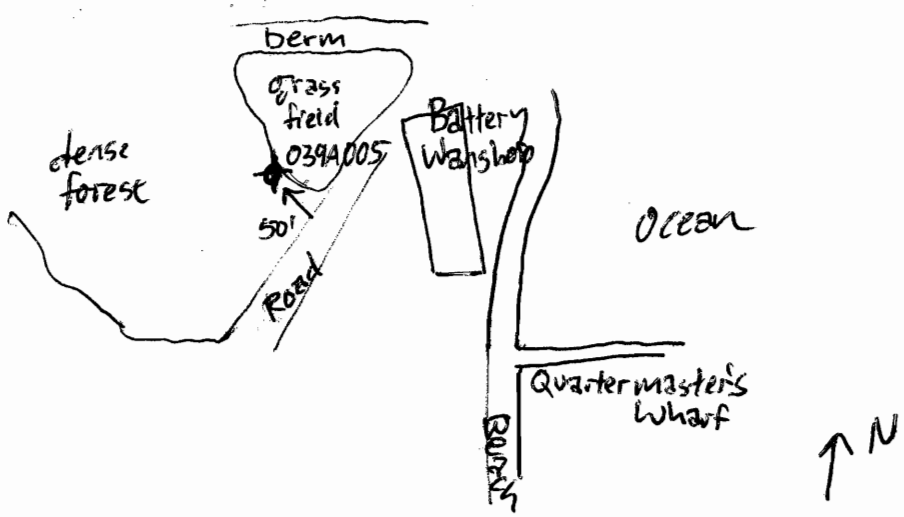
Containers

Analytical Suite	Flt	Frtn	Qty	Size	Units	Type
PB ONLY	N	A	1	8	oz	CWM

ERPIMS Values:
Sacode:
Lot Control#:

Comments:

Sketch Location:



Logged BY / Date: 02/21/07

Reviewed BY / Date: 2/26/07

Shaw™
Shaw E & I, Inc.

Sample Collection Log

116188 - FUDS SI - NWO Region

Manager: Peter Kelsall

RFA / COC Number: NWO 039 - 002

Location Code: **039A006**
Sample Number: **NWO-039-0004**
Sample Name: **039A006-SS-NWO-039-0004-REG**
Sampling Method: **COMP**
Sample Type: **SS** *Sample Purpose:* **REG**
Sampling Equip: plastic hand scoop

Task: **116188-39A**
Collection Date: 02/21/07
Collection Time: 16:10
Start Depth: 0
End Depth: 0.5'
Sample Matrix: **SOIL**
Sample Team: S. Payne / R. Irons

QC Partners:
(TB) N/A (ER) N/A (FB) N/A

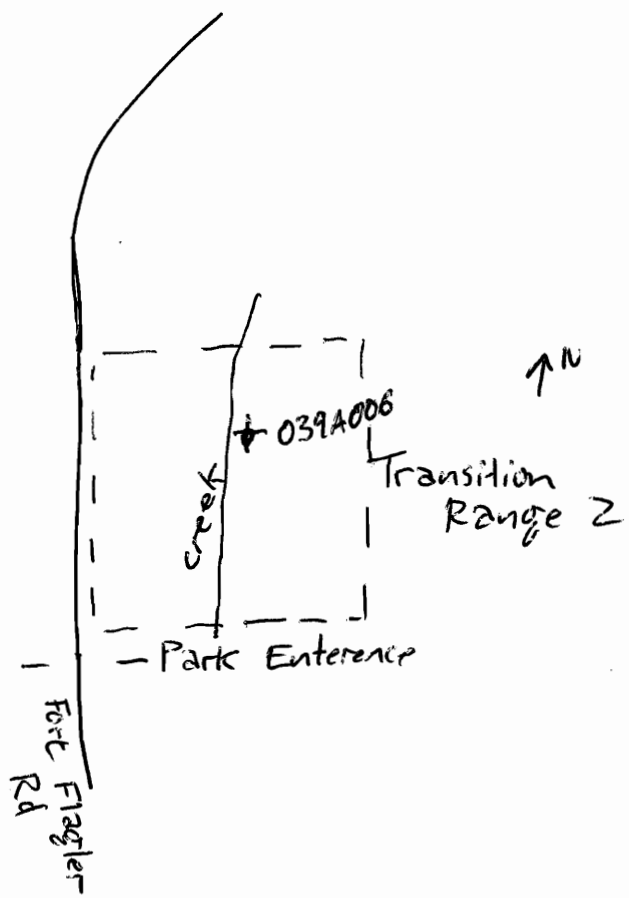
Containers

Analytical Suite	Flt	Frtn	Qty	Size	Units	Type
PB ONLY	N	A	1	8	oz	CWM

ERPIMS Values:
Sacode:
Lot Control#:

Comments:

Sketch Location:



Logged BY / Date: 02/21/07 SP *Reviewed BY / Date:* 2/26/07

Shaw™
Shaw E & I, Inc.

Sample Collection Log

116188 - FUDS SI - NWO Region

Manager: Peter Kelsall

RFA / COC Number: _____

Location Code: **039A007**
Sample Number: **NWO-039-0005**
Sample Name: **039A007-SS-NWO-039-0005-REG**
Sampling Method: **COMP**
Sample Type: **SS** *Sample Purpose:* **REG**
Sampling Equip: plastic hand scoop

Task: **116188-39A**
Collection Date: 02/21/07
Collection Time: 16:00
Start Depth: 0
End Depth: 0.5'
Sample Matrix: **SOIL**
Sample Team: _____

QC Partners:
(TB) N/A (ER) N/A (FB) N/A

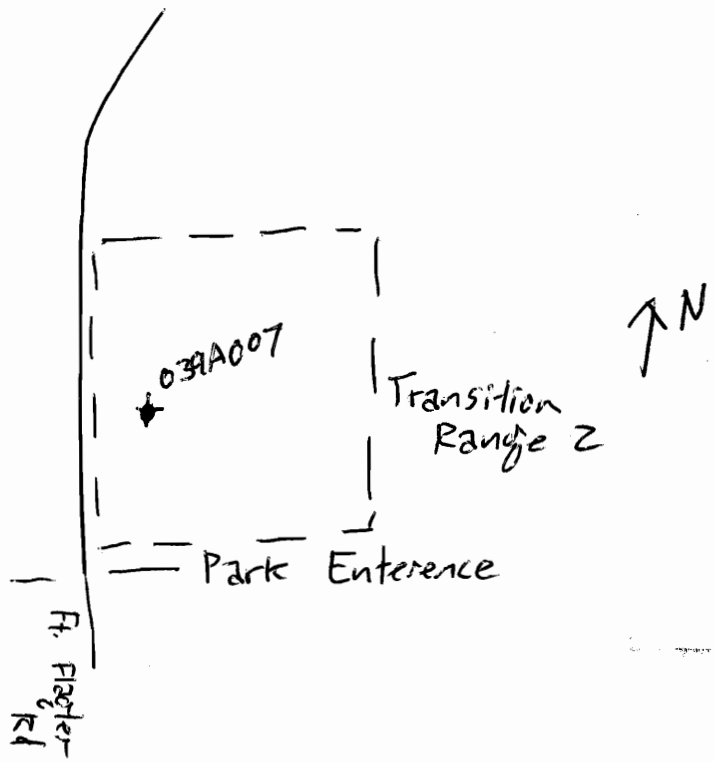
Containers

Analytical Suite	Flt	Frtn	Qty	Size	Units	Type
PB ONLY	N	A	1	8	oz	CWM

ERPIMS Values:
Sacode: _____
Lot Control#: _____

Comments: _____

Sketch Location:



Logged BY / Date: 02/21/07 *Reviewed BY / Date:* RDL 2/26/07

Shaw™
Shaw E & I, Inc.

Sample Collection Log

116188 - FUDS SI - NWO Region

Manager: Peter Kelsall

RFA / COC Number: NWO039-002

Location Code: **039A008**
Sample Number: **NWO-039-1003**
Sample Name: **039A008-SD-NWO-039-1003-REG**
Sampling Method: **GRAB**
Sample Type: **SD** *Sample Purpose:* **REG**
Sampling Equip: plastic hand scoop

Task: **116188-39A**
Collection Date: 02/21/07
Collection Time: 16:05
Start Depth: 0
End Depth: 0.5'
Sample Matrix: **SOIL**
Sample Team: S. Payne / R. Irons

QC Partners:
(TB) N/A (ER) N/A (FB) NWO-039-~~1003~~ 1004 PL 2/26/07

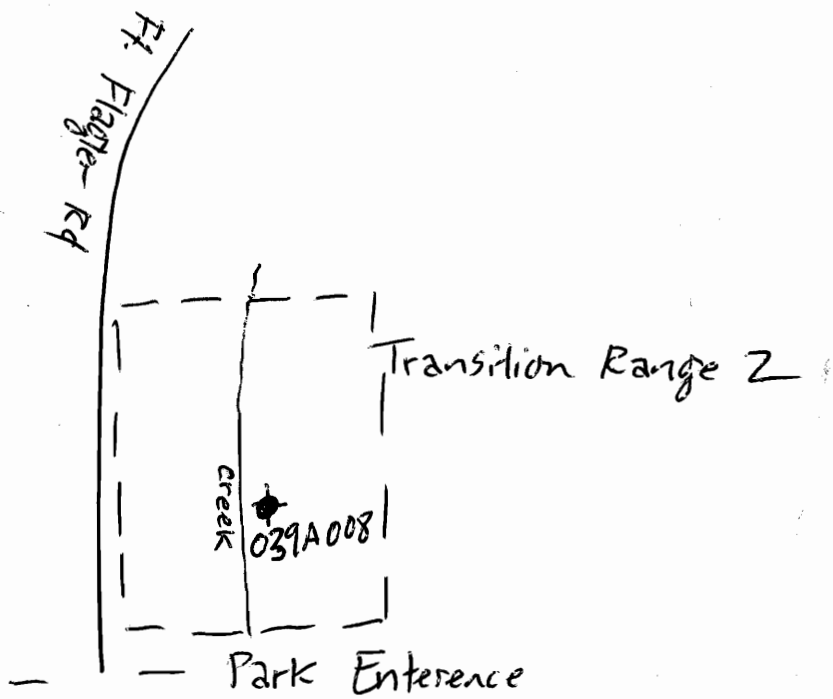
Containers

Analytical Suite	Flt	Frtn	Qty	Size	Units	Type
PB ONLY	N	A	1	8	oz	CWM

ERPIMS Values:
Sacode:
Lot Control#:

Comments: Field blank NWO-039-1004 Corresponds to NWO-039-1003

Sketch Location:



Logged BY / Date: SP 02/21/07 *Reviewed BY / Date:* PL 2/26/07

Shaw™
Shaw E & I, Inc.

Sample Collection Log

116188 - FUDS SI - NWO Region

Manager: Peter Kelsall

RFA / COC Number: NWO039-002

Location Code: **039A008**
Sample Number: **NWO-039-1004**
Sample Name: **039A008-SD-NWO-039-1004-FD**
Sampling Method: **GRAB**
Sample Type: **SD** *Sample Purpose:* **FD**
Sampling Equip: plastic hand scoop

Task: **116188-39A**
Collection Date: 02/21/07
Collection Time: 16:05
Start Depth: 0
End Depth: 0.5'
Sample Matrix: **SOIL**
Sample Team:

QC Partners:
(TB) N/A (ER) N/A (FB) NWO-039-1003

Containers

Analytical Suite	Flt	Frtn	Qty	Size	Units	Type
PB ONLY	N	A	1	8	oz	CWM

ERPIMS Values:
Sacode:
Lot Control#:

Comments: field blank corresponds to NWO-039-1003

Sketch Location:

See sample NWO-039-1003

Logged BY / Date: SP 02/21/07 *Reviewed BY / Date:* [illegible] 2/26/07

Shaw™
Shaw E & I, Inc.

Sample Collection Log

116188 - FUDS SI - NWO Region

Manager: Peter Kelsall

RFA / COC Number: NWO 039-~~003~~ SP001

Location Code: **039A009**
Sample Number: **NWO-039-0006**
Sample Name: **039A009-SS-NWO-039-0006-REG**
Sampling Method: **COMP**
Sample Type: **SS** *Sample Purpose:* **REG**
Sampling Equip: plastic hand scoop

Task: **116188-39A**
Collection Date: 02/21/07
Collection Time: 14:00
Start Depth: 0'
End Depth: 0.5'
Sample Matrix: **SOIL**
Sample Team: S. Payne / R. Irons

QC Partners:
(TB) N/A (ER) N/A (FB) N/A

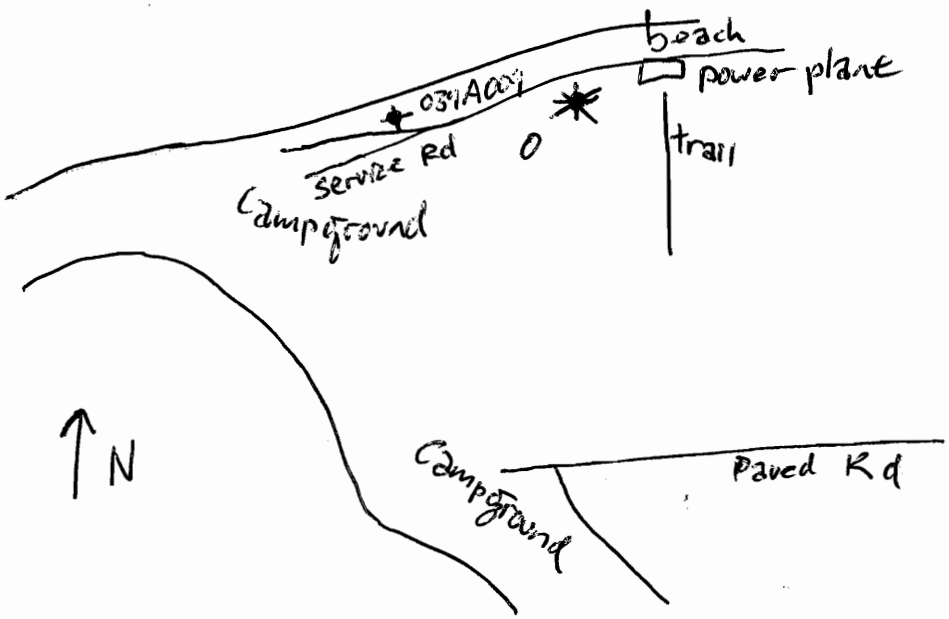
ERPIMS Values:
Sacode:
Lot Control#:

Containers

Analytical Suite	Flt	Frtn	Qty	Size	Units	Type
FLAGLER METALS	N	A	1	8	oz	CWM
EXPLOSIVES	N	B	1	8	oz	CWM
NG	N	B	1	8	oz	CWM
PETN	N	B	1	8	oz	CWM

Comments:

Sketch Location:



Logged BY / Date: 02/21/07 *Reviewed BY / Date:* RA 2/26/07

Shaw™
Shaw E & I, Inc.

Sample Collection Log

116188 - FUDS SI - NWO Region

Manager: Peter Kelsall

RFA / COC Number: NWO 039-001

Location Code: **039A010**
Sample Number: **NWO-039-0007**
Sample Name: **039A010-SS-NWO-039-0007-REG**
Sampling Method: **COMP**
Sample Type: **SS** *Sample Purpose:* **REG**
Sampling Equip: plastic hand scoop

Task: **116188-39A**
Collection Date: 02/21/07
Collection Time: 13:40
Start Depth: 0 '
End Depth: 0.5 '
Sample Matrix: **SOIL**
Sample Team:

QC Partners:
(TB) N/A (ER) N/A (FB) N/A

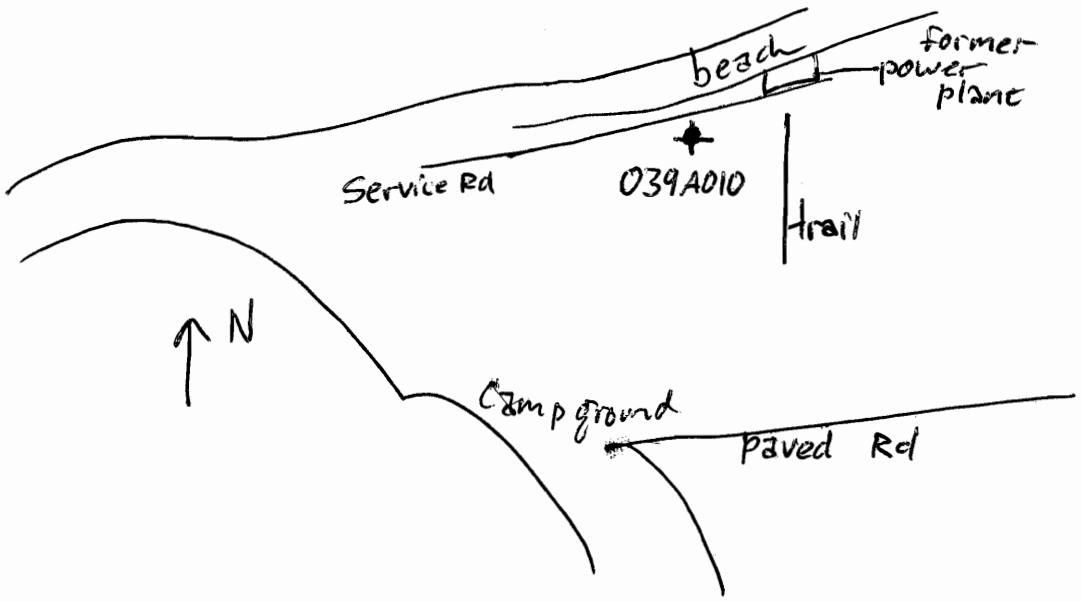
Containers

Analytical Suite	Flt	Frtn	Qty	Size	Units	Type
FLAGLER METALS	N	A	1	8	oz	CWM
EXPLOSIVES	N	B	1	8	oz	CWM
NG	N	B	1	8	oz	CWM
PETN	N	B	1	8	oz	CWM

ERPIMS Values:
Sacode:
Lot Control#:

Comments:

Sketch Location:



Logged BY / Date: SP 02/21/07 *Reviewed BY / Date:* RDK 2/26/07

Shaw™
Shaw E & I, Inc.

Sample Collection Log

116188 - FUDS SI - NWO Region

Manager: Peter Kelsall

RFA / COC Number: NWO039-001

Location Code: **039A011**
Sample Number: **NWO-039-0008**
Sample Name: **039A011-SS-NWO-039-0008-REG**
Sampling Method: **COMP**
Sample Type: **SS** *Sample Purpose:* **REG**
Sampling Equip: plastic hand scoop

Task: **116188-39A**
Collection Date: 02/21/07
Collection Time: 13:15
Start Depth: 0'
End Depth: 0.5'
Sample Matrix: **SOIL**
Sample Team: S. Payne / R. Irons

QC Partners:
(TB) N/A (ER) N/A (FB) NWO-039-~~008~~ 009 RDL 2/26/07

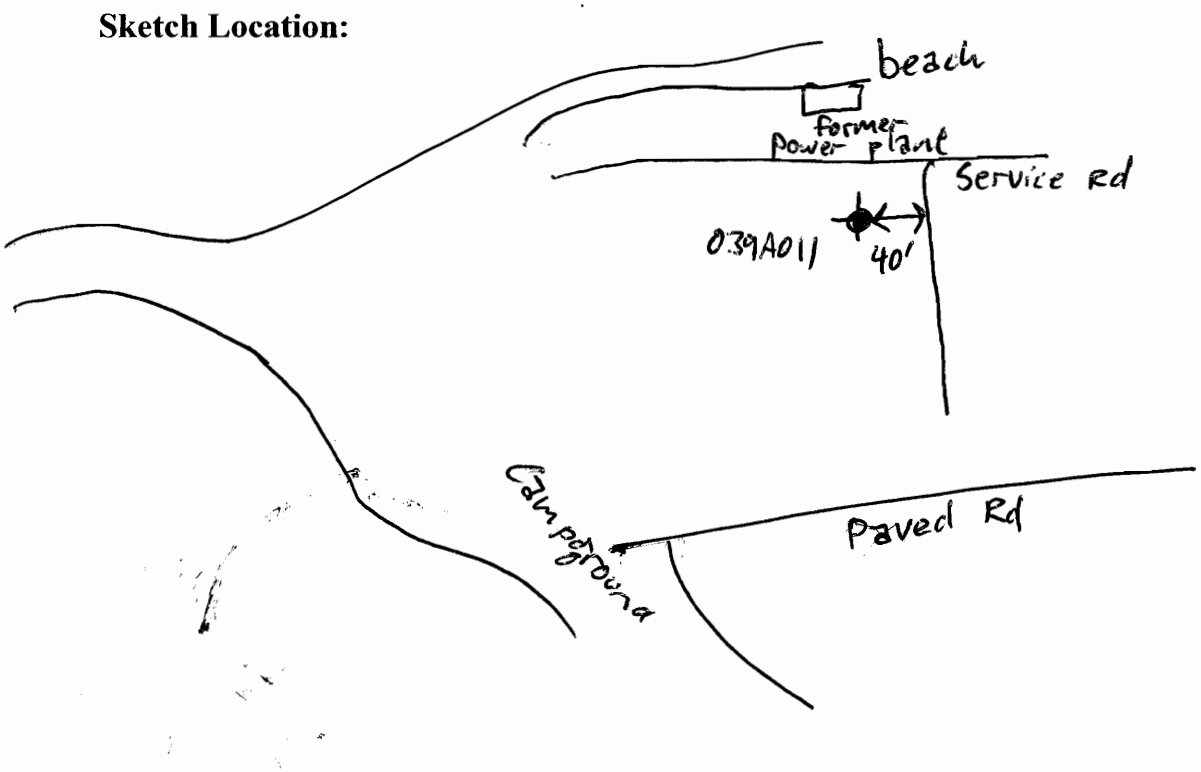
Containers

Analytical Suite	Flt	Frtn	Qty	Size	Units	Type
FLAGLER METALS	N	A	1	8	oz	CWM
EXPLOSIVES	N	B	1	8	oz	CWM
NG	N	B	1	8	oz	CWM
PETN	N	B	1	8	oz	CWM

ERPIMS Values:
Sacode:
Lot Control#:

Comments:

Sketch Location:



Logged BY / Date: 02/21/07 *Reviewed BY / Date:* RDL 2/26/07

Shaw E & I, Inc.

Sample Collection Log

116188 - FUDS SI - NWO Region

Manager: Peter Kelsall

RFA / COC Number: NWO 039 -001

Location Code: **039A011**

Sample Number: **NWO-039-0009**

Sample Name: **039A011-SS-NWO-039-0009-FD**

Sampling Method: **COMP**

Sample Type: **SS** *Sample Purpose:* **FD**

Sampling Equip: plastic hand scoop

QC Partners:

(TB) N/A **(ER)** N/A **(FB)** NWO-039-008

Task: **116188-39A**

Collection Date: 02/21/07

Collection Time: 13:15

Start Depth: 0 '

End Depth: 0.5'

Sample Matrix: **SOIL**

Sample Team: S. Payne/R. Irons

ERPIMS Values:

Sacode:

Lot Control#:

Containers

Analytical Suite	Flt	Frtn	Qty	Size	Units	Type
FLAGLER METALS	N	A	1	8	oz	CWM
EXPLOSIVES	N	B	1	8	oz	CWM
NG	N	B	1	8	oz	CWM
PETN	N	B	1	8	oz	CWM

Comments: Field Duplicate of NWO-039-008

Sketch Location:

See Sample NWO-039-008

Logged BY / Date: 02/21/07 SP *Reviewed BY / Date:* RDL 2/26/07

Shaw™
Shaw E & I, Inc.

Sample Collection Log

116188 - FUDS SI - NWO Region

Manager: Peter Kelsall

RFA / COC Number: NWO 039-001

Location Code: **039A012**
Sample Number: **NWO-039-1005**
Sample Name: **039A012-SD-NWO-039-1005-REG**
Sampling Method: **GRAB**
Sample Type: **SD** *Sample Purpose:* **REG**
Sampling Equip: plastic hand scoop

Task: **116188-39A**
Collection Date: 02/21/07
Collection Time: 14:05
Start Depth: 0'
End Depth: 0.5'
Sample Matrix: **SOIL**
Sample Team: S. Payne / R. Irons

QC Partners:
(TB) N/A (ER) N/A (FB) N/A

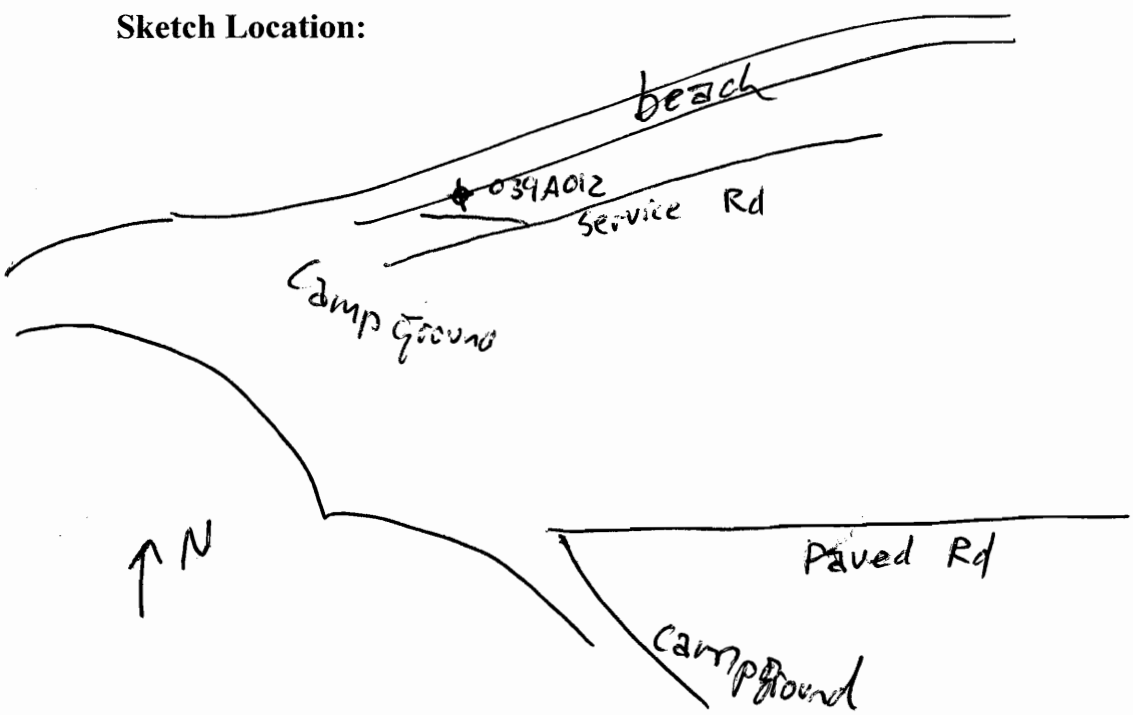
ERPIMS Values:
Sacode:
Lot Control#:

Containers

Analytical Suite	Flt	Frtn	Qty	Size	Units	Type
FLAGLER METALS	N	A	1	8	oz	CWM
EXPLOSIVES	N	B	1	8	oz	CWM
NG	N	B	1	8	oz	CWM
PETN	N	B	1	8	oz	CWM

Comments:

Sketch Location:



Logged BY / Date: 02/21/07 SP *Reviewed BY / Date:* 2/26/07

Shaw™
Shaw E & I, Inc.

Sample Collection Log

116188 - FUDS SI - NWO Region

Manager: Peter Kelsall

RFA / COC Number: NWO 039-~~003~~ SP 001

Location Code: **039A013**
Sample Number: **NWO-039-0010**
Sample Name: **039A013-SS-NWO-039-0010-REG**
Sampling Method: **COMP**
Sample Type: **SS** *Sample Purpose:* **REG**
Sampling Equip: plastic hand Scoop

QC Partners:
(TB) N/A (ER) N/A (FB) N/A

Task: **116188-39A**
Collection Date: 02/21/07
Collection Time: 10:05
Start Depth: 0'
End Depth: 0.5'
Sample Matrix: **SOIL**
Sample Team: S. Payne / R. Irons

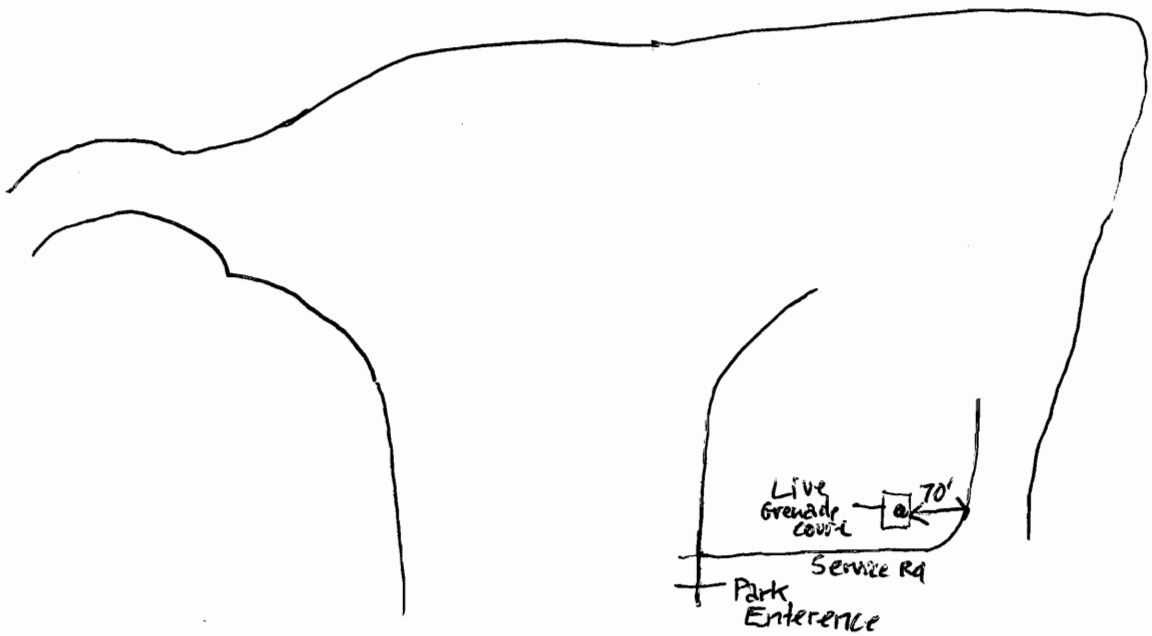
ERPIMS Values:
Sacode:
Lot Control#:

Containers

Analytical Suite	Flt	Frtn	Qty	Size	Units	Type
FLAGLER METALS	N	A	1	8	oz	CWM
EXPLOSIVES	N	B	1	8	oz	CWM
NG	N	B	1	8	oz	CWM
PETN	N	B	1	8	oz	CWM

Comments: live Grenade Court

Sketch Location:



Logged BY / Date: SP / 02/21/07 *Reviewed BY / Date:* KOL 2/26/07

Shaw™
Shaw E & I, Inc.

Sample Collection Log

116188 - FUDS SI - NWO Region

Manager: Peter Kelsall

RFA / COC Number: NWO 039-002

Location Code: **039A014**
Sample Number: **NWO-039-0011**
Sample Name: **039A014-SS-NWO-039-0011-REG**
Sampling Method: **COMP**
Sample Type: **SS** *Sample Purpose:* **REG**
Sampling Equip: plastic Hand Scoop

Task: **116188-39A**
Collection Date: 02/21/07
Collection Time: 11:40
Start Depth: 0'
End Depth: 0.5'
Sample Matrix: **SOIL**
Sample Team: S. Payne / R. Irons

QC Partners:
(TB) N/A (ER) N/A (FB) N/A

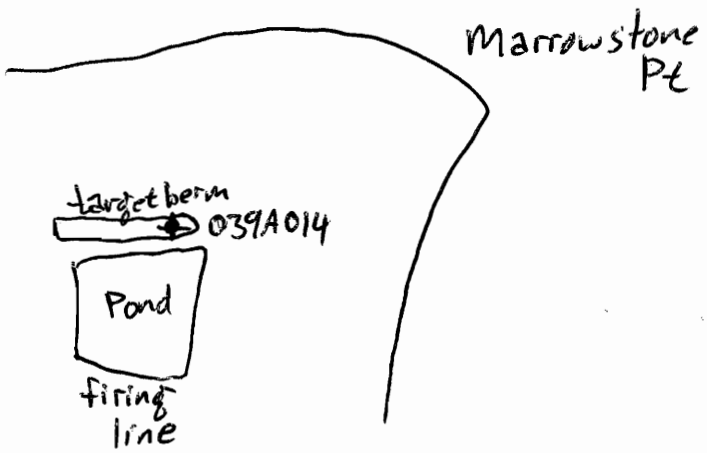
Containers

Analytical Suite	Flt	Frtn	Qty	Size	Units	Type
PB ONLY	N	A	1	8	oz	CWM

ERPIMS Values:
Sacode:
Lot Control#:

Comments: on top of target berm

Sketch Location:



Logged BY / Date: 02/21/07 SP *Reviewed BY / Date:* RC 2/26/07

Shaw™
Shaw E & I, Inc.

Sample Collection Log

116188 - FUDS SI - NWO Region

Manager: Peter Kelsall

RFA / COC Number: NWO039-002

Location Code: **039A015**
Sample Number: **NWO-039-0012**
Sample Name: **039A015-SS-NWO-039-0012-REG**
Sampling Method: **COMP**
Sample Type: **SS** *Sample Purpose:* **REG**
Sampling Equip: plastic hand scoop

QC Partners:
(TB) N/A (ER) N/A (FB) N/A

Task: **116188-39A**
Collection Date: 02/21/07
Collection Time: 11:45
Start Depth: 0
End Depth: 0.5'
Sample Matrix: **SOIL**
Sample Team: S. Payne / R. Irons

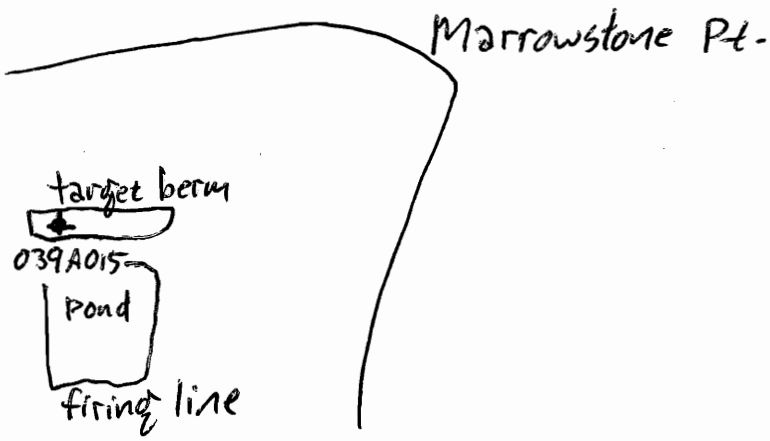
ERPIMS Values:
Sacode:
Lot Control#:

Containers

Analytical Suite	Flt	Frtn	Qty	Size	Units	Type
PB ONLY	N	A	1	8	oz	CWM

Comments: along target berm

Sketch Location:



Logged BY / Date: SP / 02/21/07 *Reviewed BY / Date:* [illegible] 2/26/07

Shaw™
Shaw E & I, Inc.

Sample Collection Log

116188 - FUDS SI - NWO Region

Manager: Peter Kelsall

RFA / COC Number: NWO 039 - 002

Location Code: **039A016**
Sample Number: **NWO-039-1006**
Sample Name: **039A016-SD-NWO-039-1006-REG**
Sampling Method: **GRAB**
Sample Type: **SD** *Sample Purpose:* **REG**
Sampling Equip: plastic hand scoop

Task: **116188-39A**
Collection Date: 02/21/07
Collection Time: 11:30
Start Depth: 0'
End Depth: 0.5'
Sample Matrix: **SOIL**
Sample Team: S. Payne / R. Irons

QC Partners:
(TB) N/A (ER) N/A (FB) N/A

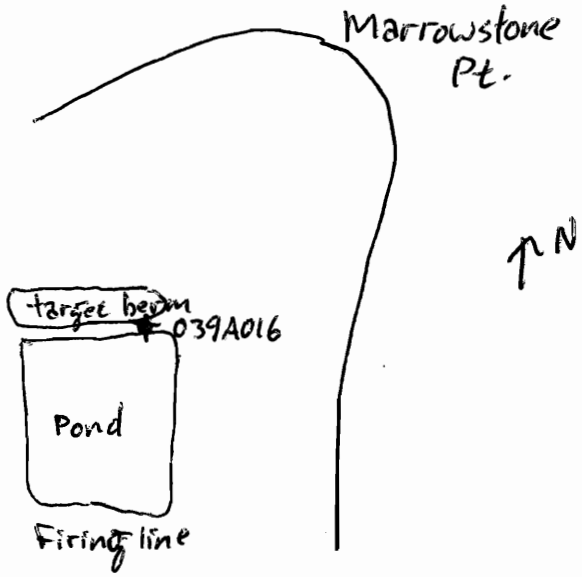
Containers

Analytical Suite	Flt	Frtn	Qty	Size	Units	Type
PB ONLY	N	A	1	8	oz	CWM

ERPIMS Values:
Sacode:
Lot Control#:

Comments:

Sketch Location:



Logged BY / Date: SP 02/21/07 *Reviewed BY / Date:* RK 2/26/07

Shaw™
Shaw E & I, Inc.

Sample Collection Log

116188 - FUDS SI - NWO Region

Manager: Peter Kelsall

RFA / COC Number: NWO 039 - ~~003~~ SP 001

Location Code: **039A017**

Sample Number: **NWO-039-0013**

Sample Name: **039A017-SS-NWO-039-0013-REG**

Sampling Method: **COMP**

Sample Type: **SS** *Sample Purpose:* **REG**

Sampling Equip: plastic hand scoop

QC Partners:

(TB) N/A **(ER)** N/A **(FB)** N/A

Task: **116188-39A**

Collection Date: 02/21/07

Collection Time: 10:25

Start Depth: 0'

End Depth: 0.5'

Sample Matrix: **SOIL**

Sample Team: S. Payne / R. Irons

Containers

Analytical Suite	Flt	Frtn	Qty	Size	Units	Type
EXPLOSIVES	N	B	1	8	oz	CWM
NG	N	B	1	8	oz	CWM
PETN	N	B	1	8	oz	CWM

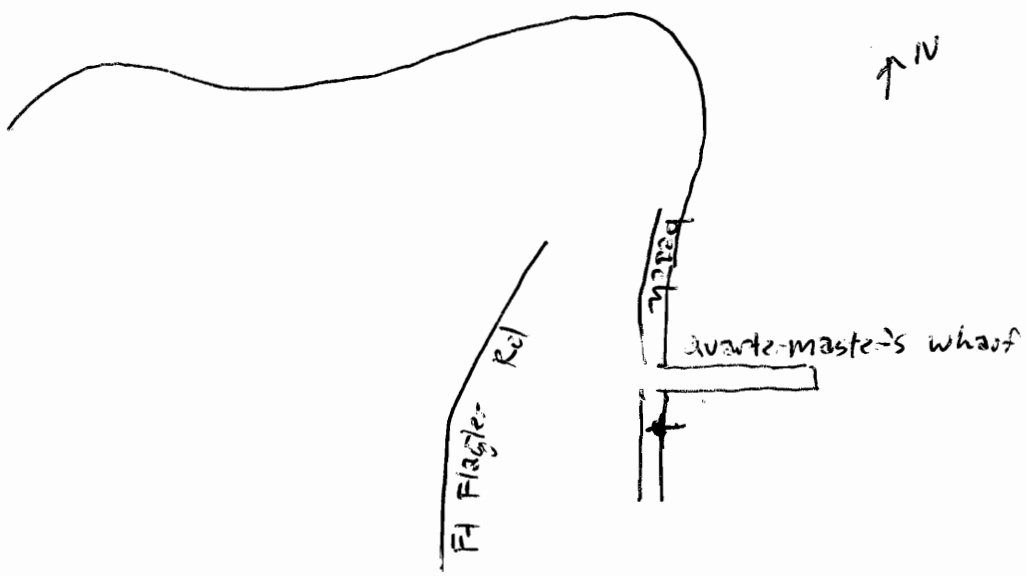
ERPIMS Values:

Sacode:

Lot Control#:

Comments: WDOE requested that sample should be collected near metal "slag" pile; after several attempts at different tides - slag pile not located

Sketch Location: Sample taken at estimated location



Logged BY / Date: SP / 02/21/07

Reviewed BY / Date: RK 2/26/07

Shaw E & I, Inc.

Sample Collection Log

116188 - FUDS SI - NWO Region

Manager: Peter Kelsall

RFA / COC Number: NWO039-003

Location Code: 039A018
Sample Number: NWO-039-5001
Sample Name: 039A018-SS-NWO-039-5001-REG
Sampling Method: COMP
Sample Type: SS *Sample Purpose:* REG
Sampling Equip: plastic scoop

Task: 116188-39A
Collection Date: 02/21/07
Collection Time: 09:45
Start Depth: 0'
End Depth: 0.5'
Sample Matrix: SOIL
Sample Team: S. Payne / R. Irons

QC Partners:
(TB) N/A (ER) N/A (FB) N/A

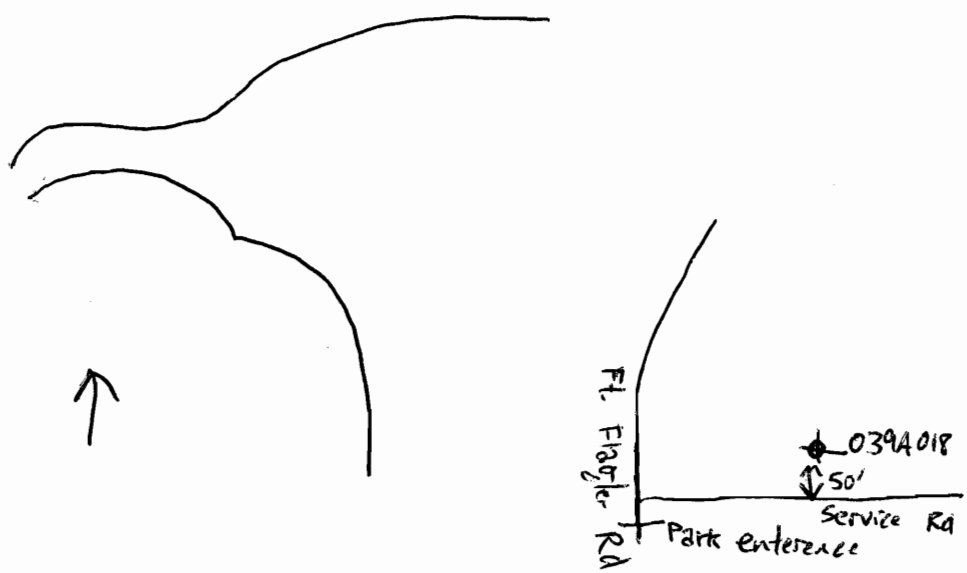
Containers

Analytical Suite	Flt	Frtn	Qty	Size	Units	Type
METALS_S	N	A	1	8	oz	CWM

ERPIMS Values:
Sacode:
Lot Control#:

Comments: Corresponds to NWO-039-5001 MS, NWO-039-5001MSD

Sketch Location:



Logged BY / Date: SP 02/21/07 *Reviewed BY / Date:* [illegible] 2/26/07

Shaw™
Shaw E & I, Inc.

Sample Collection Log

116188 - FUDS SI - NWO Region

Manager: Peter Kelsall

RFA / COC Number: NWO 039 - 003

Location Code: **039A018**
Sample Number: **NWO-039-5001-MS**
Sample Name: **039A018-SS-NWO-039-5001-MS**
Sampling Method: **COMP**
Sample Type: **SS** *Sample Purpose:* **MS**
Sampling Equip: plastic hand Scoop

Task: **116188-39A**
Collection Date: 02/21/07
Collection Time: 09:45
Start Depth: 0'
End Depth: 0.5'
Sample Matrix: **SOIL**
Sample Team: S. Payne / R. Irons

QC Partners:
(TB) N/A (ER) N/A (FB) N/A

Containers

Analytical Suite	Flt	Frtn	Qty	Size	Units	Type
METALS_S	N	A	1	8	oz	CWM

ERPIMS Values:
Sacode:
Lot Control#:

Comments: Corresponds to NWO-039-5001

Sketch Location:

See Sample NWO-039-5001

Logged BY / Date: SP 02/21/07 *Reviewed BY / Date:* RCK 2/26/07

Shaw™
Shaw E & I, Inc.

Sample Collection Log

116188 - FUDS SI - NWO Region

Manager: Peter Kelsall

RFA / COC Number: NWO 039 - 003

Location Code: **039A018**
Sample Number: **NWO-039-5001-MSD**
Sample Name: **039A018-SS-NWO-039-5001-MSD**
Sampling Method: **COMP**
Sample Type: **SS** *Sample Purpose:* **MSD**
Sampling Equip: plastic hand scoop

QC Partners:
(TB) N/A (ER) N/A (FB) N/A

Task: **116188-39A**
Collection Date: 02/21/07
Collection Time: 09:45
Start Depth: 0'
End Depth: 0.5'
Sample Matrix: **SOIL**
Sample Team: S. Payne / R. Irons

Containers

Analytical Suite	Flt	Frtn	Qty	Size	Units	Type
METALS_S	N	A	1	8	oz	CWM

ERPIMS Values:
Sacode:
Lot Control#:

Comments: Corresponds to NWO-039-5001

Sketch Location:
See Sample NWO-039-5001

Logged BY / Date: GP 02/21/07 *Reviewed BY / Date:* RLC 2/26/07

Shaw™
Shaw E & I, Inc.

Sample Collection Log

116188 - FUDS SI - NWO Region

Manager: Peter Kelsall

RFA / COC Number: NWO 039-003

Location Code: **039A019**
Sample Number: **NWO-039-5002**
Sample Name: **039A019-SS-NWO-039-5002-REG**
Sampling Method: **COMP**
Sample Type: **SS** *Sample Purpose:* **REG**
Sampling Equip: ~~Sterile~~ Plastic hand scoop

Task: **116188-39A**
Collection Date: 02/20/07
Collection Time: ~~12:50~~ 13:00
Start Depth: 0'
End Depth: 0.5'
Sample Matrix: **SOIL**

QC Partners:
(TB) NA (ER) NA (FB) NA

Sample Team: S. Payne / R. Irons

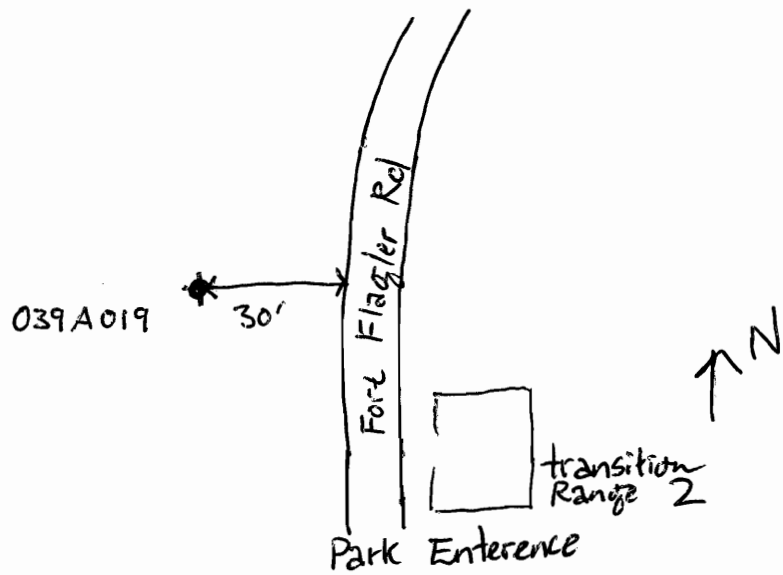
Containers

Analytical Suite	Flt	Frtn	Qty	Size	Units	Type
METALS_S	N	A	1	8	oz	CWM

ERPIMS Values:
Sacode:
Lot Control#:

Comments: Sample location moved ~ 10' West

Sketch Location:



Logged BY / Date: SP / 02/20/07 *Reviewed BY / Date:* RE 2/26/07

Shaw E & I, Inc.

Sample Collection Log

116188 - FUDS SI - NWO Region

Manager: Peter Kelsall

RFA / COC Number: NWO 039-003

Location Code: **039A020**

Sample Number: **NWO-039-5003**

Sample Name: **039A020-SS-NWO-039-5003-REG**

Sampling Method: **COMP**

Sample Type: **SS** *Sample Purpose:* **REG**

Sampling Equip: plastic hand scoop

QC Partners:

(TB) NA (ER) NA (FB) NA

Task: **116188-39A**

Collection Date: 02/20/07

Collection Time: 13:25

Start Depth: 0'

End Depth: 0.5'

Sample Matrix: **SOIL**

Sample Team: S. Payne / R. Irons

Containers

Analytical Suite	Flt	Frtn	Qty	Size	Units	Type
METALS_S	N	A	1	8	oz	CWM

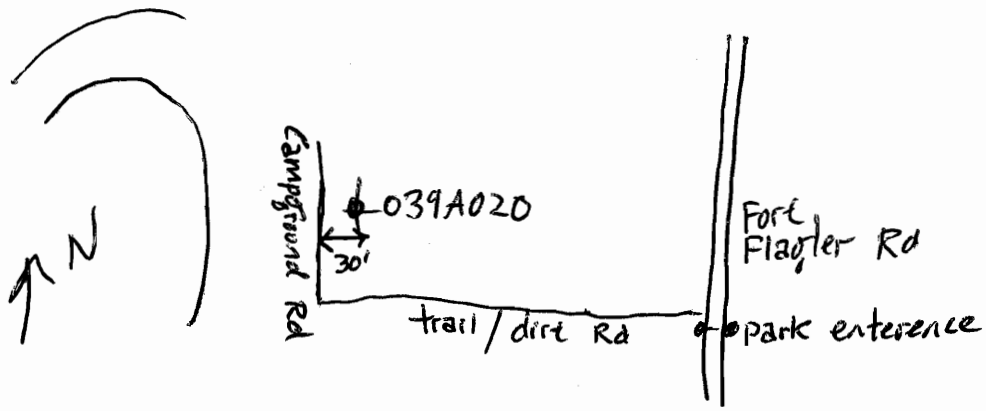
ERPIMS Values:

Sacode:

Lot Control#:

Comments: ~ 30' East of road from original sample location

Sketch Location:



Logged BY / Date: SP 02/20/07 *Reviewed BY / Date:* RBL 2/26/07

Shaw™
Shaw E & I, Inc.

Sample Collection Log

116188 - FUDS SI - NWO Region

Manager: Peter Kelsall

RFA / COC Number: NWO 039-003

Location Code: **039A021**
Sample Number: **NWO-039-5004**
Sample Name: **039A021-SS-NWO-039-5004-REG**
Sampling Method: **COMP**
Sample Type: **SS** *Sample Purpose:* **REG**
Sampling Equip: plastic hand scoop

Task: **116188-39A**
Collection Date: 02/20/07
Collection Time: 14:25
Start Depth: 0'
End Depth: 0.5'
Sample Matrix: **SOIL**
Sample Team: S. Payne / R. Irons

QC Partners:
(TB) N/A (ER) N/A (FB) N/A

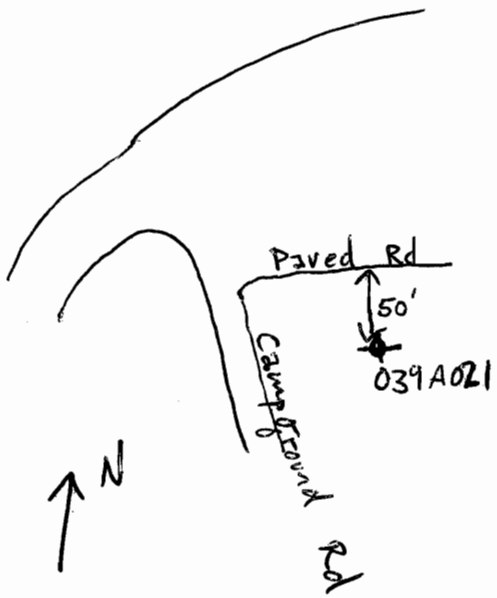
Containers

Analytical Suite	Flt	Frtn	Qty	Size	Units	Type
METALS_S	N	A	1	8	oz	CWM

ERPIMS Values:
Sacode:
Lot Control#:

Comments:

Sketch Location:



Logged BY / Date: SP 02/20/07 *Reviewed BY / Date:* RCL 2/20/07

Shaw™
Shaw E & I, Inc.

Sample Collection Log

116188 - FUDS SI - NWO Region

Manager: Peter Kelsall

RFA / COC Number: NWO 039-003

Location Code: **039A022**
Sample Number: **NWO-039-5005**
Sample Name: **039A022-SS-NWO-039-5005-REG**
Sampling Method: **COMP**
Sample Type: **SS** *Sample Purpose:* **REG**
Sampling Equip: plastic hand scoop

Task: **116188-39A**
Collection Date: 02/20/07
Collection Time: 14:00
Start Depth: 0
End Depth: 0.5'
Sample Matrix: **SOIL**
Sample Team: S. Payne / R. Irons

QC Partners:
(TB) N/A (ER) N/A (FB) N/A

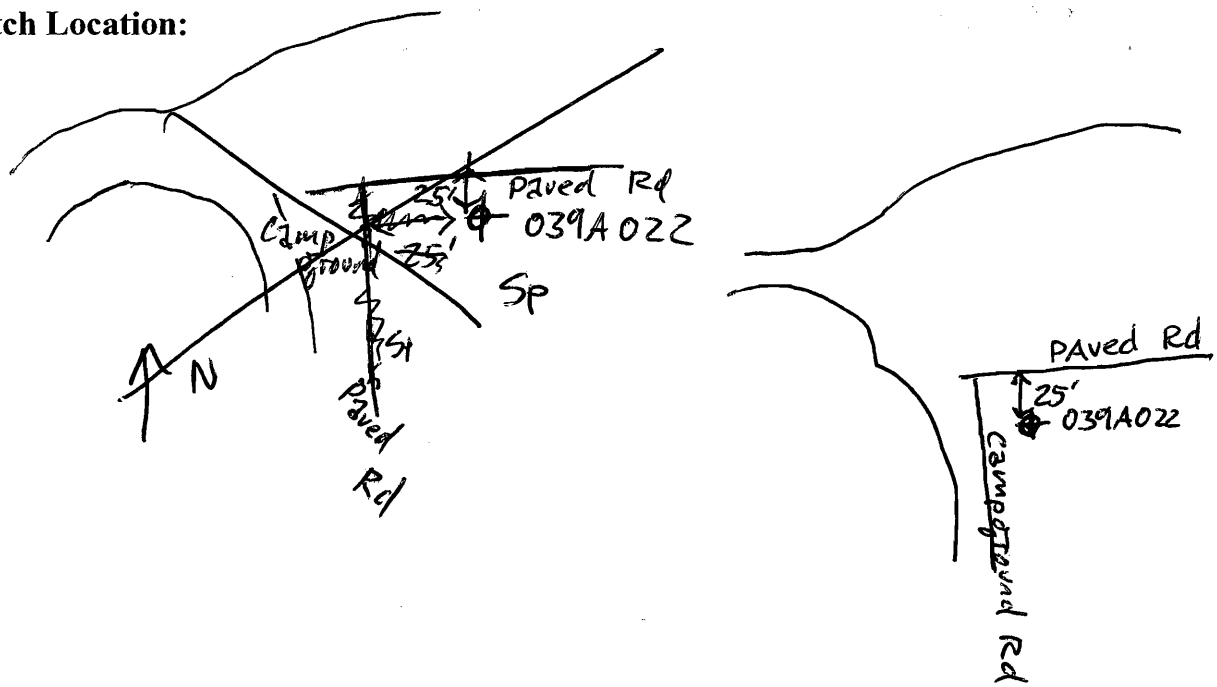
Containers

Analytical Suite	Flt	Frtn	Qty	Size	Units	Type
METALS_S	N	A	1	8	oz	CWM

ERPIMS Values:
Sacode:
Lot Control#:

Comments: ~ 75' East of plotted sample loc

Sketch Location:



Logged BY / Date: SP 02/20/07 *Reviewed BY / Date:* [illegible] 2/21/07

Shaw™
Shaw E & I, Inc.

Sample Collection Log

116188 - FUDS SI - NWO Region

Manager: Peter Kelsall

RFA / COC Number: NWO 039 - 003

Location Code: 039A023
Sample Number: NWO-039-5006
Sample Name: 039A023-SS-NWO-039-5006-REG
Sampling Method: COMP
Sample Type: SS *Sample Purpose:* REG
Sampling Equip: plastic hand scoop

QC Partners:
(TB) N/A (ER) N/A (FB) N/A

Task: 116188-39A
Collection Date: 02/20/07
Collection Time: 15:45
Start Depth: 0'
End Depth: 0.5'
Sample Matrix: SOIL
Sample Team: S. Payne / R. Irons

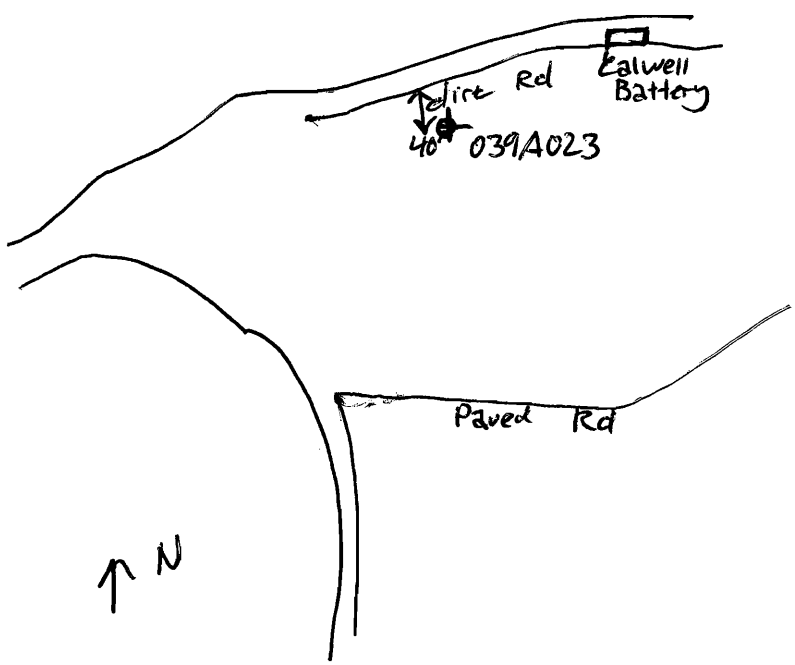
ERPIMS Values:
Sacode:
Lot Control#:

Containers

Analytical Suite	Flt	Frtn	Qty	Size	Units	Type
METALS_S	N	A	1	8	oz	CWM

Comments:

Sketch Location:



Logged BY / Date: SP /02/20/07 *Reviewed BY / Date:* RA 2/26/07

Shaw™
Shaw E & I, Inc.

Sample Collection Log

116188 - FUDS SI - NWO Region

Manager: Peter Kelsall

RFA / COC Number: NWO 039 - 003

Location Code: **039A024**
Sample Number: **NWO-039-5007**
Sample Name: **039A024-SS-NWO-039-5007-REG**
Sampling Method: **COMP**
Sample Type: **SS** *Sample Purpose:* **REG**
Sampling Equip: plastic hand scoop

QC Partners:
(TB) N/A (ER) N/A (FB) N/A

Task: **116188-39A**
Collection Date: 02/20/07
Collection Time: 14:45
Start Depth: 0'
End Depth: 0.5'
Sample Matrix: **SOIL**
Sample Team: S. Payne / R. Irons

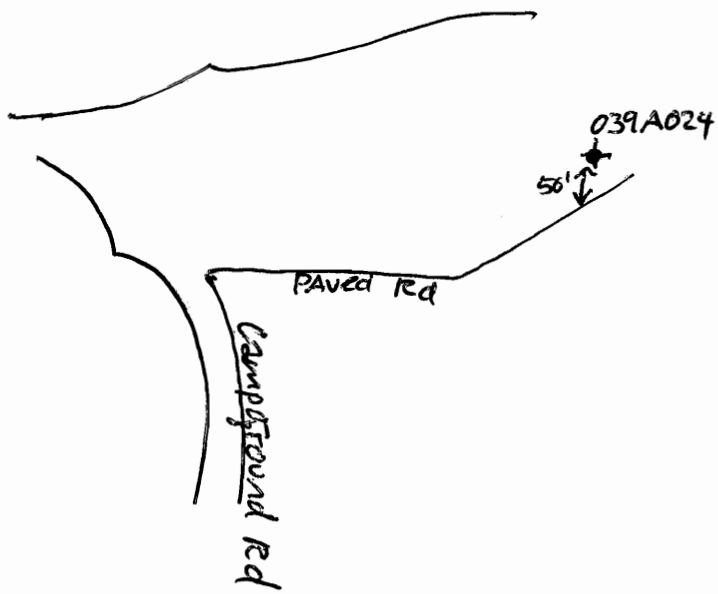
Containers

Analytical Suite	Flt	Frtn	Qty	Size	Units	Type
METALS_S	N	A	1	8	oz	CWM

ERPIMS Values:
Sacode:
Lot Control#:

Comments:

Sketch Location:



Logged BY / Date: S. Payne 02/20/07 *Reviewed BY / Date:* RC 2/26/07

Shaw™
Shaw E & I, Inc.

Sample Collection Log

116188 - FUDS SI - NWO Region

Manager: Peter Kelsall

RFA / COC Number: NWO 039 - 003

Location Code: **039A025**
Sample Number: **NWO-039-5008**
Sample Name: **039A025-SS-NWO-039-5008-REG**
Sampling Method: **COMP**
Sample Type: **SS** *Sample Purpose:* **REG**
Sampling Equip: plastic hand scoop

Task: **116188-39A**
Collection Date: 02/21/07
Collection Time: 14:50
Start Depth: 0 '
End Depth: 0.5 '
Sample Matrix: **SOIL**
Sample Team: S. Payne/R. Irons

QC Partners:
(TB) N/A (ER) N/A (FB) N/A

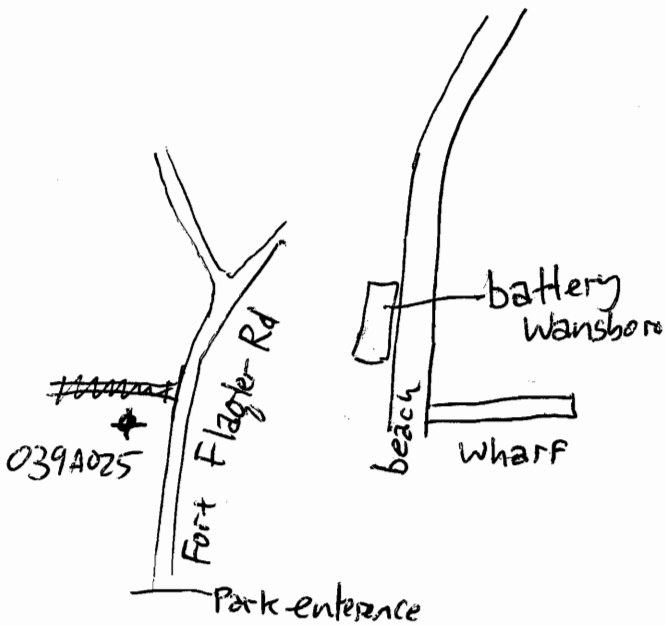
Containers

Analytical Suite	Flt	Frtn	Qty	Size	Units	Type
METALS_S	N	A	1	8	oz	CWM

ERPIMS Values:
Sacode:
Lot Control#:

Comments:

Sketch Location:



Logged BY / Date: SP 02/21/07 *Reviewed BY / Date:* RDJ 2/26/07

Shaw E & I, Inc.

Sample Collection Log

116188 - FUDS SI - NWO Region

Manager: Peter Kelsall

RFA / COC Number: NWO 039 - 003

Location Code: **039A026**

Sample Number: **NWO-039-5009**

Sample Name: **039A026-SS-NWO-039-5009-REG**

Sampling Method: **COMP**

Sample Type: **SS** *Sample Purpose:* **REG**

Sampling Equip: plastic hand scoop

QC Partners:

(TB) N/A **(ER)** N/A **(FB)** N/A

Task: **116188-39A**

Collection Date: 02/20/07

Collection Time: 16:50

Start Depth: 0'

End Depth: 0.5'

Sample Matrix: **SOIL**

Sample Team: S. Payne / R. Irons

Containers

Analytical Suite	Flt	Frtn	Qty	Size	Units	Type
METALS_S	N	A	1	8	oz	CWM

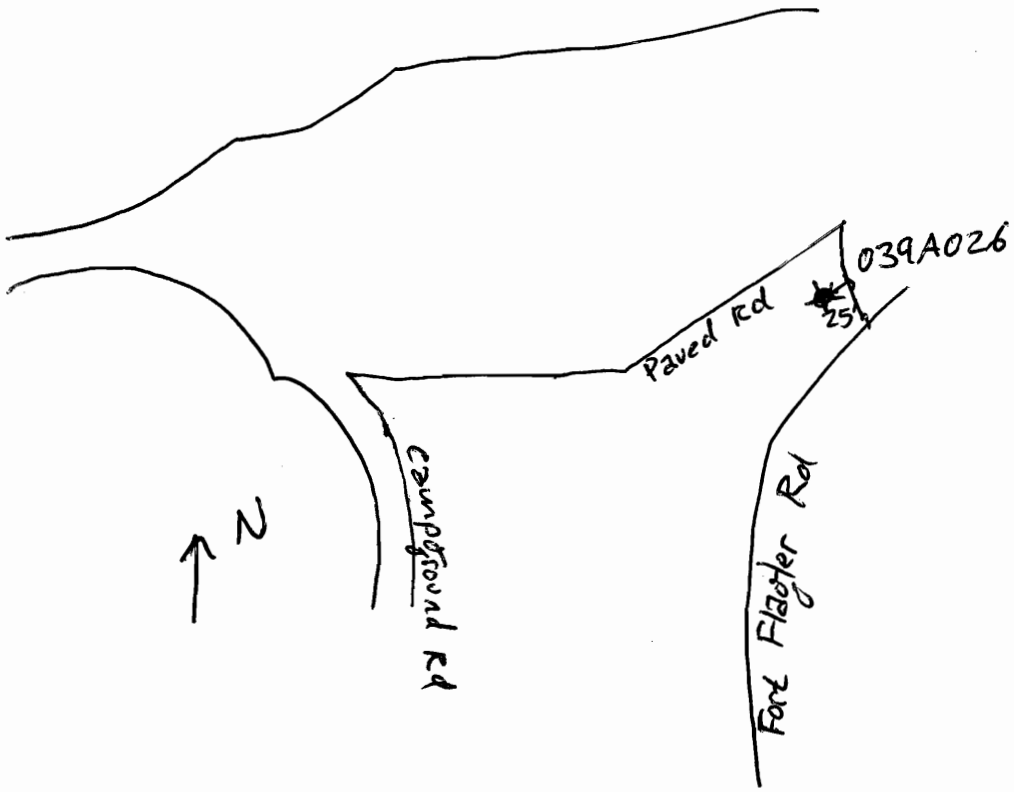
ERPIMS Values:

Sacode:

Lot Control#:

Comments:

Sketch Location:



Logged BY / Date: S. Payne 02/20/07 *Reviewed BY / Date:* RC 2/26/07

Shaw™
Shaw E & I, Inc.

Sample Collection Log

116188 - FUDS SI - NWO Region

Manager: Peter Kelsall

RFA / COC Number: NWO 039-003

Location Code: **039A027**
Sample Number: **NWO-039-5010**
Sample Name: **039A027-SS-NWO-039-5010-REG**
Sampling Method: **COMP**
Sample Type: **SS** *Sample Purpose:* **REG**
Sampling Equip: plastic hand scoop

Task: **116188-39A**
Collection Date: 02/20/07
Collection Time: 15:15
Start Depth: 0 '
End Depth: 0.5 '
Sample Matrix: **SOIL**

QC Partners:
(TB) _____ **(ER)** _____ **(FB)** ~~039A027 SS~~ SP - NWO-039-~~5010~~ 5011 pe 2/26/07

Sample Team: S. Payne / R. Irons

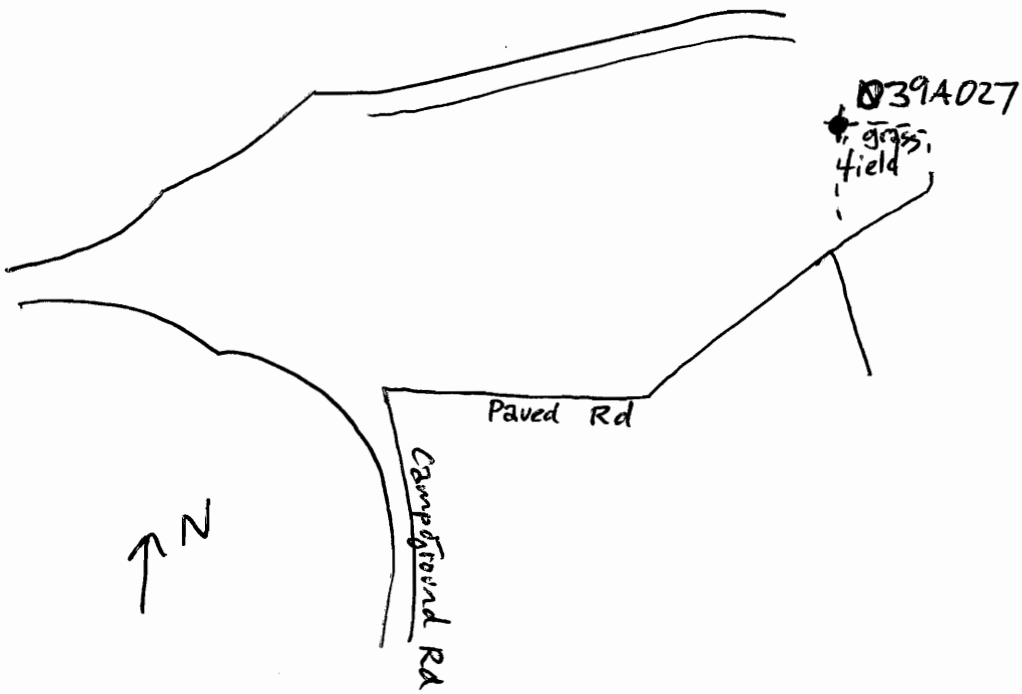
Containers

Analytical Suite	Flt	Frtn	Qty	Size	Units	Type
METALS_S	N	A	1	8	oz	CWM

ERPIMS Values:
Sacode:
Lot Control#:

Comments: corelates w/ Field Duplicate NWO-039-5011

Sketch Location:



Logged BY / Date: S Payne 02/20/07 *Reviewed BY / Date:* RC 2/26/07

Shaw™
Shaw E & I, Inc.

Sample Collection Log

116188 - FUDS SI - NWO Region

Manager: Peter Kelsall

RFA / COC Number: NWO 039-003

Location Code: **039A027**
Sample Number: **NWO-039-5011**
Sample Name: **039A027-SS-NWO-039-5011-FD**
Sampling Method: **COMP**
Sample Type: **SS** *Sample Purpose:* **FD**
Sampling Equip: plastic hand scoop

Task: **116188-39A**
Collection Date: 02/20/07
Collection Time: 15:15
Start Depth: 0'
End Depth: 0.5'
Sample Matrix: **SOIL**
Sample Team: S. Payne / R. Irons

QC Partners:
(TB) **(ER)** **(FB)** ~~039A027-SS~~ SP ~~NWO-039-5011-FD~~ NWO-039-5010

Analytical Suite	Containers Flt	Frtn	Qty	Size	Units	Type
METALS_S	N	A	1	8	oz	CWM

ERPIMS Values:
Sacode:
Lot Control#:

Comments: Field Duplicate

Sketch Location:

See Sample NWO-039-5010

Logged BY / Date: S. Payne 02/20/07 *Reviewed BY / Date:* RQ 2/26/07

Shaw™
Shaw E & I, Inc.

Sample Collection Log

116188 - FUDS SI - NWO Region

Manager: Peter Kelsall

RFA / COC Number: NWO 039-003

Location Code: **039A028**
Sample Number: **NWO-039-5012**
Sample Name: **039A028-SD-NWO-039-5012-REG**
Sampling Method: **GRAB**
Sample Type: **SD** *Sample Purpose:* **REG**
Sampling Equip: plastic hand scoop

Task: **116188-39A**
Collection Date: 02/20/07
Collection Time: 13:45
Start Depth: 0'
End Depth: 0.5'
Sample Matrix: **SOIL**
Sample Team:

QC Partners:
(TB) N/A (ER) N/A (FB) N/A

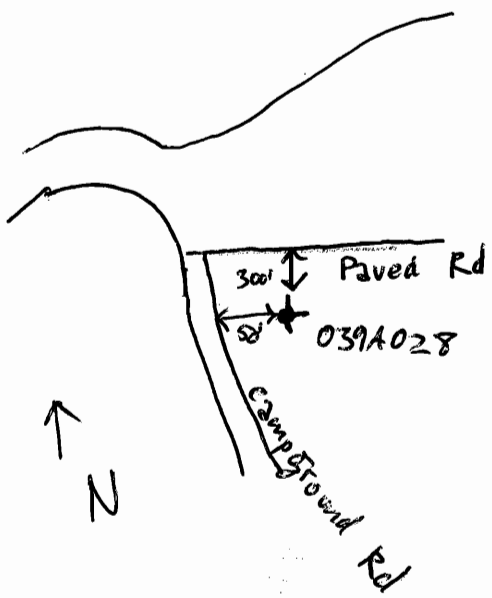
Containers

Analytical Suite	Flt	Frtn	Qty	Size	Units	Type
METALS_S	N	A	1	8	oz	CWM

ERPIMS Values:
Sacode:
Lot Control#:

Comments: ~~25~~ SP ~350' NE of plotted sample location
moved due to potential human impact to Background Location RDK 2/26/07

Sketch Location:



Logged BY / Date: SP 02/20/07 *Reviewed BY / Date:* RDK 2/26/07

Shaw™
Shaw E & I, Inc.

Sample Collection Log

116188 - FUDS SI - NWO Region

Manager: Peter Kelsall

RFA / COC Number: NWO 039 - 003

Location Code: **039A029**
Sample Number: **NWO-039-5013**
Sample Name: **039A029-SD-NWO-039-5013-REG**
Sampling Method: **GRAB**
Sample Type: **SD** *Sample Purpose:* **REG**
Sampling Equip: plastic hand scoop

Task: **116188-39A**
Collection Date: 02/21/07
Collection Time: 15:10
Start Depth: 0
End Depth: 0.5'
Sample Matrix: **SOIL**
Sample Team: S. Payne / R. Irons

QC Partners:
(TB) N/A (ER) N/A (FB) N/A

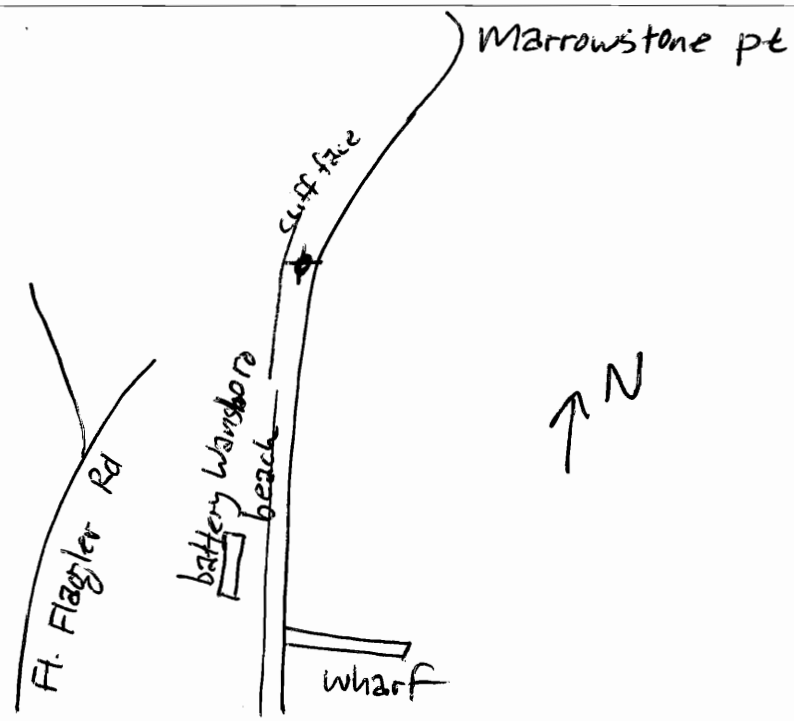
Containers

Analytical Suite	Flt	Frtn	Qty	Size	Units	Type
METALS_S	N	A	1	8	oz	CWM

ERPIMS Values:
Sacode:
Lot Control#:

Comments: Sediment from beach, along base of cliff

Sketch Location:



Logged BY / Date: SP 02/21/07 *Reviewed BY / Date:* [signature] 2/26/07

GPL Laboratories

GPL LABORATORIES
7210A Corporate Ct.
Frederick, MD 21703
301-694-5310

CHAIN OF CUSTODY

CoC Number: NWO039- 001

PAGE: 1 OF 1

GPL Project Manager:	Tim Mikesell	Client Name:	Shaw Environmental, Inc. / Tim Roth	Phone:	865.560.5272	Disposal Instructions:	
Project Name:	FUDS MMRP NWO	Address:	312 Directors Drive	Cell:		Shipment Method:	FedEx
Project Number:	116188	City, State:	Knoxville, TN	Zip Code	37923	Waybill Number:	

Comments:
H=Hold Analysis Request X=Analyze;

Shaw MMRP FUDS Site - 039 Flagler Military Reservation

Preservatives and Containers: 8 oz CWM / 4 °C; 8 oz CWM / 4 °C

Sample Information / Methods for Analysis

No.	FIELD Sample ID	Date Sampled	Time Sampled	Matrix	Sampler's Initials	Al, Cr, Cu, Fe, Pb, Mn, Mo, and Ni by SW-846 6020A	Explosives by SW-846 8330A	Nitroglycerin by SW-846 8330A (Modified)	PETN by SW-846 8330A (Modified)	Filter	TOTAL BOTTLES
1	~~NWO-039-0001~~			~~SO~~		~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~2~~
2	~~NWO-039-0001-MS~~			~~SO~~		~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~2~~
3	~~NWO-039-0001-MSD~~			~~SO~~		~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~2~~
4	~~NWO-039-1001~~			~~SD~~		~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~2~~
5	NWO-039-0006	02/21/07	14:00	SO	SP	X	X	X	X	N	2
6	NWO-039-0007	02/21/07	13:40	SO	SP	X	X	X	X	N	2
7	NWO-039-0008	02/21/07	13:15	SO	SP	X	X	X	X	N	2
8	NWO-039-0009	02/21/07	13:15	SO	SP	X	X	X	X	N	2
9	NWO-039-1005	02/21/07	14:05	SD	SP	X	X	X	X	N	2
10	NWO-039-0010	02/21/07	10:05	SO	SP	X	X	X	X	N	2
11	NWO-039-0013	02/21/07	10:25	SD	SP		X	X	X	N	1

Sample Matrix: SO= Soil; SD= Sediment

TAT Requirement: 21 Days

Total number of samples ___

Relinquished By:	Date:	Time:
[signature]	02/21/07	12:35
Received By:	Date:	Time:
Relinquished By:	Date:	Time:
Received By:	Date:	Time:
Relinquished By:	Date:	Time:

For Lab Use

GPL WORK ORDER #:_____

PURCHASE ORDER #: _____

COOLER RECEIPT CONDITION

GPL Laboratories

GPL LABORATORIES
7210A Corporate Ct.
Frederick, MD 21703
301-694-5310

CHAIN OF CUSTODY

CoC Number: NWO039- 002

PAGE: 1 OF 1

GPL Project Manager:	Tim Mikesell	Client Name:	Shaw Environmental, Inc. / Tim Roth	Phone:	865.560.5272	Disposal Instructions:	
Project Name:	FUDS MMRP NWO	Address:	312 Directors Drive	Cell:		Shipment Method:	FedEx
Project Number:	116188	City, State:	Knoxville, TN	Zip Code	37923	Waybill Number:	

Comments:

H=Hold Analysis Request X=Analyze;

Preservatives and Containers

Shaw MMRP FUDS Site - 039 Flagler Military Reservation

Sample Information

Methods for Analysis

No.	FIELD Sample ID	Date Sampled	Time Sampled	Matrix	Sampler's Initials	Lead only by SW-846 6020A (8 oz CWM / 4 °C)	GPL SOP H36 &No. 10 Sieve (N/A)										Filter	TOTAL BOTTLES
1	NWO-039-0002	02/21/07	10:55	SO	SP	X	X										N	1
2	NWO-039-0003	02/21/07	10:50	SO	SP	X	X										N	1
3	NWO-039-1002	02/21/07	10:45	SD	SP	X	X										N	1
4	NWO-039-0004	02/21/07	16:10	SO	SP	X	X										N	1
5	NWO-039-0005	02/21/07	16:00	SO	SP	X	X										N	1
6	NWO-039-1003	02/21/07	16:05	SD	SP	X	X										N	1
7	NWO-039-1004	02/21/07	16:05	SD	SP	X	X										N	1
8	NWO-039-0011	02/21/07	11:40	SO	SP	X	X										N	1
9	NWO-039-0012	02/21/07	11:45	SO	SP	X	X										N	1
10	NWO-039-1006	02/21/07	11:30	SD	SP	X	X										N	1

Sample Matrix: SO= Soil; SD= Sediment

TAT Requirement: 21 Days

Total number of samples ___

Relinquished By:	Date: 02/21/07	Time: 12:35
Received By:	Date:	Time:
Relinquished By:	Date:	Time:
Received By:	Date:	Time:
Relinquished By:	Date:	Time:

For Lab Use

GPL WORK ORDER #:_____

PURCHASE ORDER #: _____

COOLER RECEIPT CONDITION

GPL Laboratories

GPL LABORATORIES
7210A Corporate Ct.
Frederick, MD 21703
301-694-5310

CHAIN OF CUSTODY

CoC Number: NWO039- 003

PAGE: 1 OF 1

GPL Project Manager:	Tim Mikesell	Client Name:	Shaw Environmental, Inc. / Tim Roth	Phone:	865.560.5272	Disposal Instructions:	
Project Name:	FUDS MMRP NWO	Address;	312 Directors Drive	Cell:		Shipment Method:	FedEx
Project Number:	116188	City, State:	Knoxville, TN	Zip Code	37923	Waybill Number:	

Comments:
H=Hold Analysis Request X=Analyze;

Shaw MMRP FUDS Site - 039 Flagler Military Reservation

Preservatives and Containers: 8 oz CWM / 4 °C; N/A

Sample Information / Methods for Analysis

No.	FIELD Sample ID	Date Sampled	Time Sampled	Matrix	Sampler's Initials	TAL Metals (Including Molybdenum) by SW-846 6020A	Mercury by SW-846 7471A	GPL SOP H36 &No. 10 Sieve	Filter	TOTAL BOTTLES
1	NWO-039-5001	02/21/07	09:45	SO	SP	X	X	X	N	1
2	NWO-039-5001-MS	02/21/07	09:45	SO	SP	X	X	X	N	1
3	NWO-039-5001-MSD	02/21/07	09:45	SO	SP	X	X	X	N	1
4	NWO-039-5002	02/20/07	13:00	SO	SP	X	X	X	N	1
5	NWO-039-5003	02/20/07	13:25	SO	SP	X	X	X	N	1
6	NWO-039-5004	02/20/07	14:25	SO	SP	X	X	X	N	1
7	NWO-039-5005	02/20/07	14:00	SO	SP	X	X	X	N	1
8	NWO-039-5006	02/20/07	15:45	SO	SP	X	X	X	N	1
9	NWO-039-5007	02/20/07	14:45	SO	SP	X	X	X	N	1
10	NWO-039-5008	02/21/07	14:50	SO	SP	X	X	X	N	1
11	NWO-039-5009	02/20/07	16:50	SO	SP	X	X	X	N	1
12	NWO-039-5010	02/20/07	15:15	SO	SP	X	X	X	N	1
13	NWO-039-5011	02/20/07	15:15	SO	SP	X	X	X	N	1
14	NWO-039-5012	02/20/07	13:45	SD	SP	X	X	X	N	1
15	NWO-039-5013	02/21/07	15:10	SD	SP	X	X	X	N	1

Sample Matrix: SO= Soil; SD= Sediment

TAT Requirement: 21 Days

Total number of samples ___

Relinquished By:	Date:	Time:
[signature]	02/21/07	12:35
Received By:	Date:	Time:
Relinquished By:	Date:	Time:
Received By:	Date:	Time:
Relinquished By:	Date:	Time:

For Lab Use

GPL WORK ORDER #:_____

PURCHASE ORDER #: _____

COOLER RECEIPT CONDITION

Appendix E
Photodocumentation Log

Fort Flagler Military Reservation - FIELD PHOTOGRAPHS

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Live Grenade Court

GPS Coordinates: (UTM Zone 10N) **Y** 5326093 **X** 522769

Direction Of Photo: North

Comments: Heavy vegetation covering Live Grenade Court.

Photograph No. 1:039-FFMR-1-20-Feb-07 **Date:** 20-Feb-07 **Time** 11:15:00 AM

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Live Grenade Court

GPS Coordinates: (UTM Zone 10N) **Y** 5326093 **X** 522769

Direction Of Photo: East

Comments: Heavy vegetation covering Live Grenade Court.

Photograph No. 2:039-FFMR-2-20-Feb-07 **Date:** 20-Feb-07 **Time** 11:15:00 AM

Fort Flagler Military Reservation - FIELD PHOTOGRAPHS

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Live Grenade Court

GPS Coordinates: (UTM Zone 10N) **Y** 5326093 **X** 522769

Direction Of Photo: South

Comments: Heavy vegetation covering Live Grenade Court.

Photograph No. 3:039-FFMR-3-20-Feb-07 **Date:** 20-Feb-07 **Time** 11:15:00 AM

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Live Grenade Court

GPS Coordinates: (UTM Zone 10N) **Y** 5326093 **X** 522769

Direction Of Photo: West

Comments: Heavy vegetation covering Live Grenade Court.

Photograph No. 4:039-FFMR-3-20-Feb-07 **Date:** 20-Feb-07 **Time** 11:15:00 AM

Fort Flagler Military Reservation - FIELD PHOTOGRAPHS

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Practice Grenade Court

GPS Coordinates: (UTM Zone 10N) **Y** 5326022 **X** 522735

Direction Of Photo:

Comments: Heavy vegetation covering Practice Grenade Court.

Photograph No. 5:039-FFMR-5-20-Feb-07 **Date:** 20-Feb-07 **Time** 11:40:00 AM

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Practice Grenade Court

GPS Coordinates: (UTM Zone 10N) **Y** 5326022 **X** 522735

Direction Of Photo:

Comments: Heavy vegetation covering Practice Grenade Court.

Photograph No. 6:039-FFMR-6-20-Feb-07 **Date:** 20-Feb-07 **Time** 11:40:00 AM

Fort Flagler Military Reservation - FIELD PHOTOGRAPHS

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Samp. Loc. 039A019, Samp. No. NWO-039-5002

GPS Coordinates: (UTM Zone 10N) **Y** 5326220 **X** 522246

Direction Of Photo: Northwest

Comments: Background sample.

Photograph No. 7:039-FFMR-7-20-Feb-07 **Date:** 20-Feb-07 **Time** 12:45:00 PM

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Samp. Loc. 039A020, Samp. No. NWO-039-5003

GPS Coordinates: (UTM Zone 10N) **Y** 5326113 **X** 521655

Direction Of Photo: West

Comments: Background soil sample location.

Photograph No. 8:039-FFMR-8-20-Feb-07 **Date:** 20-Feb-07 **Time** 1:15:00 PM

Fort Flagler Military Reservation - FIELD PHOTOGRAPHS

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Samp. Loc. 039A028, Samp. No. NWO-039-5012

GPS Coordinates: (UTM Zone 10N) **Y** **5326528** **Y** **521097**

Direction Of Photo: Down

Comments: Background sediment sample location.

Photograph No. 9:039-FFMR-9-20-Feb-07 **Date:** 20-Feb-07 **Time** 1:41:00 PM

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Samp. Loc. 039A022, Samp. No. NWO-039-5005

GPS Coordinates: (UTM Zone 10N) **Y** **5326645** **Y** **521011**

Direction Of Photo: North

Comments: Background soil sample location.

Photograph No. 10:039-FFMR-10`-20-Feb-07 **Date:** 20-Feb-07 **Time** 1:55:00 PM

Fort Flagler Military Reservation - FIELD PHOTOGRAPHS

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Samp. Loc. 039A021, Samp. No. NWO-039-5004

GPS Coordinates: (UTM Zone 10N) **Y** 5326598 **X** 521442

Direction Of Photo:

Comments: Background soil sample location.

Photograph No. 11:039-FFMR-11-20-Feb-07 **Date:** 20-Feb-07 **Time** 2:15:00 PM

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Samp. Loc. 039A024, Samp. No. NWO-039-5007

GPS Coordinates: (UTM Zone 10N) **Y** 5326846 **X** 522261

Direction Of Photo:

Comments: Background soil sample location.

Photograph No. 12:039-FFMR-12-20-Feb-07 **Date:** 20-Feb-07 **Time** 2:40:00 PM

Fort Flagler Military Reservation - FIELD PHOTOGRAPHS

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Samp. Loc. 039A027, Samp. No. NWO-039-5010

GPS Coordinates: (UTM Zone 10N) **Y** 5327183 **X** 522472

Direction Of Photo:

Comments: Background soil sample location.

Photograph No. 13:039-FFMR-13-20-Feb-07 **Date:** 20-Feb-07 **Time** 3:00:00 PM

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Samp. Loc. 039A023, Samp. No. NWO-039-5006

GPS Coordinates: (UTM Zone 10N) **Y** 5327333 **X** 521536

Direction Of Photo: South

Comments: Background soil sample location.

Photograph No. 14:039-FFMR-14-20-Feb-07 **Date:** 20-Feb-07 **Time** 3:40:00 PM

Fort Flagler Military Reservation - FIELD PHOTOGRAPHS

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Samp. Loc. 039A001

GPS Coordinates: (UTM Zone 10N) **Y** 5327542 **X** 521986

Direction Of Photo: East

Comments: Photo of area in front of Battery Calwell, location of reported ammunition bunker was in trees at back of photo. Bunker was not found nor was there any evidence of it. No sample collected.

Photograph No. 15:039-FFMR-15-20-Feb-07 **Date:** 20-Feb-07 **Time** 4:30:00 PM

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Samp. Loc. 039A026, Samp. No. NWO-039-5009

GPS Coordinates: (UTM Zone 10N) **Y** 5326828 **X** 522494

Direction Of Photo: North

Comments: Background soil sample location.

Photograph No. 16:039-FFMR-16-20-Feb-07 **Date:** 20-Feb-07 **Time** 4:45:00 PM

Fort Flagler Military Reservation - FIELD PHOTOGRAPHS

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Samp. Loc. 039A018, Samp. No. NWO-039-5001

GPS Coordinates: (UTM Zone 10N) **Y** 5325930 **X** 522533

Direction Of Photo:

Comments: Background soil sample location.

Photograph No. 17:039-FFMR-17-21-Feb-07 **Date:** 21-Feb-07 **Time** 9:40:00 AM

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Samp. Loc. 039A013, Samp. No. NWO-039-0010

GPS Coordinates: (UTM Zone 10N) **Y** 5326099 **X** 522765

Direction Of Photo:

Comments: Soil sample location, Live Grenade Court.

Photograph No. 18:039-FFMR-18-21-Feb-07 **Date:** 21-Feb-07 **Time** 10:00:00 AM

Fort Flagler Military Reservation - FIELD PHOTOGRAPHS

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Samp. Loc. 039A017, Samp. No. NWO-039-0013

GPS Coordinates: (UTM Zone 10N) **Y** 5326448 **X** 522901

Direction Of Photo: North

Comments: Quartermaster Wharf AOC.

Photograph No. 19:039-FFMR-19-21-Feb-07 **Date:** 21-Feb-07 **Time** 10:20:00 AM

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Samp. Loc. 039A017, Samp. No. NWO-039-0013

GPS Coordinates: (UTM Zone 10N) **Y** 5326448 **X** 522901

Direction Of Photo:

Comments: Quartermaster Wharf AOC.

Photograph No. 20:039-FFMR-20-21-Feb-07 **Date:** 21-Feb-07 **Time** 10:20:00 AM

Fort Flagler Military Reservation - FIELD PHOTOGRAPHS

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Samp. Loc. 039A005, Samp. No. NWO-039-1002

GPS Coordinates: (UTM Zone 10N) **Y** 5326682 **X** 522767

Direction Of Photo:

Comments: Sediment sample location, Transition Range 1.

Photograph No. 21:039-FFMR-21-21-Feb-07 **Date:** 21-Feb-07 **Time** 10:45:00 AM

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Samp. Loc. 039A004, Samp. No. NWO-039-0003

GPS Coordinates: (UTM Zone 10N) **Y** 5326699 **X** 522722

Direction Of Photo:

Comments: Soil sample location, Transition Range 1.

Photograph No. 22:039-FFMR-22-21-Feb-07 **Date:** 21-Feb-07 **Time** 10:50:00 AM

Fort Flagler Military Reservation - FIELD PHOTOGRAPHS

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Samp. Loc. 039A003, Samp. No. NWO-039-0002

GPS Coordinates: (UTM Zone 10N) **Y** 5326726 **X** 522704

Direction Of Photo:

Comments: Soil sample location, Transition Range 1.

Photograph No. 23:039-FFMR-23-21-Feb-07 **Date:** 21-Feb-07 **Time** 10:55:00 AM

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Near Battery Wansboro parking lot

GPS Coordinates: (UTM Zone 10N) **Y** 5326742 **X** 522826

Direction Of Photo:

Comments: Berm located near firing line at Transition Range 1. Unknown if berm is related to range.

Photograph No. 24:039-FFMR-24-21-Feb-07 **Date:** 21-Feb-07 **Time** 11:00:00 AM

Fort Flagler Military Reservation - FIELD PHOTOGRAPHS

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Samp. Loc. 039A016, Samp. No. NWO-039-1006

GPS Coordinates: (UTM Zone 10N) **Y** 5327622 **X** 523013

Direction Of Photo: Northeast

Comments: Rifle Range sediment sample location in front of target berm.

Photograph No. 25:039-FFMR-25-21-Feb-07 **Date:** 21-Feb-07 **Time** 11:30:00 AM

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Samp. Loc. 039A014, Samp. No. NWO-039-0011

GPS Coordinates: (UTM Zone 10N) **Y** 5327634 **X** 523018

Direction Of Photo: West

Comments: Rifle Range, top of target berm, reconstructed target on right.

Photograph No. 26:039-FFMR-26-21-Feb-07 **Date:** 21-Feb-07 **Time** 11:40:00 AM

Fort Flagler Military Reservation - FIELD PHOTOGRAPHS

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Samp. Loc. 039A015, Samp. No. NWO-039-0012

GPS Coordinates: (UTM Zone 10N) **Y** 5327628 **X** 523005

Direction Of Photo: North

Comments: Rifle Range, front of target berm.

Photograph No. 27:039-FFMR-27-21-Feb-07 **Date:** 21-Feb-07 **Time** 11:45:00 AM

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Samp. Loc. 039A011, Samp. No. NWO-039-0008

GPS Coordinates: (UTM Zone 10N) **Y** 5327191 **X** 521233

Direction Of Photo:

Comments: Heavy vegetation in Rifle Grenade/Anti-Tank Rocket Range.

Photograph No. 28:039-FFMR-28-21-Feb-07 **Date:** 21-Feb-07 **Time** 1:15:00 PM

Fort Flagler Military Reservation - FIELD PHOTOGRAPHS

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Samp. Loc. 039A010, Samp. No. NWO-039-0007

GPS Coordinates: (UTM Zone 10N) **Y** 5327163 **X** 521151

Direction Of Photo: West

Comments: Rifle Grenade/Anti-Tank Rocket Range, Fire Break Road near sample number NWO-039-0007.

Photograph No. 29:039-FFMR-29-21-Feb-07 **Date:** 21-Feb-07 **Time** 1:35:00 PM

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Samp. Loc. 039A009, Samp. No. NWO-039-0006

GPS Coordinates: (UTM Zone 10N) **Y** 5327129 **X** 521019

Direction Of Photo:

Comments: Sampling location for Rifle Grenade/Anti-Tank Rocket Range.

Photograph No. 30:039-FFMR-30-21-Feb-07 **Date:** 21-Feb-07 **Time** 1:50:00 PM

Fort Flagler Military Reservation - FIELD PHOTOGRAPHS

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Samp. Loc. 039A012, Samp. No. NWO-039-1005

GPS Coordinates: (UTM Zone 10N) **Y** 5327161 **X** 520986

Direction Of Photo: North

Comments: Sediment sample from Rifle Grenade/Anti-Tank Rocket Range.

Photograph No. 31:039-FFMR-31-21-Feb-07 **Date:** 21-Feb-07 **Time** 2:05:00 PM

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Samp. Loc. 039A025, Samp. No. NWO-039-5008

GPS Coordinates: (UTM Zone 10N) **Y** 5326587 **X** 522441

Direction Of Photo: West

Comments: Background soil sample location.

Photograph No. 32:039-FFMR-31-32-Feb-07 **Date:** 21-Feb-07 **Time** 2:50:00 PM

Fort Flagler Military Reservation - FIELD PHOTOGRAPHS

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Samp. Loc. 039A029, Samp. No. NWO-039-5013

GPS Coordinates: (UTM Zone 10N) **Y** 5327020 **X** 522920

Direction Of Photo: North

Comments: Near background beach sediment sample location.

Photograph No. 33:039-FFMR-33-21-Feb-07 **Date:** 21-Feb-07 **Time** 3:10:00 PM

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Samp. Loc. 039A007, Samp. No. NWO-039-0005

GPS Coordinates: (UTM Zone 10N) **Y** 5325989 **X** 522309

Direction Of Photo: North

Comments: Soil sample location at Transition Range 2.

Photograph No. 34:039-FFMR-34-21-Feb-07 **Date:** 21-Feb-07 **Time** 4:00:00 PM

Fort Flagler Military Reservation - FIELD PHOTOGRAPHS

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Samp. Loc. 039A008, Samp. No. NWO-039-1003

GPS Coordinates: (UTM Zone 10N) **Y** 5325980 **X** 522327

Direction Of Photo:

Comments: Sediment sample location at Transition Range 2; note standing water under vegetation.

Photograph No. 35:039-FFMR-35-21-Feb-07 **Date:** 21-Feb-07 **Time** 4:05:00 PM

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Samp. Loc. 039A006, Samp. No. NWO-039-0004

GPS Coordinates: (UTM Zone 10N) **Y** 5326038 **X** 522337

Direction Of Photo:

Comments: Soil sample location at Transition Range 2.

Photograph No. 36:039-FFMR-36-21-Feb-07 **Date:** 21-Feb-07 **Time** 4:10:00 PM

Fort Flagler Military Reservation - FIELD PHOTOGRAPHS

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Battery Wansboro and Gas Chamber

GPS Coordinates: (UTM Zone 10N) **Y** 5326678 **X** 522848

Direction Of Photo: South

Comments: Visual reconnaissance of Battery Wansboro and Gas Chamber; one of the rooms in battery was used for gas chamber.

Photograph No. 37:039-FFMR-37-22-Feb-07 **Date:** 22-Feb-07 **Time** 9:30:00 AM

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Transition Range 1

GPS Coordinates: (UTM Zone 10N) **Y** 5326524 **X** 522684

Direction Of Photo: West

Comments: Visual reconnaissance of Transition Range 1.

Photograph No. 38:039-FFMR-38-22-Feb-07 **Date:** 22-Feb-07 **Time** 9:55:00 AM

Fort Flagler Military Reservation - FIELD PHOTOGRAPHS

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Rifle Range

GPS Coordinates: (UTM Zone 10N) **Y** 5327568 **X** 523006

Direction Of Photo: North

Comments: Visual reconnaissance of Rifle Range, from firing line to target berm.

Photograph No. 39:039-FFMR-39-22-Feb-07 **Date:** 22-Feb-07 **Time** 10:15:00 AM

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Rifle Range

GPS Coordinates: (UTM Zone 10N) **Y** 5327734 **X** 523029

Direction Of Photo: South

Comments: Visual reconnaissance of Rifle Range, view from downrange end of safety fan to back of target berm.

Photograph No. 40:039-FFMR-40-22-Feb-07 **Date:** 22-Feb-07 **Time** 10:30:00 AM

Fort Flagler Military Reservation - FIELD PHOTOGRAPHS

Site: **Fort Flagler Military Reservation**

Photographer: Rob Irons

Location Of Photograph: Battery Gratton

GPS Coordinates: (UTM Zone 10N) **Y** 5327468 **X** 522897

Direction Of Photo: North

Comments: View of Battery Gratton.

Photograph No. 41:039-FFMR-41-22-Feb-07 **Date:** 22-Feb-07 **Time** 10:50:00 AM

Site: **Fort Flagler Military Reservation**

Photographer: Rob Irons

Location Of Photograph: Battery Rawlins

GPS Coordinates: (UTM Zone 10N) **Y** 5327615 **X** 522849

Direction Of Photo: North

Comments: View of Battery Rawlins.

Photograph No. 42:039-FFMR-42-22-Feb-07 **Date:** 22-Feb-07 **Time** 11:30:00 AM

Fort Flagler Military Reservation - FIELD PHOTOGRAPHS

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Battery Wilhelm

GPS Coordinates: (UTM Zone 10N) **Y** 5327671 **X** 522764

Direction Of Photo: North

Comments: View of Battery Wilhelm.

Photograph No. 43:039-FFMR-43-22-Feb-07 **Date:** 22-Feb-07 **Time** 11:35:00 AM

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Battery Revere

GPS Coordinates: (UTM Zone 10N) **Y** 5327692 **X** 522663

Direction Of Photo: North

Comments: View of Battery Revere.

Photograph No. 44:039-FFMR-44-22-Feb-07 **Date:** 22-Feb-07 **Time** 11:40:00 AM

Fort Flagler Military Reservation - FIELD PHOTOGRAPHS

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Battery Lee

GPS Coordinates: (UTM Zone 10N) **Y** 5327736 **X** 522981

Direction Of Photo:

Comments: View of Battery Lee.

Photograph No. 45:039-FFMR-45-22-Feb-07 **Date:** 22-Feb-07 **Time** 11:45:00 AM

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

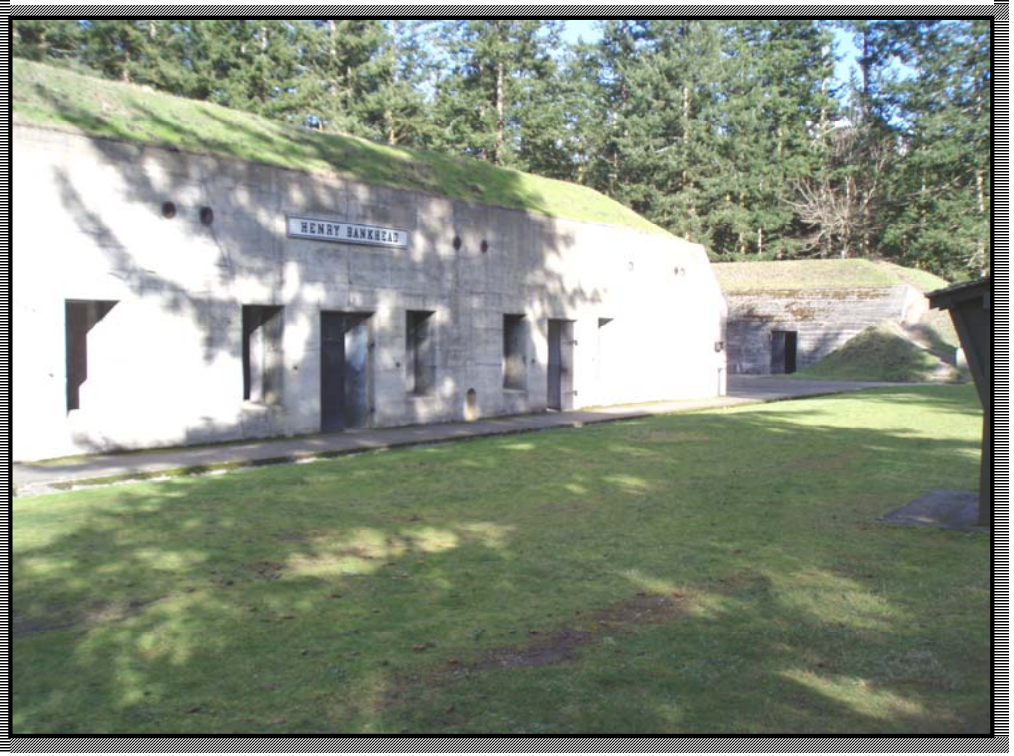
Location Of Photograph: Battery Bankhead

GPS Coordinates: (UTM Zone 10N) **Y** 5326657 **X** 521854

Direction Of Photo:

Comments: View of Battery Bankhead.

Photograph No. 46:039-FFMR-46-22-Feb-07 **Date:** 22-Feb-07 **Time** 2:35:00 PM



Fort Flagler Military Reservation - FIELD PHOTOGRAPHS

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Demolition Area

GPS Coordinates: (UTM Zone 10N) **Y** 5326774 **X** 520574

Direction Of Photo: Northwest

Comments: View of Demolition Area - area now large open field down to beach.

Photograph No. 47:039-FFMR-47-22-Feb-07 **Date:** 22-Feb-07 **Time** 3:10:00 PM

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Battery Calwell

GPS Coordinates: (UTM Zone 10N) **Y** 5327519 **X** 522033

Direction Of Photo: North

Comments: View of Battery Calwell.

Photograph No. 48:039-FFMR-48-22-Feb-07 **Date:** 22-Feb-07 **Time** 3:30:00 PM

Fort Flagler Military Reservation - FIELD PHOTOGRAPHS

Site: **Fort Flagler Military Reservation**

Photographer: **Rob Irons**

Location Of Photograph: Battery Downes

GPS Coordinates: (UTM Zone 10N) **Y** 5327652 **X** 522288

Direction Of Photo: Northwest

Comments: View of Battery Downes.

Photograph No. 49:039-FFMR-49-22-Feb-07 **Date:** 22-Feb-07 **Time** 3:40:00 PM

Site:

Photographer:

Location Of Photograph:

GPS Coordinates: (UTM Zone) **N** _____ **E** _____

Direction Of Photo:

Comments:

Photograph No. _____ **Date:** _____ **Time** _____

Appendix F
Analytical Data

Analytical Report For 702112

for

Shaw E&I, Inc

Project Manager: Tim Roth

Project Name: Fort Flagler Military Reservation - 039

GPL

Laboratories

GPL Laboratories, LLLP certifies that the test results meet all requirements of the NELAC Standards unless otherwise noted.

Reviewed By,
Project Manager

Approved By,
Laboratory Director

Case Narrative

Shaw E&I, Inc

Fort Flagler Military Reservation - 039

Work Order: 702112

Reviewed By

The Case Narrative, Chain of Custody, Sample Receipt Checklist, and the cover page of the Sample Analysis Report, are integral parts of GPL Laboratories' report package. If you did not receive all of these documents, please contact GPL immediately.

Sample Receipt

Thirteen soil samples were received on 02/23/2007. The samples were delivered by Federal Express. Sample receipt conditions and temperatures are documented on the Sample Receipt checklist.

Sample Analysis

Samples were prepared and analyzed by GPL using the analytical methodologies indicated on the Sample Analysis Summary Report. In some chromatographic analyses, manual integration is used instead of automated integration because it produces more accurate results. All manual integrations are denoted on the sample quantitation report. Analysis results and limits for soil are reported on a dry weight basis unless otherwise specified on the report.

Metals

Thirteen soil samples were analyzed for HSL metals plus molybdenum by EPA SW846 methods. The samples were analyzed by ICPMS.

The soil samples were air dried, crushed, and then sieved. The sieved samples were digested for all analytes. All the samples are assumed one hundred percent solid because dried samples were used for the digestions.

On form one, The software flags all results for specific elements with a B qualifier if they have a result above two times the MDL and less than ½ the reporting limit for a continuing calibration blank, initial calibration blank or interference check solution A.

The matrix spike and matrix spike duplicates were performed on sample NOW-039-5001 for all required analytes. A serial dilution was performed also for the ICPMS analytes. The matrix spike was outside of the control limits for antimony, barium, chromium, nickel, and potassium; the matrix spike duplicate for antimony; all associated data were flagged with an "N". A post digestion analytical spike was performed with recoveries with 10% of the true values for all analytes. No control limits were applied to the matrix spike for aluminum, calcium, iron, magnesium, and manganese; matrix spike duplicate for aluminum, calcium, iron, and magnesium due to an insignificant spike addition.

Calibration standards are verified against independent check standards purchased from a commercial vendor of environmental standards.

All GPL QA/QC criteria were met with the exceptions of those mentioned above.

Reviewed By,
Project Manager

Approved By,
Laboratory Director

GPL Laboratories, LLLP

Sample Summary Report

Shaw E&I, Inc

Work Order: 702112

Client Sample ID	Lab Sample ID	Analytical Method	Matrix	Date Sampled	Date Recieved
NWO-039-5001	702112-001-014-1/3 702112-001-014-1/3	SW6020 SW7471A	SOIL	02/21/2007	02/23/2007
NWO-039-5002	702112-002-001-1/1 702112-002-001-1/1	SW6020 SW7471A	SOIL	02/20/2007	02/23/2007
NWO-039-5003	702112-003-002-1/1 702112-003-002-1/1	SW6020 SW7471A	SOIL	02/20/2007	02/23/2007
NWO-039-5004	702112-004-003-1/1 702112-004-003-1/1	SW6020 SW7471A	SOIL	02/20/2007	02/23/2007
NWO-039-5005	702112-005-004-1/1 702112-005-004-1/1	SW6020 SW7471A	SOIL	02/20/2007	02/23/2007
NWO-039-5006	702112-006-005-1/1 702112-006-005-1/1	SW6020 SW7471A	SOIL	02/20/2007	02/23/2007
NWO-039-5007	702112-007-006-1/1 702112-007-006-1/1	SW6020 SW7471A	SOIL	02/20/2007	02/23/2007
NWO-039-5008	702112-008-007-1/1 702112-008-007-1/1	SW6020 SW7471A	SOIL	02/21/2007	02/23/2007
NWO-039-5009	702112-009-008-1/1 702112-009-008-1/1	SW6020 SW7471A	SOIL	02/20/2007	02/23/2007
NWO-039-5010	702112-010-009-1/1 702112-010-009-1/1	SW6020 SW7471A	SOIL	02/20/2007	02/23/2007
NWO-039-5011	702112-011-010-1/1 702112-011-010-1/1	SW6020 SW7471A	SOIL	02/20/2007	02/23/2007
NWO-039-5012	702112-012-011-1/1 702112-012-011-1/1	SW6020 SW7471A	SOIL	02/20/2007	02/23/2007
NWO-039-5013	702112-013-012-1/1 702112-013-012-1/1	SW6020 SW7471A	SOIL	02/21/2007	02/23/2007

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-5001	Lab Sample ID:	702112-001-014-1/3
Sample Date/Time:	02/21/2007 09:45	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:42	Preparation Method:	SW3050B
Prepared Date/Time:	02/28/2007 00:00	Analytical Method:	SW6020

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Aluminum**	**11000**	**D**	**74.6**	**10**	**mg/kg**	**03/05/07**	**18:36**
2)	Antimony	BQL	UN	0.75	10	mg/kg	03/05/07	18:36
3)	Arsenic	3.7	D	3.7	10	mg/kg	03/05/07	18:36
4)	**Barium**	**128**	**ND**	**3.7**	**10**	**mg/kg**	**03/05/07**	**18:36**
5)	**Beryllium**	**0.18**	**D**	**0.15**	**10**	**mg/kg**	**03/05/07**	**18:36**
6)	Cadmium	BQL	UD	0.37	10	mg/kg	03/05/07	18:36
7)	**Calcium**	**4300**	**DB**	**746**	**10**	**mg/kg**	**03/05/07**	**18:36**
8)	**Chromium**	**30.7**	**ND**	**1.5**	**10**	**mg/kg**	**03/05/07**	**18:36**
9)	**Cobalt**	**8.4**	**DB**	**0.75**	**10**	**mg/kg**	**03/05/07**	**18:36**
10)	**Copper**	**7.6**	**DB**	**1.5**	**10**	**mg/kg**	**03/05/07**	**18:36**
11)	**Iron**	**16000**	**DB**	**37.3**	**10**	**mg/kg**	**03/05/07**	**18:36**
12)	**Lead**	**17.7**	**DB**	**1.5**	**10**	**mg/kg**	**03/05/07**	**18:36**
13)	**Magnesium**	**4700**	**D**	**74.6**	**10**	**mg/kg**	**03/05/07**	**18:36**
14)	**Manganese**	**948**	**D**	**1.5**	**10**	**mg/kg**	**03/05/07**	**18:36**
15)	Molybdenum	0.27	JD	3.7	10	mg/kg	03/05/07	18:36
16)	**Nickel**	**66.8**	**ND**	**0.75**	**10**	**mg/kg**	**03/05/07**	**18:36**
17)	Potassium	445	JN	746	10	mg/kg	03/05/07	18:36
18)	Selenium	0.75	JDB	3.7	10	mg/kg	03/05/07	18:36
19)	Silver	0.038	JDB	0.22	10	mg/kg	03/05/07	18:36
20)	Sodium	124	JD	746	10	mg/kg	03/05/07	18:36
21)	Thallium	0.23	JDB	1.5	10	mg/kg	03/05/07	18:36
22)	**Vanadium**	**32.7**	**D**	**7.5**	**10**	**mg/kg**	**03/05/07**	**18:36**
23)	**Zinc**	**41.2**	**DB**	**7.5**	**10**	**mg/kg**	**03/05/07**	**18:36**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-5001	Lab Sample ID:	702112-001-014-1/3
Sample Date/Time:	02/21/2007 09:45	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:42	Preparation Method:	SW7471_DIG
Prepared Date/Time:	03/01/2007 13:30	Analytical Method:	SW7471A

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Mercury**	**0.062**		**0.032**	**1**	**mg/kg**	**03/02/07**	**10:01**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-5002	Lab Sample ID:	702112-002-001-1/1
Sample Date/Time:	02/20/2007 13:00	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:42	Preparation Method:	SW3050B
Prepared Date/Time:	02/28/2007 00:00	Analytical Method:	SW6020

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Aluminum**	**9870**	**D**	**75.2**	**10**	**mg/kg**	**03/01/07**	**19:21**
2)	Antimony	BQL	UN	0.75	10	mg/kg	03/01/07	19:21
3)	Arsenic	3.1	JD	3.8	10	mg/kg	03/01/07	19:21
4)	**Barium**	**73.1**	**ND**	**3.8**	**10**	**mg/kg**	**03/01/07**	**19:21**
5)	**Beryllium**	**0.17**	**D**	**0.15**	**10**	**mg/kg**	**03/01/07**	**19:21**
6)	Cadmium	0.14	JD	0.38	10	mg/kg	03/01/07	19:21
7)	**Calcium**	**4110**	**D**	**752**	**10**	**mg/kg**	**03/01/07**	**19:21**
8)	**Chromium**	**24.7**	**ND**	**1.5**	**10**	**mg/kg**	**03/01/07**	**19:21**
9)	**Cobalt**	**6.3**	**DB**	**0.75**	**10**	**mg/kg**	**03/01/07**	**19:21**
10)	**Copper**	**9.4**	**DB**	**1.5**	**10**	**mg/kg**	**03/01/07**	**19:21**
11)	**Iron**	**13200**	**D**	**37.6**	**10**	**mg/kg**	**03/01/07**	**19:21**
12)	**Lead**	**12.9**	**D**	**1.5**	**10**	**mg/kg**	**03/01/07**	**19:21**
13)	**Magnesium**	**4310**	**DB**	**75.2**	**10**	**mg/kg**	**03/01/07**	**19:21**
14)	**Manganese**	**454**	**D**	**1.5**	**10**	**mg/kg**	**03/01/07**	**19:21**
15)	Molybdenum	BQL	UD	3.8	10	mg/kg	03/01/07	19:21
16)	**Nickel**	**32.5**	**ND**	**0.75**	**10**	**mg/kg**	**03/01/07**	**19:21**
17)	**Potassium**	**760**	**ND**	**752**	**10**	**mg/kg**	**03/01/07**	**19:21**
18)	Selenium	BQL	UD	3.8	10	mg/kg	03/01/07	19:21
19)	Silver	0.047	JDB	0.23	10	mg/kg	03/01/07	19:21
20)	Sodium	128	JD	752	10	mg/kg	03/01/07	19:21
21)	Thallium	BQL	UD	1.5	10	mg/kg	03/01/07	19:21
22)	**Vanadium**	**29.9**	**D**	**7.5**	**10**	**mg/kg**	**03/01/07**	**19:21**
23)	**Zinc**	**36.1**	**DB**	**7.5**	**10**	**mg/kg**	**03/01/07**	**19:21**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-5002	Lab Sample ID:	702112-002-001-1/1
Sample Date/Time:	02/20/2007 13:00	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:42	Preparation Method:	SW7471_DIG
Prepared Date/Time:	03/01/2007 13:30	Analytical Method:	SW7471A

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Mercury**	**0.052**		**0.032**	**1**	**mg/kg**	**03/02/07**	**10:10**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-5003	Lab Sample ID:	702112-003-002-1/1
Sample Date/Time:	02/20/2007 13:25	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:42	Preparation Method:	SW3050B
Prepared Date/Time:	02/28/2007 00:00	Analytical Method:	SW6020

# Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1) **Aluminum**	**10700**	**D**	**75.2**	**10**	**mg/kg**	**03/01/07**	**19:27**
2) Antimony	0.20	JND	0.75	10	mg/kg	03/01/07	19:27
3) **Arsenic**	**5.8**	**D**	**3.8**	**10**	**mg/kg**	**03/01/07**	**19:27**
4) **Barium**	**181**	**ND**	**3.8**	**10**	**mg/kg**	**03/01/07**	**19:27**
5) **Beryllium**	**0.18**	**D**	**0.15**	**10**	**mg/kg**	**03/01/07**	**19:27**
6) Cadmium	0.17	JD	0.38	10	mg/kg	03/01/07	19:27
7) **Calcium**	**5700**	**D**	**752**	**10**	**mg/kg**	**03/01/07**	**19:27**
8) **Chromium**	**22.4**	**ND**	**1.5**	**10**	**mg/kg**	**03/01/07**	**19:27**
9) **Cobalt**	**7.2**	**DB**	**0.75**	**10**	**mg/kg**	**03/01/07**	**19:27**
10) **Copper**	**8.0**	**DB**	**1.5**	**10**	**mg/kg**	**03/01/07**	**19:27**
11) **Iron**	**12900**	**D**	**37.6**	**10**	**mg/kg**	**03/01/07**	**19:27**
12) **Lead**	**27.1**	**D**	**1.5**	**10**	**mg/kg**	**03/01/07**	**19:27**
13) **Magnesium**	**3250**	**DB**	**75.2**	**10**	**mg/kg**	**03/01/07**	**19:27**
14) **Manganese**	**1430**	**D**	**1.5**	**10**	**mg/kg**	**03/01/07**	**19:27**
15) Molybdenum	0.31	JD	3.8	10	mg/kg	03/01/07	19:27
16) **Nickel**	**43.8**	**ND**	**0.75**	**10**	**mg/kg**	**03/01/07**	**19:27**
17) Potassium	467	JN	752	10	mg/kg	03/01/07	19:27
18) Selenium	BQL	UD	3.8	10	mg/kg	03/01/07	19:27
19) Silver	0.068	JDB	0.23	10	mg/kg	03/01/07	19:27
20) Sodium	123	JD	752	10	mg/kg	03/01/07	19:27
21) Thallium	BQL	UD	1.5	10	mg/kg	03/01/07	19:27
22) **Vanadium**	**29.1**	**D**	**7.5**	**10**	**mg/kg**	**03/01/07**	**19:27**
23) **Zinc**	**53.0**	**DB**	**7.5**	**10**	**mg/kg**	**03/01/07**	**19:27**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-5003	Lab Sample ID:	702112-003-002-1/1
Sample Date/Time:	02/20/2007 13:25	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:42	Preparation Method:	SW7471_DIG
Prepared Date/Time:	03/01/2007 13:30	Analytical Method:	SW7471A

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Mercury**	**0.15**		**0.032**	**1**	**mg/kg**	**03/02/07**	**10:13**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-5004	Lab Sample ID:	702112-004-003-1/1
Sample Date/Time:	02/20/2007 14:25	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:42	Preparation Method:	SW3050B
Prepared Date/Time:	02/28/2007 00:00	Analytical Method:	SW6020

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Aluminum**	**8590**	**D**	**72.5**	**10**	**mg/kg**	**03/01/07**	**19:33**
2)	Antimony	BQL	UN	0.72	10	mg/kg	03/01/07	19:33
3)	Arsenic	3.2	JD	3.6	10	mg/kg	03/01/07	19:33
4)	**Barium**	**164**	**ND**	**3.6**	**10**	**mg/kg**	**03/01/07**	**19:33**
5)	**Beryllium**	**0.15**	**D**	**0.14**	**10**	**mg/kg**	**03/01/07**	**19:33**
6)	Cadmium	0.26	JD	0.36	10	mg/kg	03/01/07	19:33
7)	**Calcium**	**8510**	**D**	**725**	**10**	**mg/kg**	**03/01/07**	**19:33**
8)	**Chromium**	**15.4**	**ND**	**1.4**	**10**	**mg/kg**	**03/01/07**	**19:33**
9)	**Cobalt**	**4.9**	**DB**	**0.72**	**10**	**mg/kg**	**03/01/07**	**19:33**
10)	**Copper**	**8.8**	**DB**	**1.4**	**10**	**mg/kg**	**03/01/07**	**19:33**
11)	**Iron**	**10600**	**D**	**36.2**	**10**	**mg/kg**	**03/01/07**	**19:33**
12)	**Lead**	**17.1**	**D**	**1.4**	**10**	**mg/kg**	**03/01/07**	**19:33**
13)	**Magnesium**	**3050**	**DB**	**72.5**	**10**	**mg/kg**	**03/01/07**	**19:33**
14)	**Manganese**	**812**	**D**	**1.4**	**10**	**mg/kg**	**03/01/07**	**19:33**
15)	Molybdenum	0.23	JD	3.6	10	mg/kg	03/01/07	19:33
16)	**Nickel**	**26.1**	**ND**	**0.72**	**10**	**mg/kg**	**03/01/07**	**19:33**
17)	**Potassium**	**737**	**ND**	**725**	**10**	**mg/kg**	**03/01/07**	**19:33**
18)	Selenium	BQL	UD	3.6	10	mg/kg	03/01/07	19:33
19)	Silver	0.079	JDB	0.22	10	mg/kg	03/01/07	19:33
20)	Sodium	199	JD	725	10	mg/kg	03/01/07	19:33
21)	Thallium	BQL	UD	1.4	10	mg/kg	03/01/07	19:33
22)	**Vanadium**	**24.5**	**D**	**7.2**	**10**	**mg/kg**	**03/01/07**	**19:33**
23)	**Zinc**	**53.7**	**DB**	**7.2**	**10**	**mg/kg**	**03/01/07**	**19:33**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-5004	Lab Sample ID:	702112-004-003-1/1
Sample Date/Time:	02/20/2007 14:25	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:42	Preparation Method:	SW7471_DIG
Prepared Date/Time:	03/01/2007 13:30	Analytical Method:	SW7471A

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Mercury**	**0.13**		**0.033**	**1**	**mg/kg**	**03/02/07**	**10:17**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-5005	Lab Sample ID:	702112-005-004-1/1
Sample Date/Time:	02/20/2007 14:00	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:42	Preparation Method:	SW3050B
Prepared Date/Time:	02/28/2007 00:00	Analytical Method:	SW6020

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Aluminum**	**9860**	**D**	**71.4**	**10**	**mg/kg**	**03/01/07**	**19:52**
2)	Antimony	0.22	JND	0.71	10	mg/kg	03/01/07	19:52
3)	**Arsenic**	**5.5**	**D**	**3.6**	**10**	**mg/kg**	**03/01/07**	**19:52**
4)	**Barium**	**122**	**ND**	**3.6**	**10**	**mg/kg**	**03/01/07**	**19:52**
5)	**Beryllium**	**0.18**	**D**	**0.14**	**10**	**mg/kg**	**03/01/07**	**19:52**
6)	Cadmium	0.23	JD	0.36	10	mg/kg	03/01/07	19:52
7)	**Calcium**	**6540**	**D**	**714**	**10**	**mg/kg**	**03/01/07**	**19:52**
8)	**Chromium**	**23.3**	**ND**	**1.4**	**10**	**mg/kg**	**03/01/07**	**19:52**
9)	**Cobalt**	**6.3**	**DB**	**0.71**	**10**	**mg/kg**	**03/01/07**	**19:52**
10)	**Copper**	**9.4**	**DB**	**1.4**	**10**	**mg/kg**	**03/01/07**	**19:52**
11)	**Iron**	**13800**	**D**	**35.7**	**10**	**mg/kg**	**03/01/07**	**19:52**
12)	**Lead**	**24.0**	**D**	**1.4**	**10**	**mg/kg**	**03/01/07**	**19:52**
13)	**Magnesium**	**3930**	**DB**	**71.4**	**10**	**mg/kg**	**03/01/07**	**19:52**
14)	**Manganese**	**557**	**DB**	**1.4**	**10**	**mg/kg**	**03/01/07**	**19:52**
15)	Molybdenum	0.25	JD	3.6	10	mg/kg	03/01/07	19:52
16)	**Nickel**	**36.4**	**ND**	**0.71**	**10**	**mg/kg**	**03/01/07**	**19:52**
17)	Potassium	640	JN	714	10	mg/kg	03/01/07	19:52
18)	Selenium	BQL	UD	3.6	10	mg/kg	03/01/07	19:52
19)	Silver	0.051	JDB	0.21	10	mg/kg	03/01/07	19:52
20)	Sodium	167	JD	714	10	mg/kg	03/01/07	19:52
21)	Thallium	BQL	UD	1.4	10	mg/kg	03/01/07	19:52
22)	**Vanadium**	**32.4**	**D**	**7.1**	**10**	**mg/kg**	**03/01/07**	**19:52**
23)	**Zinc**	**40.4**	**DB**	**7.1**	**10**	**mg/kg**	**03/01/07**	**19:52**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-5005	Lab Sample ID:	702112-005-004-1/1
Sample Date/Time:	02/20/2007 14:00	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:42	Preparation Method:	SW7471_DIG
Prepared Date/Time:	03/01/2007 13:30	Analytical Method:	SW7471A

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Mercury**	**0.091**		**0.033**	**1**	**mg/kg**	**03/02/07**	**10:20**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-5006	Lab Sample ID:	702112-006-005-1/1
Sample Date/Time:	02/20/2007 15:45	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:42	Preparation Method:	SW3050B
Prepared Date/Time:	02/28/2007 00:00	Analytical Method:	SW6020

# Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1) **Aluminum**	**9850**	**D**	**75.8**	**10**	**mg/kg**	**03/01/07**	**19:58**
2) Antimony	0.17	JND	0.76	10	mg/kg	03/01/07	19:58
3) **Arsenic**	**6.6**	**D**	**3.8**	**10**	**mg/kg**	**03/01/07**	**19:58**
4) **Barium**	**157**	**ND**	**3.8**	**10**	**mg/kg**	**03/01/07**	**19:58**
5) **Beryllium**	**0.19**	**D**	**0.15**	**10**	**mg/kg**	**03/01/07**	**19:58**
6) Cadmium	0.27	JD	0.38	10	mg/kg	03/01/07	19:58
7) **Calcium**	**6560**	**D**	**758**	**10**	**mg/kg**	**03/01/07**	**19:58**
8) **Chromium**	**24.0**	**ND**	**1.5**	**10**	**mg/kg**	**03/01/07**	**19:58**
9) **Cobalt**	**8.9**	**DB**	**0.76**	**10**	**mg/kg**	**03/01/07**	**19:58**
10) **Copper**	**11.5**	**DB**	**1.5**	**10**	**mg/kg**	**03/01/07**	**19:58**
11) **Iron**	**14500**	**D**	**37.9**	**10**	**mg/kg**	**03/01/07**	**19:58**
12) **Lead**	**20.1**	**D**	**1.5**	**10**	**mg/kg**	**03/01/07**	**19:58**
13) **Magnesium**	**4150**	**DB**	**75.8**	**10**	**mg/kg**	**03/01/07**	**19:58**
14) **Manganese**	**1260**	**DB**	**1.5**	**10**	**mg/kg**	**03/01/07**	**19:58**
15) Molybdenum	0.24	JD	3.8	10	mg/kg	03/01/07	19:58
16) **Nickel**	**44.3**	**ND**	**0.76**	**10**	**mg/kg**	**03/01/07**	**19:58**
17) Potassium	701	JN	758	10	mg/kg	03/01/07	19:58
18) Selenium	BQL	UD	3.8	10	mg/kg	03/01/07	19:58
19) Silver	0.065	JDB	0.23	10	mg/kg	03/01/07	19:58
20) Sodium	203	JD	758	10	mg/kg	03/01/07	19:58
21) Thallium	BQL	UD	1.5	10	mg/kg	03/01/07	19:58
22) **Vanadium**	**32.0**	**D**	**7.6**	**10**	**mg/kg**	**03/01/07**	**19:58**
23) **Zinc**	**56.5**	**DB**	**7.6**	**10**	**mg/kg**	**03/01/07**	**19:58**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-5006	Lab Sample ID:	702112-006-005-1/1
Sample Date/Time:	02/20/2007 15:45	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:42	Preparation Method:	SW7471_DIG
Prepared Date/Time:	03/01/2007 13:30	Analytical Method:	SW7471A

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Mercury**	**0.12**		**0.032**	**1**	**mg/kg**	**03/02/07**	**10:23**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-5007	Lab Sample ID:	702112-007-006-1/1
Sample Date/Time:	02/20/2007 14:45	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:42	Preparation Method:	SW3050B
Prepared Date/Time:	02/28/2007 00:00	Analytical Method:	SW6020

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Aluminum**	**9820**	**D**	**72.5**	**10**	**mg/kg**	**03/01/07**	**20:04**
2)	Antimony	BQL	UN	0.72	10	mg/kg	03/01/07	20:04
3)	**Arsenic**	**5.0**	**D**	**3.6**	**10**	**mg/kg**	**03/01/07**	**20:04**
4)	**Barium**	**179**	**ND**	**3.6**	**10**	**mg/kg**	**03/01/07**	**20:04**
5)	**Beryllium**	**0.17**	**D**	**0.14**	**10**	**mg/kg**	**03/01/07**	**20:04**
6)	Cadmium	0.20	JD	0.36	10	mg/kg	03/01/07	20:04
7)	**Calcium**	**5770**	**D**	**725**	**10**	**mg/kg**	**03/01/07**	**20:04**
8)	**Chromium**	**23.4**	**ND**	**1.4**	**10**	**mg/kg**	**03/01/07**	**20:04**
9)	**Cobalt**	**6.8**	**DB**	**0.72**	**10**	**mg/kg**	**03/01/07**	**20:04**
10)	**Copper**	**7.8**	**DB**	**1.4**	**10**	**mg/kg**	**03/01/07**	**20:04**
11)	**Iron**	**12400**	**D**	**36.2**	**10**	**mg/kg**	**03/01/07**	**20:04**
12)	**Lead**	**16.6**	**D**	**1.4**	**10**	**mg/kg**	**03/01/07**	**20:04**
13)	**Magnesium**	**2860**	**DB**	**72.5**	**10**	**mg/kg**	**03/01/07**	**20:04**
14)	**Manganese**	**912**	**DB**	**1.4**	**10**	**mg/kg**	**03/01/07**	**20:04**
15)	Molybdenum	BQL	UD	3.6	10	mg/kg	03/01/07	20:04
16)	**Nickel**	**35.6**	**ND**	**0.72**	**10**	**mg/kg**	**03/01/07**	**20:04**
17)	Potassium	612	JN	725	10	mg/kg	03/01/07	20:04
18)	Selenium	BQL	UD	3.6	10	mg/kg	03/01/07	20:04
19)	Silver	0.047	JDB	0.22	10	mg/kg	03/01/07	20:04
20)	Sodium	147	JD	725	10	mg/kg	03/01/07	20:04
21)	Thallium	BQL	UD	1.4	10	mg/kg	03/01/07	20:04
22)	**Vanadium**	**28.9**	**D**	**7.2**	**10**	**mg/kg**	**03/01/07**	**20:04**
23)	**Zinc**	**58.9**	**DB**	**7.2**	**10**	**mg/kg**	**03/01/07**	**20:04**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-5007	Lab Sample ID:	702112-007-006-1/1
Sample Date/Time:	02/20/2007 14:45	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:42	Preparation Method:	SW7471_DIG
Prepared Date/Time:	03/01/2007 13:30	Analytical Method:	SW7471A

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Mercury**	**0.089**		**0.032**	**1**	**mg/kg**	**03/02/07**	**10:33**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-5008	Lab Sample ID:	702112-008-007-1/1
Sample Date/Time:	02/21/2007 14:50	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:42	Preparation Method:	SW3050B
Prepared Date/Time:	02/28/2007 00:00	Analytical Method:	SW6020

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Aluminum**	**10800**	**D**	**72.5**	**10**	**mg/kg**	**03/01/07**	**20:10**
2)	Antimony	BQL	UN	0.72	10	mg/kg	03/01/07	20:10
3)	**Arsenic**	**4.0**	**D**	**3.6**	**10**	**mg/kg**	**03/01/07**	**20:10**
4)	**Barium**	**282**	**ND**	**3.6**	**10**	**mg/kg**	**03/01/07**	**20:10**
5)	**Beryllium**	**0.22**	**D**	**0.14**	**10**	**mg/kg**	**03/01/07**	**20:10**
6)	Cadmium	0.22	JD	0.36	10	mg/kg	03/01/07	20:10
7)	**Calcium**	**4180**	**D**	**725**	**10**	**mg/kg**	**03/01/07**	**20:10**
8)	**Chromium**	**21.1**	**ND**	**1.4**	**10**	**mg/kg**	**03/01/07**	**20:10**
9)	**Cobalt**	**7.4**	**DB**	**0.72**	**10**	**mg/kg**	**03/01/07**	**20:10**
10)	**Copper**	**8.1**	**DB**	**1.4**	**10**	**mg/kg**	**03/01/07**	**20:10**
11)	**Iron**	**13700**	**D**	**36.2**	**10**	**mg/kg**	**03/01/07**	**20:10**
12)	**Lead**	**11.9**	**D**	**1.4**	**10**	**mg/kg**	**03/01/07**	**20:10**
13)	**Magnesium**	**1970**	**DB**	**72.5**	**10**	**mg/kg**	**03/01/07**	**20:10**
14)	**Manganese**	**1950**	**DB**	**1.4**	**10**	**mg/kg**	**03/01/07**	**20:10**
15)	Molybdenum	BQL	UD	3.6	10	mg/kg	03/01/07	20:10
16)	**Nickel**	**39.0**	**ND**	**0.72**	**10**	**mg/kg**	**03/01/07**	**20:10**
17)	Potassium	271	JN	725	10	mg/kg	03/01/07	20:10
18)	Selenium	BQL	UD	3.6	10	mg/kg	03/01/07	20:10
19)	Silver	0.056	JDB	0.22	10	mg/kg	03/01/07	20:10
20)	Sodium	135	JD	725	10	mg/kg	03/01/07	20:10
21)	Thallium	BQL	UD	1.4	10	mg/kg	03/01/07	20:10
22)	**Vanadium**	**27.6**	**D**	**7.2**	**10**	**mg/kg**	**03/01/07**	**20:10**
23)	**Zinc**	**81.2**	**DB**	**7.2**	**10**	**mg/kg**	**03/01/07**	**20:10**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-5008	Lab Sample ID:	702112-008-007-1/1
Sample Date/Time:	02/21/2007 14:50	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:42	Preparation Method:	SW7471_DIG
Prepared Date/Time:	03/01/2007 13:30	Analytical Method:	SW7471A

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Mercury**	**0.072**		**0.031**	**1**	**mg/kg**	**03/02/07**	**10:35**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-5009	Lab Sample ID:	702112-009-008-1/1
Sample Date/Time:	02/20/2007 16:50	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:42	Preparation Method:	SW3050B
Prepared Date/Time:	02/28/2007 00:00	Analytical Method:	SW6020

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Aluminum**	**10200**	**D**	**71.9**	**10**	**mg/kg**	**03/01/07**	**20:17**
2)	Antimony	BQL	UN	0.72	10	mg/kg	03/01/07	20:17
3)	Arsenic	2.3	JD	3.6	10	mg/kg	03/01/07	20:17
4)	**Barium**	**109**	**ND**	**3.6**	**10**	**mg/kg**	**03/01/07**	**20:17**
5)	Beryllium	0.14	JD	0.14	10	mg/kg	03/01/07	20:17
6)	Cadmium	0.18	JD	0.36	10	mg/kg	03/01/07	20:17
7)	**Calcium**	**4930**	**D**	**719**	**10**	**mg/kg**	**03/01/07**	**20:17**
8)	**Chromium**	**22.2**	**ND**	**1.4**	**10**	**mg/kg**	**03/01/07**	**20:17**
9)	**Cobalt**	**5.9**	**DB**	**0.72**	**10**	**mg/kg**	**03/01/07**	**20:17**
10)	**Copper**	**6.9**	**DB**	**1.4**	**10**	**mg/kg**	**03/01/07**	**20:17**
11)	**Iron**	**12500**	**D**	**36**	**10**	**mg/kg**	**03/01/07**	**20:17**
12)	**Lead**	**18.4**	**D**	**1.4**	**10**	**mg/kg**	**03/01/07**	**20:17**
13)	**Magnesium**	**3350**	**DB**	**71.9**	**10**	**mg/kg**	**03/01/07**	**20:17**
14)	**Manganese**	**392**	**DB**	**1.4**	**10**	**mg/kg**	**03/01/07**	**20:17**
15)	Molybdenum	BQL	UD	3.6	10	mg/kg	03/01/07	20:17
16)	**Nickel**	**39.6**	**ND**	**0.72**	**10**	**mg/kg**	**03/01/07**	**20:17**
17)	Potassium	466	JN	719	10	mg/kg	03/01/07	20:17
18)	Selenium	BQL	UD	3.6	10	mg/kg	03/01/07	20:17
19)	Silver	0.16	JDB	0.22	10	mg/kg	03/01/07	20:17
20)	Sodium	128	JD	719	10	mg/kg	03/01/07	20:17
21)	Thallium	BQL	UD	1.4	10	mg/kg	03/01/07	20:17
22)	**Vanadium**	**29.1**	**D**	**7.2**	**10**	**mg/kg**	**03/01/07**	**20:17**
23)	**Zinc**	**53.8**	**DB**	**7.2**	**10**	**mg/kg**	**03/01/07**	**20:17**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-5009	Lab Sample ID:	702112-009-008-1/1
Sample Date/Time:	02/20/2007 16:50	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:42	Preparation Method:	SW7471_DIG
Prepared Date/Time:	03/01/2007 13:30	Analytical Method:	SW7471A

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Mercury**	**0.079**		**0.032**	**1**	**mg/kg**	**03/02/07**	**10:39**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-5010	Lab Sample ID:	702112-010-009-1/1
Sample Date/Time:	02/20/2007 15:15	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:42	Preparation Method:	SW3050B
Prepared Date/Time:	02/28/2007 00:00	Analytical Method:	SW6020

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Aluminum**	**11000**	**D**	**71.4**	**10**	**mg/kg**	**03/01/07**	**20:23**
2)	Antimony	BQL	UN	0.71	10	mg/kg	03/01/07	20:23
3)	Arsenic	2.4	JD	3.6	10	mg/kg	03/01/07	20:23
4)	**Barium**	**93.8**	**ND**	**3.6**	**10**	**mg/kg**	**03/01/07**	**20:23**
5)	**Beryllium**	**0.18**	**D**	**0.14**	**10**	**mg/kg**	**03/01/07**	**20:23**
6)	Cadmium	BQL	UD	0.36	10	mg/kg	03/01/07	20:23
7)	**Calcium**	**3030**	**D**	**714**	**10**	**mg/kg**	**03/01/07**	**20:23**
8)	**Chromium**	**27.6**	**ND**	**1.4**	**10**	**mg/kg**	**03/01/07**	**20:23**
9)	**Cobalt**	**7.5**	**DB**	**0.71**	**10**	**mg/kg**	**03/01/07**	**20:23**
10)	**Copper**	**9.6**	**DB**	**1.4**	**10**	**mg/kg**	**03/01/07**	**20:23**
11)	**Iron**	**14900**	**D**	**35.7**	**10**	**mg/kg**	**03/01/07**	**20:23**
12)	**Lead**	**22.3**	**D**	**1.4**	**10**	**mg/kg**	**03/01/07**	**20:23**
13)	**Magnesium**	**3520**	**DB**	**71.4**	**10**	**mg/kg**	**03/01/07**	**20:23**
14)	**Manganese**	**345**	**DB**	**1.4**	**10**	**mg/kg**	**03/01/07**	**20:23**
15)	Molybdenum	0.32	JD	3.6	10	mg/kg	03/01/07	20:23
16)	**Nickel**	**42.3**	**ND**	**0.71**	**10**	**mg/kg**	**03/01/07**	**20:23**
17)	Potassium	597	JN	714	10	mg/kg	03/01/07	20:23
18)	Selenium	BQL	UD	3.6	10	mg/kg	03/01/07	20:23
19)	Silver	0.060	JDB	0.21	10	mg/kg	03/01/07	20:23
20)	Sodium	175	JD	714	10	mg/kg	03/01/07	20:23
21)	Thallium	BQL	UD	1.4	10	mg/kg	03/01/07	20:23
22)	**Vanadium**	**38.1**	**D**	**7.1**	**10**	**mg/kg**	**03/01/07**	**20:23**
23)	**Zinc**	**41.2**	**DB**	**7.1**	**10**	**mg/kg**	**03/01/07**	**20:23**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-5010	Lab Sample ID:	702112-010-009-1/1
Sample Date/Time:	02/20/2007 15:15	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:42	Preparation Method:	SW7471_DIG
Prepared Date/Time:	03/01/2007 13:30	Analytical Method:	SW7471A

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Mercury**	**0.095**		**0.032**	**1**	**mg/kg**	**03/02/07**	**10:42**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-5011	Lab Sample ID:	702112-011-010-1/1
Sample Date/Time:	02/20/2007 15:15	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:42	Preparation Method:	SW3050B
Prepared Date/Time:	02/28/2007 00:00	Analytical Method:	SW6020

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Aluminum**	**10600**	**D**	**75.8**	**10**	**mg/kg**	**03/01/07**	**20:29**
2)	Antimony	BQL	UN	0.76	10	mg/kg	03/01/07	20:29
3)	Arsenic	2.8	JD	3.8	10	mg/kg	03/01/07	20:29
4)	**Barium**	**89.1**	**ND**	**3.8**	**10**	**mg/kg**	**03/01/07**	**20:29**
5)	**Beryllium**	**0.17**	**D**	**0.15**	**10**	**mg/kg**	**03/01/07**	**20:29**
6)	Cadmium	0.12	JD	0.38	10	mg/kg	03/01/07	20:29
7)	**Calcium**	**2870**	**D**	**758**	**10**	**mg/kg**	**03/01/07**	**20:29**
8)	**Chromium**	**26.9**	**ND**	**1.5**	**10**	**mg/kg**	**03/01/07**	**20:29**
9)	**Cobalt**	**7.2**	**DB**	**0.76**	**10**	**mg/kg**	**03/01/07**	**20:29**
10)	**Copper**	**9.3**	**DB**	**1.5**	**10**	**mg/kg**	**03/01/07**	**20:29**
11)	**Iron**	**14400**	**D**	**37.9**	**10**	**mg/kg**	**03/01/07**	**20:29**
12)	**Lead**	**20.2**	**D**	**1.5**	**10**	**mg/kg**	**03/01/07**	**20:29**
13)	**Magnesium**	**3340**	**DB**	**75.8**	**10**	**mg/kg**	**03/01/07**	**20:29**
14)	**Manganese**	**331**	**DB**	**1.5**	**10**	**mg/kg**	**03/01/07**	**20:29**
15)	Molybdenum	0.31	JD	3.8	10	mg/kg	03/01/07	20:29
16)	**Nickel**	**41.1**	**ND**	**0.76**	**10**	**mg/kg**	**03/01/07**	**20:29**
17)	Potassium	590	JN	758	10	mg/kg	03/01/07	20:29
18)	Selenium	BQL	UD	3.8	10	mg/kg	03/01/07	20:29
19)	Silver	0.059	JDB	0.23	10	mg/kg	03/01/07	20:29
20)	Sodium	173	JD	758	10	mg/kg	03/01/07	20:29
21)	Thallium	BQL	UD	1.5	10	mg/kg	03/01/07	20:29
22)	**Vanadium**	**36.7**	**D**	**7.6**	**10**	**mg/kg**	**03/01/07**	**20:29**
23)	**Zinc**	**39.7**	**DB**	**7.6**	**10**	**mg/kg**	**03/01/07**	**20:29**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-5011	Lab Sample ID:	702112-011-010-1/1
Sample Date/Time:	02/20/2007 15:15	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:42	Preparation Method:	SW7471_DIG
Prepared Date/Time:	03/01/2007 13:30	Analytical Method:	SW7471A

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Mercury**	**0.097**		**0.032**	**1**	**mg/kg**	**03/02/07**	**10:45**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-5012	Lab Sample ID:	702112-012-011-1/1
Sample Date/Time:	02/20/2007 13:45	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:42	Preparation Method:	SW3050B
Prepared Date/Time:	02/28/2007 00:00	Analytical Method:	SW6020

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Aluminum**	**10800**	**D**	**75.8**	**10**	**mg/kg**	**03/01/07**	**20:35**
2)	Antimony	BQL	UN	0.76	10	mg/kg	03/01/07	20:35
3)	**Arsenic**	**3.9**	**D**	**3.8**	**10**	**mg/kg**	**03/01/07**	**20:35**
4)	**Barium**	**131**	**ND**	**3.8**	**10**	**mg/kg**	**03/01/07**	**20:35**
5)	**Beryllium**	**0.19**	**D**	**0.15**	**10**	**mg/kg**	**03/01/07**	**20:35**
6)	Cadmium	0.19	JD	0.38	10	mg/kg	03/01/07	20:35
7)	**Calcium**	**6410**	**D**	**758**	**10**	**mg/kg**	**03/01/07**	**20:35**
8)	**Chromium**	**28.5**	**ND**	**1.5**	**10**	**mg/kg**	**03/01/07**	**20:35**
9)	**Cobalt**	**8.4**	**DB**	**0.76**	**10**	**mg/kg**	**03/01/07**	**20:35**
10)	**Copper**	**11.1**	**DB**	**1.5**	**10**	**mg/kg**	**03/01/07**	**20:35**
11)	**Iron**	**15600**	**D**	**37.9**	**10**	**mg/kg**	**03/01/07**	**20:35**
12)	**Lead**	**12.8**	**D**	**1.5**	**10**	**mg/kg**	**03/01/07**	**20:35**
13)	**Magnesium**	**5660**	**DB**	**75.8**	**10**	**mg/kg**	**03/01/07**	**20:35**
14)	**Manganese**	**590**	**DB**	**1.5**	**10**	**mg/kg**	**03/01/07**	**20:35**
15)	Molybdenum	BQL	UD	3.8	10	mg/kg	03/01/07	20:35
16)	**Nickel**	**46.9**	**ND**	**0.76**	**10**	**mg/kg**	**03/01/07**	**20:35**
17)	**Potassium**	**979**	**ND**	**758**	**10**	**mg/kg**	**03/01/07**	**20:35**
18)	Selenium	BQL	UD	3.8	10	mg/kg	03/01/07	20:35
19)	Silver	0.11	JDB	0.23	10	mg/kg	03/01/07	20:35
20)	Sodium	301	JD	758	10	mg/kg	03/01/07	20:35
21)	Thallium	BQL	UD	1.5	10	mg/kg	03/01/07	20:35
22)	**Vanadium**	**33.9**	**D**	**7.6**	**10**	**mg/kg**	**03/01/07**	**20:35**
23)	**Zinc**	**45.3**	**DB**	**7.6**	**10**	**mg/kg**	**03/01/07**	**20:35**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-5012	Lab Sample ID:	702112-012-011-1/1
Sample Date/Time:	02/20/2007 13:45	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:42	Preparation Method:	SW7471_DIG
Prepared Date/Time:	03/01/2007 13:30	Analytical Method:	SW7471A

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Mercury**	**0.082**		**0.031**	**1**	**mg/kg**	**03/02/07**	**10:48**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-5013	Lab Sample ID:	702112-013-012-1/1
Sample Date/Time:	02/21/2007 15:10	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:42	Preparation Method:	SW3050B
Prepared Date/Time:	02/28/2007 00:00	Analytical Method:	SW6020

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Aluminum**	**6250**	**D**	**69**	**10**	**mg/kg**	**03/01/07**	**20:41**
2)	Antimony	BQL	UN	0.69	10	mg/kg	03/01/07	20:41
3)	Arsenic	1.3	JD	3.4	10	mg/kg	03/01/07	20:41
4)	**Barium**	**25.8**	**ND**	**3.4**	**10**	**mg/kg**	**03/01/07**	**20:41**
5)	Beryllium	0.091	JD	0.14	10	mg/kg	03/01/07	20:41
6)	Cadmium	BQL	UD	0.34	10	mg/kg	03/01/07	20:41
7)	**Calcium**	**3590**	**D**	**690**	**10**	**mg/kg**	**03/01/07**	**20:41**
8)	**Chromium**	**23.5**	**ND**	**1.4**	**10**	**mg/kg**	**03/01/07**	**20:41**
9)	**Cobalt**	**5.3**	**DB**	**0.69**	**10**	**mg/kg**	**03/01/07**	**20:41**
10)	**Copper**	**7.9**	**DB**	**1.4**	**10**	**mg/kg**	**03/01/07**	**20:41**
11)	**Iron**	**11600**	**D**	**34.5**	**10**	**mg/kg**	**03/01/07**	**20:41**
12)	**Lead**	**1.5**	**D**	**1.4**	**10**	**mg/kg**	**03/01/07**	**20:41**
13)	**Magnesium**	**6220**	**DB**	**69**	**10**	**mg/kg**	**03/01/07**	**20:41**
14)	**Manganese**	**174**	**DB**	**1.4**	**10**	**mg/kg**	**03/01/07**	**20:41**
15)	Molybdenum	BQL	UD	3.4	10	mg/kg	03/01/07	20:41
16)	**Nickel**	**41.6**	**ND**	**0.69**	**10**	**mg/kg**	**03/01/07**	**20:41**
17)	Potassium	360	JN	690	10	mg/kg	03/01/07	20:41
18)	Selenium	BQL	UD	3.4	10	mg/kg	03/01/07	20:41
19)	Silver	0.022	JDB	0.21	10	mg/kg	03/01/07	20:41
20)	Sodium	373	JD	690	10	mg/kg	03/01/07	20:41
21)	Thallium	BQL	UD	1.4	10	mg/kg	03/01/07	20:41
22)	**Vanadium**	**28.7**	**D**	**6.9**	**10**	**mg/kg**	**03/01/07**	**20:41**
23)	**Zinc**	**20.3**	**DB**	**6.9**	**10**	**mg/kg**	**03/01/07**	**20:41**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-5013	Lab Sample ID:	702112-013-012-1/1
Sample Date/Time:	02/21/2007 15:10	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:42	Preparation Method:	SW7471_DIG
Prepared Date/Time:	03/01/2007 13:30	Analytical Method:	SW7471A

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	Mercury	0.0066	J	0.032	1	mg/kg	03/02/07	10:51

Qualifier Definitions

Shaw E&I, Inc

Work Order: 702112

All Departments

U	Indicates that the compound was analyzed for but not detected
BQL	Below Quantitation Limit

Organics

B	Indicates that the analyte was found in the associated blank as well as in the sample
D	Indicates that the analyte was reported from a diluted analysis
E	Indicates that the concentration detected exceeded the calibration range of the instrument
J	Value is less than the reporting limit but greater than the MDL
P	Indicates that there is greater than 25% difference for detected pesticide/Arochlor results between the two GC columns

Metals

J	Indicates that the reported value was less than the reporting limit but greater than or equal to the IDL/MDL
E	Indicates that the reported value is estimated because of the possible presence of interference (i.e. the serial dilution not within control limits)
H	Indicates that the element was found in the associated blank as well as in the sample and the value is greater than or equal to the reporting limit
D	Indicates that the analyte was reported from a diluted analysis
N	Spiked sample recovery not within control limits
*	Duplicate analysis not within control limits

GPL Laboratories

CHAIN OF CUSTODY

COC Number: NWO039-003

PAGE: ____ OF 1

GPL Project Manager: Tim Wood
Project Name: FUDS MMRP NWO
Project Number: 16155
Client Name: Shaw Environmental, Inc.
Address: 312 Directors Drive
City, State: Knoxville, TN
Phone: 865-696-4972
Zip Code: 37923
Disposal Method: Return
Shipped Via: FedEx
Sent Date:

Comments: Please Analyze Samples for Analytes.

Preservatives and Containers

Shaw MMRP FUDS Site - 039 Flagler Military Reservation

Sample Information / Methods for Analysis

No.	FIELD Sample ID	Date Sampled	Time Sampled	Matrix	Sample's Initials	TAL Metals (including Molybdenum) by SW-846 6020A	Mercury by SW-846 7471A	Perchlorate by SW-846 6850	Filter	Total # of Containers
1	NWO-039-5001	02/21/07	09:45	SO	SP	X	X	X	N	1
2	NWO-039-5001-MS	02/21/07	09:45	SO	SP	X	X	X	N	1
3	NWO-039-5001-MSD	02/21/07	09:45	SO	SP	X	X	X	N	1
4	NWO-039-5002	02/20/07	13:00	SO	SP	X	X	X	N	1
5	NWO-039-5003	02/20/07	13:25	SO	SP	X	X	X	N	1
6	NWO-039-5004	02/20/07	14:25	SO	SP	X	X	X	N	1
7	NWO-039-5006	02/20/07	15:00	SO	SP	X	X	X	N	1
8	NWO-039-5008	02/20/07	15:45	SO	SP	X	X	X	N	1
9	NWO-039-5007	02/20/07	14:45	SO	SP	X	X	X	N	1
10	NWO-039-5008	02/20/07	14:50	SO	SP	X	X	X	N	1
11	NWO-039-5009	02/20/07	16:50	SO	SP	X	X	X	N	1
12	NWO-039-5010	02/20/07	15:15	SO	SP	X	X	X	N	1
13	NWO-039-5011	02/20/07	15:15	SO	SP	X	X	X	N	1
14	NWO-039-5012	02/20/07	13:45	SO	SP	X	X	X	N	1
15	NWO-039-5013	02/20/07	15:10	SO	SP	X	X	X	N	1

Sample Matrix: SO=Soil; SD=Sediment

TAT Requirement: 21 Days

Total number of samples

Relinquished By	Date	Time	Received By	Date	Time
[signature]	02/21/07	12:35			
Relinquished By	Date	Time	Received By	Date	Time
			[signature]	2/23/07	10:40

GPL WORK ORDER #: 702112

PURCHASE ORDER #: ____

COOLER RECEIPT CONDITION: 2-0

GPL Laboratories, LLLP
7210A Corporate CT, Frederick, MD 21703
Tel. (301)694-5310 Fax (301)620-0731

www.gplab.com

FedEx Express Billable Stamp

1 From

FEDEX#: 00685493

Expiration Date May 19 2008

FedEx Priority Overnight

2 To

GPL LABS
7210 A CORPORATE CT.
FREDERICK, MD 21703
(301)694-5310

FedEx PRIORITY OVERNIGHT FRI

TRK# 8546 9918 8440 FORM 0561

Deliver By: 23FEB07

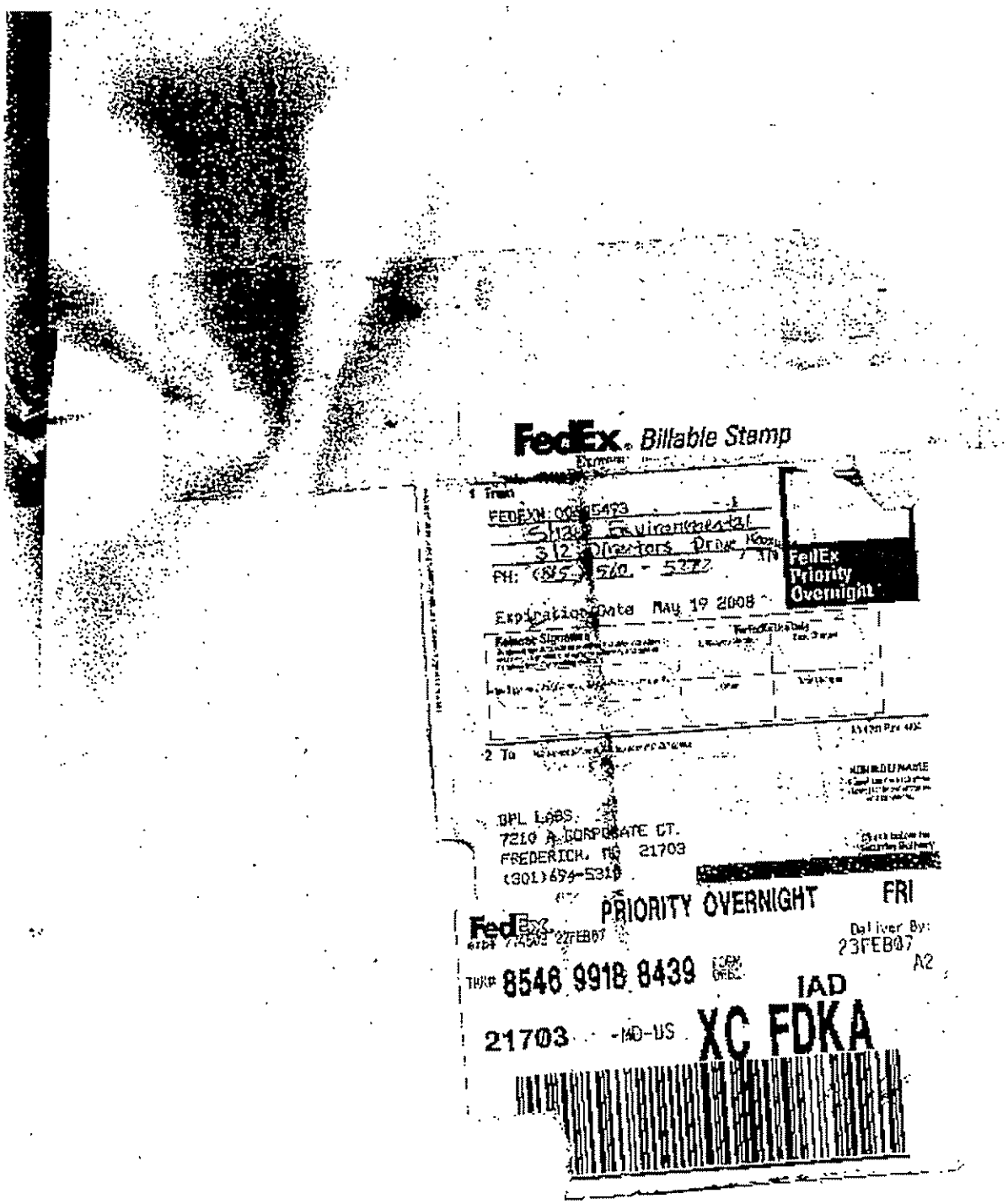
A2

21703 -MD-US IAD XC FDKA

Chain of Custody

Shaw E&I, Inc

SDG: 702112



GPL Laboratories, LLLP

Figure 1
SAMPLE RECEIPT CHECKLIST

W.O. No: 702112

Client Name: Shaw

Date Received: 2/23/07

Time Received: 10 Am

Received By: MJD

Center Name: FTDSX

Received/Logged In By: MJD, 2/23/07
Initials Date

Project:

Site:

VOA Holding Blank I.D. No:

	YES	NO
Airbill/Manifest Present?	✓	
No.		
Shipping Container in Good Condition?	✓	
Custody Seals Present on Shipping Container?	✓	
Conditions: Broken		
Intact-not dated or signed		
Intact-dated and signed	✓	
Usage of Tamper Evident Type	✓	
Chain-of-Custody Present?	✓	
Chain-of-Custody Agrees with Sample Labels?	✓	
Chain-of-Custody Signed?	✓	
Packing Present in Shipping Container?	✓	
Type of Packing: Styrofoam, Wrap	✓	
Custody seals on Sample Bottles?	✓	
Condition: Good ✓ Broken		
Total Number of Sample Bottles: 16		
Total Number of Samples: ~~14~~ 13 MJD		
Samples Intact?	✓	
Sufficient Sample Volume for Indicated Test?	✓	

	YES	NO
Trip Blanks: No. of Sets		✓
Field Blanks: No. of Sets		✓
Equip. Blank No. of Sets		✓
Field Duplicate: No. of Sets		✓
MS/MSD: No of Sets		✓
VOA Vials Have Zero Headspace?		✓
If no, smaller or greater than a Green Pea (see comments)		
Preservatives Added to Samples?		✓
pH Check Required?		✓
Performed By?		✓
Ice Present in Shipping Container?	✓	

Container #	Temp.	Container #	Temp.
1	2.0	2	2.0

Project Manager Contacted? Time
Name:
Date Contacted: 2/23/07

Any NO response must be detailed in the comments section below. If items are not applicable to particular samples or contracts, they should be marked *NA*.

COMMENTS:

Checklist Completed By: MJD

Date: 2/23/07

SOP No: F.2V.6

TRACE METALS

GPL Laboratories

USEPA - CLP

COVER PAGE

Lab Name: GPL LABORATORIES, LLLP Contract:

Lab Code: Case No.: NRAS No.: SDG No.: 702112

SOW No.: SW846

EPA Sample No.	Lab Sample ID
NWO-039-5001	S 702112-001-014-1/3
NWO-039-5001 MS	SP702112-001-014-1/3
NWO-039-5001 MSD	SD702112-001-014-1/3
NWO-039-5002	S 702112-002-001-1/1
NWO-039-5003	S 702112-003-002-1/1
NWO-039-5004	S 702112-004-003-1/1
NWO-039-5005	S 702112-005-004-1/1
NWO-039-5006	S 702112-006-005-1/1
NWO-039-5007	S 702112-007-006-1/1
NWO-039-5008	S 702112-008-007-1/1
NWO-039-5009	S 702112-009-008-1/1
NWO-039-5010	S 702112-010-009-1/1
NWO-039-5011	S 702112-011-010-1/1
NWO-039-5012	S 702112-012-011-1/1
NWO-039-5013	S 702112-013-012-1/1

		ICP-AES	ICP-MS
Were ICP-AES and ICP-MS interelement corrections applied?	(Yes/No)	YES	YES
Were ICP-AES and ICP-MS background corrections applied?	(Yes/No)	YES	YES
if yes, were raw data generated before application of background corrections?	(Yes/No)	NO	YES

Comments:

I certify that this Sample Data Package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy Sample Data Package and in the computer-readable data submitted on diskette (or via an alternate means of electronic transmission, if approved in advance by USEPA) has been authorized by the Laboratory Manager or the Manager's designee, as referred by the following signature.

Signature: Name: Kelvin K-G CHOI

Date: 3/2/2007 Title: Chemist

GPL Laboratories, LLLP

Sample Results

Project:	702112	Matrix:	Soil
Lab Sample ID:	S 702112-001-014-1/3	Percent Moisture:	0.0
Client Sample ID:	NWO-039-5001	Prep Batch:	96699
Analysis Method:	6020 ICPMS Analysis	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Aluminum	27	2.0	74.6	11000	D	10	03/05/07 18:36
Antimony	121	0.13	0.75	0.13	UND	10	03/05/07 18:36
Arsenic	75	0.46	3.7	3.7	D	10	03/05/07 18:36
Barium	137	0.17	3.7	128	NDB	10	03/05/07 18:36
Beryllium	9	0.024	0.15	0.18	D	10	03/05/07 18:36
Cadmium	110	0.10	0.37	0.10	UD	10	03/05/07 18:36
Calcium	44	4.2	746	4300	DB	10	03/05/07 18:36
Chromium	52	0.21	1.5	30.7	ND	10	03/05/07 18:36
Cobalt	59	0.013	0.75	8.4	DB	10	03/05/07 18:36
Copper	65	0.15	1.5	7.6	DB	10	03/05/07 18:36
Iron	56	2.4	37.3	16000	DB	10	03/05/07 18:36
Lead	208	0.059	1.5	17.7	DB	10	03/05/07 18:36
Magnesium	25	1.3	74.6	4700	D	10	03/05/07 18:36
Manganese	55	0.043	1.5	948	D	10	03/05/07 18:36
Molybdenum	95	0.22	3.7	0.27	JD	10	03/05/07 18:36
Nickel	60	0.066	0.75	66.8	NDB	10	03/05/07 18:36
Potassium	39	1.5	746	445	JNDB	10	03/05/07 18:36
Selenium	82	0.72	3.7	0.75	JDB	10	03/05/07 18:36
Silver	107	0.014	0.22	0.038	JDB	10	03/05/07 18:36
Sodium	23	7.0	746	124	JD	10	03/05/07 18:36
Thallium	203	0.13	1.5	0.23	JDB	10	03/05/07 18:36
Vanadium	51	1.9	7.5	32.7	D	10	03/05/07 18:36
Zinc	66	0.37	7.5	41.2	DB	10	03/05/07 18:36

U = The analyte concentration was less than the MDL
J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Sample Results

Project:	702112	Matrix:	Soil
Lab Sample ID:	S 702112-001-014-1/3	Percent Moisture:	0.0
Client Sample ID:	NWO-039-5001	Prep Batch:	96674
Analysis Method:	Mercury (7471A, Cold Vapor)	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Mercury	253.7	0.0032	0.032	0.062		1	03/02/07 10:01

U = The analyte concentration was less than the MDL
J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Sample Results

Project:	702112	Matrix:	Soil
Lab Sample ID:	S 702112-002-001-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-5002	Prep Batch:	96699
Analysis Method:	6020 ICPMS Analysis	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Aluminum	27	2.0	75.2	9870	D	10	03/01/07 19:21
Antimony	121	0.13	0.75	0.13	UND	10	03/01/07 19:21
Arsenic	75	0.46	3.8	3.1	JD	10	03/01/07 19:21
Barium	137	0.17	3.8	73.1	NDB	10	03/01/07 19:21
Beryllium	9	0.024	0.15	0.17	D	10	03/01/07 19:21
Cadmium	110	0.11	0.38	0.14	JD	10	03/01/07 19:21
Calcium	44	4.2	752	4110	D	10	03/01/07 19:21
Chromium	52	0.21	1.5	24.7	ND	10	03/01/07 19:21
Cobalt	59	0.013	0.75	6.3	DB	10	03/01/07 19:21
Copper	65	0.15	1.5	9.4	DB	10	03/01/07 19:21
Iron	56	2.4	37.6	13200	D	10	03/01/07 19:21
Lead	208	0.059	1.5	12.9	D	10	03/01/07 19:21
Magnesium	25	1.4	75.2	4310	DB	10	03/01/07 19:21
Manganese	55	0.043	1.5	454	D	10	03/01/07 19:21
Molybdenum	95	0.22	3.8	0.22	UD	10	03/01/07 19:21
Nickel	60	0.066	0.75	32.5	ND	10	03/01/07 19:21
Potassium	39	1.5	752	760	NDB	10	03/01/07 19:21
Selenium	82	0.73	3.8	0.73	UD	10	03/01/07 19:21
Silver	107	0.014	0.23	0.047	JDB	10	03/01/07 19:21
Sodium	23	7.1	752	128	JD	10	03/01/07 19:21
Thallium	203	0.13	1.5	0.13	UDB	10	03/01/07 19:21
Vanadium	51	1.9	7.5	29.9	D	10	03/01/07 19:21
Zinc	66	0.37	7.5	36.1	DB	10	03/01/07 19:21

U = The analyte concentration was less than the MDL

J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Sample Results

Project:	702112	Matrix:	Soil
Lab Sample ID:	S 702112-002-001-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-5002	Prep Batch:	96674
Analysis Method:	Mercury (7471A, Cold Vapor)	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Mercury	253.7	0.0032	0.032	0.052		1	03/02/07 10:10

U = The analyte concentration was less than the MDL
J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Sample Results

Project:	702112	Matrix:	Soil
Lab Sample ID:	S 702112-003-002-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-5003	Prep Batch:	96699
Analysis Method:	6020 ICPMS Analysis	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Aluminum	27	2.0	75.2	10700	D	10	03/01/07 19:27
Antimony	121	0.13	0.75	0.20	JND	10	03/01/07 19:27
Arsenic	75	0.46	3.8	5.8	D	10	03/01/07 19:27
Barium	137	0.17	3.8	181	NDB	10	03/01/07 19:27
Beryllium	9	0.024	0.15	0.18	D	10	03/01/07 19:27
Cadmium	110	0.11	0.38	0.17	JD	10	03/01/07 19:27
Calcium	44	4.2	752	5700	D	10	03/01/07 19:27
Chromium	52	0.21	1.5	22.4	ND	10	03/01/07 19:27
Cobalt	59	0.013	0.75	7.2	DB	10	03/01/07 19:27
Copper	65	0.15	1.5	8.0	DB	10	03/01/07 19:27
Iron	56	2.4	37.6	12900	D	10	03/01/07 19:27
Lead	208	0.059	1.5	27.1	D	10	03/01/07 19:27
Magnesium	25	1.4	75.2	3250	DB	10	03/01/07 19:27
Manganese	55	0.043	1.5	1430	D	10	03/01/07 19:27
Molybdenum	95	0.22	3.8	0.31	JD	10	03/01/07 19:27
Nickel	60	0.066	0.75	43.8	ND	10	03/01/07 19:27
Potassium	39	1.5	752	467	JNDB	10	03/01/07 19:27
Selenium	82	0.73	3.8	0.73	UD	10	03/01/07 19:27
Silver	107	0.014	0.23	0.068	JDB	10	03/01/07 19:27
Sodium	23	7.1	752	123	JD	10	03/01/07 19:27
Thallium	203	0.13	1.5	0.13	UDB	10	03/01/07 19:27
Vanadium	51	1.9	7.5	29.1	D	10	03/01/07 19:27
Zinc	66	0.37	7.5	53.0	DB	10	03/01/07 19:27

U = The analyte concentration was less than the MDL
J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4 SW846

GPL Laboratories, LLLP

Sample Results

Project:	702112	Matrix:	Soil
Lab Sample ID:	S 702112-003-002-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-5003	Prep Batch:	96674
Analysis Method:	Mercury (7471A, Cold Vapor)	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Mercury	253.7	0.0032	0.032	0.15		1	03/02/07 10:13

U = The analyte concentration was less than the MDL
J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Sample Results

Project:	702112	Matrix:	Soil
Lab Sample ID:	S 702112-004-003-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-5004	Prep Batch:	96699
Analysis Method:	6020 ICPMS Analysis	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Aluminum	27	2.0	72.5	8590	D	10	03/01/07 19:33
Antimony	121	0.12	0.72	0.12	UND	10	03/01/07 19:33
Arsenic	75	0.44	3.6	3.2	JD	10	03/01/07 19:33
Barium	137	0.17	3.6	164	NDB	10	03/01/07 19:33
Beryllium	9	0.023	0.14	0.15	D	10	03/01/07 19:33
Cadmium	110	0.10	0.36	0.26	JD	10	03/01/07 19:33
Calcium	44	4.1	725	8510	D	10	03/01/07 19:33
Chromium	52	0.20	1.4	15.4	ND	10	03/01/07 19:33
Cobalt	59	0.012	0.72	4.9	DB	10	03/01/07 19:33
Copper	65	0.14	1.4	8.8	DB	10	03/01/07 19:33
Iron	56	2.3	36.2	10600	D	10	03/01/07 19:33
Lead	208	0.057	1.4	17.1	D	10	03/01/07 19:33
Magnesium	25	1.3	72.5	3050	DB	10	03/01/07 19:33
Manganese	55	0.041	1.4	812	D	10	03/01/07 19:33
Molybdenum	95	0.21	3.6	0.23	JD	10	03/01/07 19:33
Nickel	60	0.064	0.72	26.1	ND	10	03/01/07 19:33
Potassium	39	1.4	725	737	NDB	10	03/01/07 19:33
Selenium	82	0.70	3.6	0.70	UD	10	03/01/07 19:33
Silver	107	0.014	0.22	0.079	JDB	10	03/01/07 19:33
Sodium	23	6.8	725	199	JD	10	03/01/07 19:33
Thallium	203	0.12	1.4	0.12	UDB	10	03/01/07 19:33
Vanadium	51	1.8	7.2	24.5	D	10	03/01/07 19:33
Zinc	66	0.36	7.2	53.7	DB	10	03/01/07 19:33

U = The analyte concentration was less than the MDL
J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4 SW846

GPL Laboratories, LLLP

Sample Results

Project:	702112	Matrix:	Soil
Lab Sample ID:	S 702112-004-003-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-5004	Prep Batch:	96674
Analysis Method:	Mercury (7471A, Cold Vapor)	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Mercury	253.7	0.0033	0.033	0.13		1	03/02/07 10:17

U = The analyte concentration was less than the MDL

J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Sample Results

Project:	702112	Matrix:	Soil
Lab Sample ID:	S 702112-005-004-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-5005	Prep Batch:	96699
Analysis Method:	6020 ICPMS Analysis	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Aluminum	27	1.9	71.4	9860	D	10	03/01/07 19:52
Antimony	121	0.12	0.71	0.22	JND	10	03/01/07 19:52
Arsenic	75	0.44	3.6	5.5	D	10	03/01/07 19:52
Barium	137	0.16	3.6	122	NDB	10	03/01/07 19:52
Beryllium	9	0.023	0.14	0.18	D	10	03/01/07 19:52
Cadmium	110	0.10	0.36	0.23	JD	10	03/01/07 19:52
Calcium	44	4.0	714	6540	D	10	03/01/07 19:52
Chromium	52	0.20	1.4	23.3	ND	10	03/01/07 19:52
Cobalt	59	0.012	0.71	6.3	DB	10	03/01/07 19:52
Copper	65	0.14	1.4	9.4	DB	10	03/01/07 19:52
Iron	56	2.3	35.7	13800	D	10	03/01/07 19:52
Lead	208	0.056	1.4	24.0	D	10	03/01/07 19:52
Magnesium	25	1.3	71.4	3930	DB	10	03/01/07 19:52
Manganese	55	0.041	1.4	557	DB	10	03/01/07 19:52
Molybdenum	95	0.21	3.6	0.25	JD	10	03/01/07 19:52
Nickel	60	0.063	0.71	36.4	ND	10	03/01/07 19:52
Potassium	39	1.4	714	640	JNDB	10	03/01/07 19:52
Selenium	82	0.69	3.6	0.69	UD	10	03/01/07 19:52
Silver	107	0.014	0.21	0.051	JDB	10	03/01/07 19:52
Sodium	23	6.7	714	167	JD	10	03/01/07 19:52
Thallium	203	0.12	1.4	0.12	UD	10	03/01/07 19:52
Vanadium	51	1.8	7.1	32.4	D	10	03/01/07 19:52
Zinc	66	0.35	7.1	40.4	DB	10	03/01/07 19:52

U = The analyte concentration was less than the MDL

J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Sample Results

Project:	702112	Matrix:	Soil
Lab Sample ID:	S 702112-005-004-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-5005	Prep Batch:	96674
Analysis Method:	Mercury (7471A, Cold Vapor)	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Mercury	253.7	0.0033	0.033	0.091		1	03/02/07 10:20

U = The analyte concentration was less than the MDL
J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Sample Results

Project:	702112	Matrix:	Soil
Lab Sample ID:	S 702112-006-005-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-5006	Prep Batch:	96699
Analysis Method:	6020 ICPMS Analysis	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Aluminum	27	2.0	75.8	9850	D	10	03/01/07 19:58
Antimony	121	0.13	0.76	0.17	JND	10	03/01/07 19:58
Arsenic	75	0.46	3.8	6.6	D	10	03/01/07 19:58
Barium	137	0.17	3.8	157	NDB	10	03/01/07 19:58
Beryllium	9	0.024	0.15	0.19	D	10	03/01/07 19:58
Cadmium	110	0.11	0.38	0.27	JD	10	03/01/07 19:58
Calcium	44	4.2	758	6560	D	10	03/01/07 19:58
Chromium	52	0.21	1.5	24.0	ND	10	03/01/07 19:58
Cobalt	59	0.013	0.76	8.9	DB	10	03/01/07 19:58
Copper	65	0.15	1.5	11.5	DB	10	03/01/07 19:58
Iron	56	2.4	37.9	14500	D	10	03/01/07 19:58
Lead	208	0.060	1.5	20.1	D	10	03/01/07 19:58
Magnesium	25	1.4	75.8	4150	DB	10	03/01/07 19:58
Manganese	55	0.043	1.5	1260	DB	10	03/01/07 19:58
Molybdenum	95	0.22	3.8	0.24	JD	10	03/01/07 19:58
Nickel	60	0.067	0.76	44.3	ND	10	03/01/07 19:58
Potassium	39	1.5	758	701	JNDB	10	03/01/07 19:58
Selenium	82	0.73	3.8	0.73	UD	10	03/01/07 19:58
Silver	107	0.014	0.23	0.065	JDB	10	03/01/07 19:58
Sodium	23	7.1	758	203	JD	10	03/01/07 19:58
Thallium	203	0.13	1.5	0.13	UD	10	03/01/07 19:58
Vanadium	51	1.9	7.6	32.0	D	10	03/01/07 19:58
Zinc	66	0.37	7.6	56.5	DB	10	03/01/07 19:58

U = The analyte concentration was less than the MDL

J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4 SW846

GPL Laboratories, LLLP

Sample Results

Project:	702112	Matrix:	Soil
Lab Sample ID:	S 702112-006-005-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-5006	Prep Batch:	96674
Analysis Method:	Mercury (7471A, Cold Vapor)	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Mercury	253.7	0.0032	0.032	0.12		1	03/02/07 10:23

U = The analyte concentration was less than the MDL

J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4 SW846

GPL Laboratories, LLLP

Sample Results

Project:	702112	Matrix:	Soil
Lab Sample ID:	S 702112-007-006-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-5007	Prep Batch:	96699
Analysis Method:	6020 ICPMS Analysis	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Aluminum	27	2.0	72.5	9820	D	10	03/01/07 20:04
Antimony	121	0.12	0.72	0.12	UND	10	03/01/07 20:04
Arsenic	75	0.44	3.6	5.0	D	10	03/01/07 20:04
Barium	137	0.17	3.6	179	NDB	10	03/01/07 20:04
Beryllium	9	0.023	0.14	0.17	D	10	03/01/07 20:04
Cadmium	110	0.10	0.36	0.20	JD	10	03/01/07 20:04
Calcium	44	4.1	725	5770	D	10	03/01/07 20:04
Chromium	52	0.20	1.4	23.4	ND	10	03/01/07 20:04
Cobalt	59	0.012	0.72	6.8	DB	10	03/01/07 20:04
Copper	65	0.14	1.4	7.8	DB	10	03/01/07 20:04
Iron	56	2.3	36.2	12400	D	10	03/01/07 20:04
Lead	208	0.057	1.4	16.6	D	10	03/01/07 20:04
Magnesium	25	1.3	72.5	2860	DB	10	03/01/07 20:04
Manganese	55	0.041	1.4	912	DB	10	03/01/07 20:04
Molybdenum	95	0.21	3.6	0.21	UD	10	03/01/07 20:04
Nickel	60	0.064	0.72	35.6	ND	10	03/01/07 20:04
Potassium	39	1.4	725	612	JNDB	10	03/01/07 20:04
Selenium	82	0.70	3.6	0.70	UD	10	03/01/07 20:04
Silver	107	0.014	0.22	0.047	JDB	10	03/01/07 20:04
Sodium	23	6.8	725	147	JD	10	03/01/07 20:04
Thallium	203	0.12	1.4	0.12	UD	10	03/01/07 20:04
Vanadium	51	1.8	7.2	28.9	D	10	03/01/07 20:04
Zinc	66	0.36	7.2	58.9	DB	10	03/01/07 20:04

U = The analyte concentration was less than the MDL
J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4 SW846

GPL Laboratories, LLLP

Sample Results

Project:	702112	Matrix:	Soil
Lab Sample ID:	S 702112-007-006-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-5007	Prep Batch:	96674
Analysis Method:	Mercury (7471A, Cold Vapor)	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Mercury	253.7	0.0032	0.032	0.089		1	03/02/07 10:33

U = The analyte concentration was less than the MDL
J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4 SW846

GPL Laboratories, LLLP

Sample Results

Project:	702112	Matrix:	Soil
Lab Sample ID:	S 702112-008-007-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-5008	Prep Batch:	96699
Analysis Method:	6020 ICPMS Analysis	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Aluminum	27	2.0	72.5	10800	D	10	03/01/07 20:10
Antimony	121	0.12	0.72	0.12	UND	10	03/01/07 20:10
Arsenic	75	0.44	3.6	4.0	D	10	03/01/07 20:10
Barium	137	0.17	3.6	282	NDB	10	03/01/07 20:10
Beryllium	9	0.023	0.14	0.22	D	10	03/01/07 20:10
Cadmium	110	0.10	0.36	0.22	JD	10	03/01/07 20:10
Calcium	44	4.1	725	4180	D	10	03/01/07 20:10
Chromium	52	0.20	1.4	21.1	ND	10	03/01/07 20:10
Cobalt	59	0.012	0.72	7.4	DB	10	03/01/07 20:10
Copper	65	0.14	1.4	8.1	DB	10	03/01/07 20:10
Iron	56	2.3	36.2	13700	D	10	03/01/07 20:10
Lead	208	0.057	1.4	11.9	D	10	03/01/07 20:10
Magnesium	25	1.3	72.5	1970	DB	10	03/01/07 20:10
Manganese	55	0.041	1.4	1950	DB	10	03/01/07 20:10
Molybdenum	95	0.21	3.6	0.21	UD	10	03/01/07 20:10
Nickel	60	0.064	0.72	39.0	ND	10	03/01/07 20:10
Potassium	39	1.4	725	271	JNDB	10	03/01/07 20:10
Selenium	82	0.70	3.6	0.70	UD	10	03/01/07 20:10
Silver	107	0.014	0.22	0.056	JDB	10	03/01/07 20:10
Sodium	23	6.8	725	135	JD	10	03/01/07 20:10
Thallium	203	0.12	1.4	0.12	UD	10	03/01/07 20:10
Vanadium	51	1.8	7.2	27.6	D	10	03/01/07 20:10
Zinc	66	0.36	7.2	81.2	DB	10	03/01/07 20:10

U = The analyte concentration was less than the MDL

J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4 SW846

GPL Laboratories, LLLP

Sample Results

Project:	702112	Matrix:	Soil
Lab Sample ID:	S 702112-008-007-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-5008	Prep Batch:	96674
Analysis Method:	Mercury (7471A, Cold Vapor)	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Mercury	253.7	0.0031	0.031	0.072		1	03/02/07 10:35

U = The analyte concentration was less than the MDL
J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4 SW846

GPL Laboratories, LLLP

Sample Results

Project:	702112	Matrix:	Soil
Lab Sample ID:	S 702112-009-008-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-5009	Prep Batch:	96699
Analysis Method:	6020 ICPMS Analysis	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Aluminum	27	1.9	71.9	10200	D	10	03/01/07 20:17
Antimony	121	0.12	0.72	0.12	UND	10	03/01/07 20:17
Arsenic	75	0.44	3.6	2.3	JD	10	03/01/07 20:17
Barium	137	0.17	3.6	109	NDB	10	03/01/07 20:17
Beryllium	9	0.023	0.14	0.14	JD	10	03/01/07 20:17
Cadmium	110	0.10	0.36	0.18	JD	10	03/01/07 20:17
Calcium	44	4.0	719	4930	D	10	03/01/07 20:17
Chromium	52	0.20	1.4	22.2	ND	10	03/01/07 20:17
Cobalt	59	0.012	0.72	5.9	DB	10	03/01/07 20:17
Copper	65	0.14	1.4	6.9	DB	10	03/01/07 20:17
Iron	56	2.3	36.0	12500	D	10	03/01/07 20:17
Lead	208	0.057	1.4	18.4	D	10	03/01/07 20:17
Magnesium	25	1.3	71.9	3350	DB	10	03/01/07 20:17
Manganese	55	0.041	1.4	392	DB	10	03/01/07 20:17
Molybdenum	95	0.21	3.6	0.21	UD	10	03/01/07 20:17
Nickel	60	0.063	0.72	39.6	ND	10	03/01/07 20:17
Potassium	39	1.4	719	466	JNDB	10	03/01/07 20:17
Selenium	82	0.70	3.6	0.70	UD	10	03/01/07 20:17
Silver	107	0.014	0.22	0.16	JDB	10	03/01/07 20:17
Sodium	23	6.8	719	128	JD	10	03/01/07 20:17
Thallium	203	0.12	1.4	0.12	UD	10	03/01/07 20:17
Vanadium	51	1.8	7.2	29.1	D	10	03/01/07 20:17
Zinc	66	0.35	7.2	53.8	DB	10	03/01/07 20:17

U = The analyte concentration was less than the MDL
J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Sample Results

Project:	702112	Matrix:	Soil
Lab Sample ID:	S 702112-009-008-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-5009	Prep Batch:	96674
Analysis Method:	Mercury (7471A, Cold Vapor)	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Mercury	253.7	0.0032	0.032	0.079		1	03/02/07 10:39

U = The analyte concentration was less than the MDL
J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Sample Results

Project:	702112	Matrix:	Soil
Lab Sample ID:	S 702112-010-009-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-5010	Prep Batch:	96699
Analysis Method:	6020 ICPMS Analysis	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Aluminum	27	1.9	71.4	11000	D	10	03/01/07 20:23
Antimony	121	0.12	0.71	0.12	UND	10	03/01/07 20:23
Arsenic	75	0.44	3.6	2.4	JD	10	03/01/07 20:23
Barium	137	0.16	3.6	93.8	NDB	10	03/01/07 20:23
Beryllium	9	0.023	0.14	0.18	D	10	03/01/07 20:23
Cadmium	110	0.10	0.36	0.10	UD	10	03/01/07 20:23
Calcium	44	4.0	714	3030	D	10	03/01/07 20:23
Chromium	52	0.20	1.4	27.6	ND	10	03/01/07 20:23
Cobalt	59	0.012	0.71	7.5	DB	10	03/01/07 20:23
Copper	65	0.14	1.4	9.6	DB	10	03/01/07 20:23
Iron	56	2.3	35.7	14900	D	10	03/01/07 20:23
Lead	208	0.056	1.4	22.3	D	10	03/01/07 20:23
Magnesium	25	1.3	71.4	3520	DB	10	03/01/07 20:23
Manganese	55	0.041	1.4	345	DB	10	03/01/07 20:23
Molybdenum	95	0.21	3.6	0.32	JD	10	03/01/07 20:23
Nickel	60	0.063	0.71	42.3	ND	10	03/01/07 20:23
Potassium	39	1.4	714	597	JNDB	10	03/01/07 20:23
Selenium	82	0.69	3.6	0.69	UD	10	03/01/07 20:23
Silver	107	0.014	0.21	0.060	JDB	10	03/01/07 20:23
Sodium	23	6.7	714	175	JD	10	03/01/07 20:23
Thallium	203	0.12	1.4	0.12	UD	10	03/01/07 20:23
Vanadium	51	1.8	7.1	38.1	D	10	03/01/07 20:23
Zinc	66	0.35	7.1	41.2	DB	10	03/01/07 20:23

U = The analyte concentration was less than the MDL
J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Sample Results

Project:	702112	Matrix:	Soil
Lab Sample ID:	S 702112-010-009-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-5010	Prep Batch:	96674
Analysis Method:	Mercury (7471A, Cold Vapor)	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Mercury	253.7	0.0032	0.032	0.095		1	03/02/07 10:42

U = The analyte concentration was less than the MDL
J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Sample Results

Project:	702112	Matrix:	Soil
Lab Sample ID:	S 702112-011-010-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-5011	Prep Batch:	96699
Analysis Method:	6020 ICPMS Analysis	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Aluminum	27	2.0	75.8	10600	D	10	03/01/07 20:29
Antimony	121	0.13	0.76	0.13	UND	10	03/01/07 20:29
Arsenic	75	0.46	3.8	2.8	JD	10	03/01/07 20:29
Barium	137	0.17	3.8	89.1	NDB	10	03/01/07 20:29
Beryllium	9	0.024	0.15	0.17	D	10	03/01/07 20:29
Cadmium	110	0.11	0.38	0.12	JD	10	03/01/07 20:29
Calcium	44	4.2	758	2870	D	10	03/01/07 20:29
Chromium	52	0.21	1.5	26.9	ND	10	03/01/07 20:29
Cobalt	59	0.013	0.76	7.2	DB	10	03/01/07 20:29
Copper	65	0.15	1.5	9.3	DB	10	03/01/07 20:29
Iron	56	2.4	37.9	14400	D	10	03/01/07 20:29
Lead	208	0.060	1.5	20.2	D	10	03/01/07 20:29
Magnesium	25	1.4	75.8	3340	DB	10	03/01/07 20:29
Manganese	55	0.043	1.5	331	DB	10	03/01/07 20:29
Molybdenum	95	0.22	3.8	0.31	JD	10	03/01/07 20:29
Nickel	60	0.067	0.76	41.1	ND	10	03/01/07 20:29
Potassium	39	1.5	758	590	JNDB	10	03/01/07 20:29
Selenium	82	0.73	3.8	0.73	UD	10	03/01/07 20:29
Silver	107	0.014	0.23	0.059	JDB	10	03/01/07 20:29
Sodium	23	7.1	758	173	JD	10	03/01/07 20:29
Thallium	203	0.13	1.5	0.13	UD	10	03/01/07 20:29
Vanadium	51	1.9	7.6	36.7	D	10	03/01/07 20:29
Zinc	66	0.37	7.6	39.7	DB	10	03/01/07 20:29

U = The analyte concentration was less than the MDL

J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Sample Results

Project:	702112	Matrix:	Soil
Lab Sample ID:	S 702112-011-010-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-5011	Prep Batch:	96674
Analysis Method:	Mercury (7471A, Cold Vapor)	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Mercury	253.7	0.0032	0.032	0.097		1	03/02/07 10:45

U = The analyte concentration was less than the MDL

J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Sample Results

Project:	702112	Matrix:	Soil
Lab Sample ID:	S 702112-012-011-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-5012	Prep Batch:	96699
Analysis Method:	6020 ICPMS Analysis	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Aluminum	27	2.0	75.8	10800	D	10	03/01/07 20:35
Antimony	121	0.13	0.76	0.13	UND	10	03/01/07 20:35
Arsenic	75	0.46	3.8	3.9	D	10	03/01/07 20:35
Barium	137	0.17	3.8	131	NDB	10	03/01/07 20:35
Beryllium	9	0.024	0.15	0.19	D	10	03/01/07 20:35
Cadmium	110	0.11	0.38	0.19	JD	10	03/01/07 20:35
Calcium	44	4.2	758	6410	D	10	03/01/07 20:35
Chromium	52	0.21	1.5	28.5	ND	10	03/01/07 20:35
Cobalt	59	0.013	0.76	8.4	DB	10	03/01/07 20:35
Copper	65	0.15	1.5	11.1	DB	10	03/01/07 20:35
Iron	56	2.4	37.9	15600	D	10	03/01/07 20:35
Lead	208	0.060	1.5	12.8	D	10	03/01/07 20:35
Magnesium	25	1.4	75.8	5660	DB	10	03/01/07 20:35
Manganese	55	0.043	1.5	590	DB	10	03/01/07 20:35
Molybdenum	95	0.22	3.8	0.22	UD	10	03/01/07 20:35
Nickel	60	0.067	0.76	46.9	ND	10	03/01/07 20:35
Potassium	39	1.5	758	979	NDB	10	03/01/07 20:35
Selenium	82	0.73	3.8	0.73	UD	10	03/01/07 20:35
Silver	107	0.014	0.23	0.11	JDB	10	03/01/07 20:35
Sodium	23	7.1	758	301	JD	10	03/01/07 20:35
Thallium	203	0.13	1.5	0.13	UD	10	03/01/07 20:35
Vanadium	51	1.9	7.6	33.9	D	10	03/01/07 20:35
Zinc	66	0.37	7.6	45.3	DB	10	03/01/07 20:35

U = The analyte concentration was less than the MDL

J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Sample Results

Project:	702112	Matrix:	Soil
Lab Sample ID:	S 702112-012-011-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-5012	Prep Batch:	96674
Analysis Method:	Mercury (7471A, Cold Vapor)	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Mercury	253.7	0.0031	0.031	0.082		1	03/02/07 10:48

U = The analyte concentration was less than the MDL
J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Sample Results

Project:	702112	Matrix:	Soil
Lab Sample ID:	S 702112-013-012-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-5013	Prep Batch:	96699
Analysis Method:	6020 ICPMS Analysis	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Aluminum	27	1.9	69.0	6250	D	10	03/01/07 20:41
Antimony	121	0.12	0.69	0.12	UND	10	03/01/07 20:41
Arsenic	75	0.42	3.4	1.3	JD	10	03/01/07 20:41
Barium	137	0.16	3.4	25.8	NDB	10	03/01/07 20:41
Beryllium	9	0.022	0.14	0.091	JD	10	03/01/07 20:41
Cadmium	110	0.097	0.34	0.097	UD	10	03/01/07 20:41
Calcium	44	3.9	690	3590	D	10	03/01/07 20:41
Chromium	52	0.19	1.4	23.5	ND	10	03/01/07 20:41
Cobalt	59	0.012	0.69	5.3	DB	10	03/01/07 20:41
Copper	65	0.14	1.4	7.9	DB	10	03/01/07 20:41
Iron	56	2.2	34.5	11600	D	10	03/01/07 20:41
Lead	208	0.054	1.4	1.5	D	10	03/01/07 20:41
Magnesium	25	1.2	69.0	6220	DB	10	03/01/07 20:41
Manganese	55	0.039	1.4	174	DB	10	03/01/07 20:41
Molybdenum	95	0.20	3.4	0.20	UD	10	03/01/07 20:41
Nickel	60	0.061	0.69	41.6	ND	10	03/01/07 20:41
Potassium	39	1.4	690	360	JNDB	10	03/01/07 20:41
Selenium	82	0.67	3.4	0.67	UD	10	03/01/07 20:41
Silver	107	0.013	0.21	0.022	JDB	10	03/01/07 20:41
Sodium	23	6.5	690	373	JD	10	03/01/07 20:41
Thallium	203	0.12	1.4	0.12	UD	10	03/01/07 20:41
Vanadium	51	1.7	6.9	28.7	D	10	03/01/07 20:41
Zinc	66	0.34	6.9	20.3	DB	10	03/01/07 20:41

U = The analyte concentration was less than the MDL

J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Sample Results

Project:	702112	Matrix:	Soil
Lab Sample ID:	S 702112-013-012-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-5013	Prep Batch:	96674
Analysis Method:	Mercury (7471A, Cold Vapor)	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Mercury	253.7	0.0032	0.032	0.0066	J	1	03/02/07 10:51

U = The analyte concentration was less than the MDL
J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP
Preparation Blank Results

Project:	702112	Matrix:	Soil
Lab Sample ID:	BLK96699	Percent Moisture:	0.0
Client Sample ID:	NA	Prep Batch:	96699
Analysis Method:	6020 ICPMS Analysis	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Aluminum	27	2.7	100	2.7	UD	10	03/01/07 18:38
Antimony	121	0.17	1.0	0.17	UND	10	03/01/07 18:38
Arsenic	75	0.61	5.0	0.61	UD	10	03/01/07 18:38
Barium	137	0.23	5.0	0.38	JND	10	03/01/07 18:38
Beryllium	9	0.032	0.20	0.032	UD	10	03/01/07 18:38
Cadmium	110	0.14	0.50	0.14	UD	10	03/01/07 18:38
Calcium	44	5.6	1000	22.0	JD	10	03/01/07 18:38
Chromium	52	0.28	2.0	0.28	UND	10	03/01/07 18:38
Cobalt	59	0.017	1.0	0.017	UD	10	03/01/07 18:38
Copper	65	0.20	2.0	0.20	UD	10	03/01/07 18:38
Iron	56	3.2	50.0	3.2	UD	10	03/01/07 18:38
Lead	208	0.079	2.0	0.079	UD	10	03/01/07 18:38
Magnesium	25	1.8	100	5.9	JD	10	03/01/07 18:38
Manganese	55	0.057	2.0	0.057	UD	10	03/01/07 18:38
Molybdenum	95	0.29	5.0	0.29	UD	10	03/01/07 18:38
Nickel	60	0.088	1.0	0.088	UND	10	03/01/07 18:38
Potassium	39	2.0	1000	2.6	JND	10	03/01/07 18:38
Selenium	82	0.97	5.0	0.97	UD	10	03/01/07 18:38
Silver	107	0.019	0.30	0.019	UD	10	03/01/07 18:38
Sodium	23	9.4	1000	9.4	UD	10	03/01/07 18:38
Thallium	203	0.17	2.0	0.20	JD	10	03/01/07 18:38
Vanadium	51	2.5	10.0	2.5	UD	10	03/01/07 18:38
Zinc	66	0.49	10.0	0.49	UD	10	03/01/07 18:38

U = The analyte concentration was less than the MDL
J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Preparation Blank Results

Project:	702112	Matrix:	Soil
Lab Sample ID:	BLK96674	Percent Moisture:	0.0
Client Sample ID:	NA	Prep Batch:	96674
Analysis Method:	Mercury (7471A, Cold Vapor)	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Mercury	253.7	0.0033	0.033	0.0033	U	1	03/02/07 9:54

U = The analyte concentration was less than the MDL
J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Initial Calibration Verification

Project:	702112	Instrument:	3050X
Units:	ug/L	Data File Name:	070301MS.csv
Standard Source:	AB.ST.	Standard ID:	

Analyte	True	ICV 3/1/2007 5:13:47 PM							
		Found	%R	Found	%R	Found	%R	Found	%R
Aluminum	500.0	486.97	97						
Antimony	40.0	43.43	109						
Arsenic	40.0	41.72	104						
Barium	40.0	43.70	109						
Beryllium	4.0	4.27	107						
Calcium	5000.0	5152.00	103						
Chromium	40.0	42.69	107						
Cobalt	40.0	42.18	105						
Copper	40.0	42.77	107						
Iron	500.0	524.20	105						
Lead	40.0	42.53	106						
Magnesium	5000.0	5142.33	103						
Manganese	40.0	43.01	108						
Molybdenum	40.0	42.88	107						
Nickel	40.0	42.96	107						
Potassium	5000.0	5003.00	100						
Selenium	40.0	42.62	107						
Silver	40.0	41.48	104						
Sodium	5000.0	5029.00	101						
Thallium	40.0	43.53	109						
Vanadium	40.0	43.17	108						
Zinc	40.0	42.51	106						

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Initial Calibration Verification

Project:	702112	Instrument:	3050X
Units:	ug/L	Data File Name:	070301MS.csv
Standard Source:	AB.ST.	Standard ID:	

Analyte	True	ICV(Cd) 3/1/2007 5:18:57 PM							
		Found	%R	Found	%R	Found	%R	Found	%R
Cadmium	4.0	4.10	103						

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Initial Calibration Verification

Project:	702112	Instrument:	3050X
Units:	ug/L	Data File Name:	070305MS.csv
Standard Source:	AB.ST.	Standard ID:	

Analyte	True	ICV 3/5/2007 5:06:46 PM							
		Found	%R	Found	%R	Found	%R	Found	%R
Aluminum	500.0	478.57	96						
Antimony	40.0	43.46	109						
Arsenic	40.0	39.84	100						
Barium	40.0	43.90	110						
Beryllium	4.0	4.22	106						
Calcium	5000.0	5051.00	101						
Chromium	40.0	41.21	103						
Cobalt	40.0	42.63	107						
Copper	40.0	40.92	102						
Iron	500.0	523.87	105						
Lead	40.0	42.80	107						
Magnesium	5000.0	4962.33	99						
Manganese	40.0	42.89	107						
Molybdenum	40.0	40.88	102						
Nickel	40.0	42.12	105						
Potassium	5000.0	4887.00	98						
Selenium	40.0	40.00	100						
Silver	40.0	40.09	100						
Sodium	5000.0	4926.00	99						
Thallium	40.0	42.70	107						
Vanadium	40.0	42.12	105						
Zinc	40.0	41.44	104						

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Initial Calibration Verification

Project:	702112	Instrument:	3050X
Units:	ug/L	Data File Name:	070305MS.csv
Standard Source:	AB.ST.	Standard ID:	

Analyte	True	ICV(Cd) 3/5/2007 5:11:56 PM							
		Found	%R	Found	%R	Found	%R	Found	%R
Cadmium	4.0	4.18	105						

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Initial Calibration Verification

Project:	702112	Instrument:	7471H
Units:	ug/L	Data File Name:	Hg070302.PRN
Standard Source:	CPI	Standard ID:	

Analyte	True	Ck2 ICV 3/2/2007 9:38:33 AM							
		Found	%R	Found	%R	Found	%R	Found	%R
Mercury	3.0	3.01	100						

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Continuing Calibration Verification

Project:	702112	Instrument:	3050X
Units:	ug/L	Data File Name:	070301MS.csv
Standard Source:	H.P.	Standard ID:	

Analyte	True	CCV1 3/1/2007 5:29:21 PM		CCV2 3/1/2007 6:25:54 PM		CCV3 3/1/2007 7:39:58 PM		CCV4 3/1/2007 9:00:16 PM	
		Found	%R	Found	%R	Found	%R	Found	%R
Aluminum	5000.0	4913.33	98	5165.33	103	5123.33	102	4944.33	99
Antimony	50.0	51.35	103	50.89	102	51.68	103	50.90	102
Arsenic	50.0	50.09	100	48.67	97	49.18	98	48.70	97
Barium	50.0	51.45	103	50.17	100	50.92	102	49.51	99
Beryllium	5.0	5.06	101	4.74	95	4.85	97	4.83	97
Cadmium	50.0	50.82	102	49.88	100	50.46	101	49.89	100
Calcium	10000.0	10240.00	102	10256.67	103	10410.00	104	10200.00	102
Chromium	50.0	52.36	105	50.41	101	51.60	103	50.09	100
Cobalt	50.0	49.29	99	47.72	95	49.18	98	47.73	95
Copper	50.0	50.29	101	47.56	95	49.09	98	47.58	95
Iron	5000.0	4950.00	99	5029.67	101	5069.67	101	4909.00	98
Lead	50.0	50.88	102	50.32	101	51.24	102	50.07	100
Magnesium	10000.0	10131.00	101	10396.67	104	10303.33	103	10044.67	100
Manganese	50.0	50.18	100	50.01	100	50.72	101	49.72	99
Molybdenum	50.0	52.11	104	49.70	99	51.10	102	49.63	99
Nickel	50.0	50.42	101	47.92	96	49.32	99	47.66	95
Potassium	10000.0	10060.00	101	10223.33	102	10230.00	102	9934.33	99
Selenium	50.0	51.88	104	50.95	102	52.50	105	50.58	101
Silver	50.0	49.71	99	47.93	96	49.27	99	47.63	95
Sodium	10000.0	10163.67	102	10333.33	103	10340.00	103	9979.33	100
Thallium	50.0	51.77	104	51.34	103	51.90	104	50.40	101
Vanadium	50.0	50.26	101	49.86	100	50.49	101	50.07	100
Zinc	50.0	50.22	100	50.37	101	51.40	103	50.24	100

URIT Version 4.3.4 SW846

GPL Laboratories, LLLP

Continuing Calibration Verification

Project:	702112	Instrument:	3050X
Units:	ug/L	Data File Name:	070305MS.csv
Standard Source:	H.P.	Standard ID:	

Analyte	True	CCV1 3/5/2007 5:22:18 PM		CCV2 3/5/2007 6:24:05 PM		CCV3 3/5/2007 7:38:13 PM			
		Found	%R	Found	%R	Found	%R	Found	%R
Aluminum	5000.0	4867.67	97	4972.00	99	4931.00	99		
Antimony	50.0	51.42	103	51.46	103	51.85	104		
Arsenic	50.0	48.95	98	48.48	97	47.94	96		
Barium	50.0	50.79	102	49.71	99	50.69	101		
Beryllium	5.0	4.99	100	4.63	93	4.67	93		
Cadmium	50.0	49.87	100	48.84	98	49.69	99		
Calcium	10000.0	10170.67	102	10162.67	102	10113.33	101		
Chromium	50.0	50.79	102	49.59	99	49.66	99		
Cobalt	50.0	51.32	103	50.08	100	50.01	100		
Copper	50.0	48.48	97	46.94	94	47.09	94		
Iron	5000.0	4976.00	100	5125.00	103	5124.67	102		
Lead	50.0	50.73	101	51.43	103	51.59	103		
Magnesium	10000.0	9921.33	99	10134.33	101	10086.67	101		
Manganese	50.0	50.41	101	50.66	101	50.89	102		
Molybdenum	50.0	49.45	99	48.60	97	48.63	97		
Nickel	50.0	49.10	98	49.04	98	48.85	98		
Potassium	10000.0	9945.00	99	10253.33	103	10260.00	103		
Selenium	50.0	49.84	100	48.58	97	51.29	103		
Silver	50.0	48.40	97	47.77	96	47.40	95		
Sodium	10000.0	10109.00	101	10410.00	104	10463.33	105		
Thallium	50.0	50.32	101	51.28	103	50.65	101		
Vanadium	50.0	51.32	103	50.28	101	50.50	101		
Zinc	50.0	49.40	99	50.10	100	51.00	102		

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Continuing Calibration Verification

Project:	702112	Instrument:	7471H
Units:	ug/L	Data File Name:	Hg070302.PRN
Standard Source:	AB.ST.	Standard ID:	

Analyte	True	Ck5 CCV1 3/2/2007 9:48:30 AM		Ck5 CCV2 3/2/2007 10:26:33 AM		Ck5 CCV3 3/2/2007 11:03:43 AM			
		Found	%R	Found	%R	Found	%R	Found	%R
Mercury	5.0	5.08	102	5.24	105	5.17	103		

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Low Level Check Standard

Project:	702112	Instrument:	3050X
Units:	ug/L	Data File Name:	070301MS.csv
Standard Source:	H.P.	Standard ID:	

Analyte	True	PQL 3/1/2007 5:39:41 PM							
		Found	%R	Found	%R	Found	%R	Found	%R
Aluminum	100.0	97.30	97						
Antimony	1.0	1.07	107						
Arsenic	5.0	5.15	103						
Barium	5.0	5.39	108						
Beryllium	0.2	0.22	111						
Cadmium	0.5	0.47	93						
Calcium	1000.0	1024.60	102						
Chromium	2.0	2.09	105						
Cobalt	1.0	1.04	104						
Copper	2.0	2.22	111						
Iron	50.0	49.35	99						
Lead	2.0	2.00	100						
Magnesium	100.0	104.47	104						
Manganese	2.0	2.06	103						
Molybdenum	5.0	5.16	103						
Nickel	1.0	1.11	111						
Potassium	1000.0	964.90	96						
Selenium	5.0	4.75	95						
Silver	0.3	0.33	109						
Sodium	1000.0	983.77	98						
Thallium	2.0	2.11	105						
Vanadium	10.0	11.79	118						
Zinc	10.0	10.14	101						

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Low Level Check Standard

Project:	702112	Instrument:	3050X
Units:	ug/L	Data File Name:	070305MS.csv
Standard Source:	H.P.	Standard ID:	

Analyte	True	PQL 3/5/2007 5:32:40 PM							
		Found	%R	Found	%R	Found	%R	Found	%R
Aluminum	100.0	96.32	96						
Antimony	1.0	1.13	113						
Arsenic	5.0	4.19	84						
Barium	5.0	5.28	106						
Beryllium	0.2	0.19	95						
Cadmium	0.5	0.49	99						
Calcium	1000.0	1001.47	100						
Chromium	2.0	1.61	81						
Cobalt	1.0	1.04	104						
Copper	2.0	2.05	103						
Iron	50.0	47.86	96						
Lead	2.0	2.04	102						
Magnesium	100.0	100.92	101						
Manganese	2.0	2.03	102						
Molybdenum	5.0	5.01	100						
Nickel	1.0	0.98	98						
Potassium	1000.0	953.80	95						
Selenium	5.0	4.26	85						
Silver	0.3	0.30	101						
Sodium	1000.0	964.57	96						
Thallium	2.0	2.09	105						
Vanadium	10.0	8.95	89						
Zinc	10.0	10.21	102						

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Low Level Check Standard

Project:	702112	Instrument:	7471H
Units:	ug/L	Data File Name:	Hg070302.PRN
Standard Source:	AB.ST.	Standard ID:	

Analyte	True	Ck4 CRA 3/2/2007 9:45:01 AM							
		Found	%R	Found	%R	Found	%R	Found	%R
Mercury	0.2	0.20	102						

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Initial Calibration Blanks

Project:	702112	Instrument:	3050X
Units:	ug/L	Data File Name:	070301MS.csv
Standard Source:		Standard ID:	

Analyte	RL	ICB 3/1/2007 5:24:11 PM							
		Found	Flag	Found	Flag	Found	Flag	Found	Flag
Aluminum	100.00	2.70	U						
Antimony	1.00	0.17	U						
Arsenic	5.00	0.61	U						
Barium	5.00	0.23	U						
Beryllium	0.20	0.03	U						
Cadmium	0.50	0.14	U						
Calcium	1000.00	5.60	U						
Chromium	2.00	0.28	U						
Cobalt	1.00	0.02	U						
Copper	2.00	0.20	U						
Iron	50.00	3.20	U						
Lead	2.00	0.08	U						
Magnesium	100.00	1.80	U						
Manganese	2.00	0.06	U						
Molybdenum	5.00	0.29	U						
Nickel	1.00	0.09	U						
Potassium	1000.00	2.00	U						
Selenium	5.00	0.97	U						
Silver	0.30	0.02	U						
Sodium	1000.00	9.40	U						
Thallium	2.00	0.17	U						
Vanadium	10.00	2.50	U						
Zinc	10.00	0.49	U						

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Initial Calibration Blanks

Project:	702112	Instrument:	3050X
Units:	ug/L	Data File Name:	070305MS.csv
Standard Source:		Standard ID:	

Analyte	RL	ICB 3/5/2007 5:17:06 PM							
		Found	Flag	Found	Flag	Found	Flag	Found	Flag
Aluminum	100.00	2.70	U						
Antimony	1.00	0.17	U						
Arsenic	5.00	0.61	U						
Barium	5.00	0.23	U						
Beryllium	0.20	0.03	U						
Cadmium	0.50	0.14	U						
Calcium	1000.00	5.60	U						
Chromium	2.00	0.28	U						
Cobalt	1.00	0.02	U						
Copper	2.00	0.20	U						
Iron	50.00	3.20	U						
Lead	2.00	0.08	U						
Magnesium	100.00	1.80	U						
Manganese	2.00	0.06	U						
Molybdenum	5.00	0.29	U						
Nickel	1.00	0.09	U						
Potassium	1000.00	2.00	U						
Selenium	5.00	0.97	U						
Silver	0.30	0.02	U						
Sodium	1000.00	9.40	U						
Thallium	2.00	0.17	U						
Vanadium	10.00	2.50	U						
Zinc	10.00	0.49	U						

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Initial Calibration Blanks

Project:	702112	Instrument:	7471H
Units:	ug/L	Data File Name:	Hg070302.PRN
Standard Source:		Standard ID:	

Analyte	RL	Ck3 ICB 3/2/2007 9:42:03 AM							
		Found	Flag	Found	Flag	Found	Flag	Found	Flag
Mercury	0.20	0.02	U						

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Continuing Calibration Blanks

Project: 702112 | Instrument: 3050X

Units: ug/L | Data File Name: 070301MS.csv

Standard Source: | Standard ID:

Analyte	RL	CCB1 3/1/2007 5:34:31 PM		CCB2 3/1/2007 6:32:05 PM		CCB3 3/1/2007 7:46:09 PM		CCB4 3/1/2007 9:06:26 PM	
		Found	Flag	Found	Flag	Found	Flag	Found	Flag
Aluminum	100.00	2.70	U	2.70	U	2.70	U	4.27	J
Antimony	1.00	0.17	U	0.17	U	0.17	U	0.17	U
Arsenic	5.00	0.61	U	0.61	U	0.61	U	0.61	U
Barium	5.00	0.23	U	0.23	U	0.23	U	0.23	U
Beryllium	0.20	0.03	U	0.03	U	0.03	U	0.03	U
Cadmium	0.50	0.14	U	0.14	U	0.14	U	0.14	U
Calcium	1000.00	5.60	U	5.60	U	8.49	J	9.59	J
Chromium	2.00	0.28	U	0.28	U	0.28	U	0.28	U
Cobalt	1.00	0.02	U	0.03	J	0.05	J	0.07	J
Copper	2.00	0.20	U	0.20	U	0.20	U	0.20	U
Iron	50.00	3.20	U	3.20	U	4.26	J	5.97	J
Lead	2.00	0.08	U	0.08	U	0.10	J	0.11	J
Magnesium	100.00	1.80	U	2.28	J	3.91	J	6.12	J
Manganese	2.00	0.06	U	0.06	U	0.09	J	0.20	J
Molybdenum	5.00	0.29	U	0.29	U	0.29	U	0.29	U
Nickel	1.00	0.09	U	0.09	U	0.09	U	0.09	J
Potassium	1000.00	2.00	U	2.72	J	4.79	J	5.43	J
Selenium	5.00	0.97	U	0.97	U	0.97	U	0.97	U
Silver	0.30	0.02	U	0.02	U	0.03	J	0.03	J
Sodium	1000.00	9.40	U	9.40	U	9.40	U	9.40	U
Thallium	2.00	0.25	J	0.37	J	0.21	J	0.21	J
Vanadium	10.00	2.50	U	2.50	U	2.50	U	2.50	U
Zinc	10.00	0.49	U	0.49	U	0.49	U	0.49	U

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Continuing Calibration Blanks

Project:	702112	Instrument:	3050X
Units:	ug/L	Data File Name:	070305MS.csv
Standard Source:		Standard ID:	

Analyte	RL	CCB1 3/5/2007 5:27:29 PM		CCB2 3/5/2007 6:30:15 PM		CCB3 3/5/2007 7:44:24 PM			
		Found	Flag	Found	Flag	Found	Flag	Found	Flag
Aluminum	100.00	2.70	U	2.70	U	2.70	U		
Antimony	1.00	0.17	U	0.17	U	0.17	U		
Arsenic	5.00	0.61	U	0.61	U	0.61	U		
Barium	5.00	0.23	U	0.23	U	0.23	U		
Beryllium	0.20	0.03	U	0.03	U	0.03	U		
Cadmium	0.50	0.14	U	0.14	U	0.14	U		
Calcium	1000.00	5.60	U	5.88	J	11.24	J		
Chromium	2.00	0.28	U	0.28	U	0.28	U		
Cobalt	1.00	0.02	U	0.03	J	0.11	J		
Copper	2.00	0.20	U	0.20	U	0.20	U		
Iron	50.00	3.20	U	3.20	U	7.16	J		
Lead	2.00	0.08	U	0.08	U	0.23	J		
Magnesium	100.00	1.80	U	1.80	U	3.52	J		
Manganese	2.00	0.06	U	0.06	U	0.10	J		
Molybdenum	5.00	0.29	U	0.29	U	0.29	U		
Nickel	1.00	0.09	U	0.09	U	0.09	U		
Potassium	1000.00	2.00	U	2.65	J	4.70	J		
Selenium	5.00	0.97	U	0.97	U	0.97	U		
Silver	0.30	0.02	U	0.02	U	0.02	U		
Sodium	1000.00	9.40	U	9.40	U	9.40	J		
Thallium	2.00	0.35	J	0.44	J	0.26	J		
Vanadium	10.00	2.50	U	2.50	U	2.50	U		
Zinc	10.00	0.49	U	0.49	U	0.49	U		

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Continuing Calibration Blanks

Project:	702112	Instrument:	7471H
Units:	ug/L	Data File Name:	Hg070302.PRN
Standard Source:		Standard ID:	

Analyte	RL	Ck6 CCB1 3/2/2007 9:51:31 AM		Ck6 CCB2 3/2/2007 10:30:01 AM		Ck6 CCB3 3/2/2007 11:06:57 AM			
		Found	Flag	Found	Flag	Found	Flag	Found	Flag
Mercury	0.20	0.02	U	0.02	U	0.02	U		

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Interference Check Standards

Project:	702112	Instrument:	3050X
Units:	ug/L	Data File Name:	070301MS.csv
Standard Source:	H.P. / AB. ST.	Standard ID:	

Analyte	RL	True		Initial Found				Final Found			
		Sol. A	Sol. B	ICSA 03/01/07 17:49	%R	ICSAB 03/01/07 18:01	%R		%R		%R
Aluminum	100		100000	97900	98	101000	101				
Antimony	1		20	0.26		19.1	95				
Arsenic	5		20	0.31		17.5	87				
Barium	5		20	0.71		20.8	104				
Beryllium	0.2		20	0.0017		16.0	80				
Cadmium	0.5		20	-0.11		17.3	86				
Calcium	1000		300000	312000	104	315000	105				
Chromium	2		20	0.50		20.0	100				
Cobalt	1		20	0.077		18.0	90				
Copper	2		20	0.41		16.9	85				
Iron	50		250000	242000	97	242000	97				
Lead	2		20	0.14		20.8	104				
Magnesium	100		100000	98900	99	102000	102				
Manganese	2		20	-0.094		19.2	96				
Molybdenum	5		2000	2110	105	2030	102				
Nickel	1		20	0.13		17.1	86				
Potassium	1000		100000	103000	103	104000	104				
Selenium	5		20	0.13		17.1	85				
Silver	0.3		20	0.088		16.3	81				
Sodium	1000		250000	248000	99	251000	101				
Thallium	2		20	0.15		21.7	109				
Vanadium	10		20	1.2		21.3	106				
Zinc	10		20	1.3		17.8	89				

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Interference Check Standards

Project: 702112 | Instrument: 3050X

Units: ug/L | Data File Name: 070305MS.csv

Standard Source: H.P. /AB. ST. | Standard ID:

Analyte	RL	True		Initial Found				Final Found			
		Sol. A	Sol. B	ICSA 03/05/07 17:53	%R	ICSAB 03/05/07 17:59	%R		%R		%R
Aluminum	100		100000	93800	94	96800	97				
Antimony	1		20	0.19		20.3	101				
Arsenic	5		20	0.47		18.8	94				
Barium	5		20	0.51		21.3	106				
Beryllium	0.2		20	-0.016		17.0	85				
Cadmium	0.5		20	-0.17		17.6	88				
Calcium	1000		300000	308000	103	321000	107				
Chromium	2		20	-0.088		20.4	102				
Cobalt	1		20	0.071		19.6	98				
Copper	2		20	0.53		17.1	85				
Iron	50		250000	243000	97	248000	99				
Lead	2		20	0.11		20.4	102				
Magnesium	100		100000	96500	97	101000	101				
Manganese	2		20	-0.010		20.2	101				
Molybdenum	5		2000	2010	100	1990	100				
Nickel	1		20	0.36		18.1	91				
Potassium	1000		100000	99700	100	103000	103				
Selenium	5		20	2.3		18.5	93				
Silver	0.3		20	0.085		17.1	85				
Sodium	1000		250000	248000	99	250000	100				
Thallium	2		20	0.077		20.8	104				
Vanadium	10		20	-1.2		20.2	101				
Zinc	10		20	1.7		19.3	97				

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Matrix Spike Recovery

Client ID:	NWO-039-5001 MS	Lab Sample ID:	SP702112-001-014-1/3
Project:	702112	Instrument:	3050X
Units:	mg/kg	Data File Name:	070305MS.csv
Standard Source:	H.P.	Standard ID:	

Analyte	Spiked Sample Result 03/05/07 18:42		Sample Result 03/05/07 18:36		Spike Added	%R
Aluminum	13987.83		11037.31		729.93	404
Antimony	4.72		0.13	U	7.30	65
Arsenic	10.57		3.75		7.30	94
Barium	215.38		127.54		72.99	120
Beryllium	3.83		0.18		3.65	100
Cadmium	7.56		0.10	U	7.30	104
Calcium	5784.43		4297.01		729.93	204
Chromium	75.89		30.70		36.50	124
Cobalt	46.38		8.36		36.50	104
Copper	42.98		7.56		36.50	97
Iron	17335.77		15997.51		729.93	183
Lead	94.65		17.66		72.99	105
Magnesium	5807.30		4698.76		729.93	152
Manganese	1041.61		947.76		72.99	129
Molybdenum	35.39		0.27	J	36.50	96
Nickel	112.41		66.81		36.50	125
Potassium	1325.06		445.42	J	729.93	121
Selenium	7.06		0.75	J	7.30	87
Silver	7.08		0.04	J	7.30	96
Sodium	931.39		124.00	J	729.93	111
Thallium	7.83		0.23	J	7.30	104
Vanadium	74.96		32.72		36.50	116
Zinc	120.97		41.19		72.99	109

SW846

URIT Version 4.3.4

GPL Laboratories, LLLP

Matrix Spike Recovery

Client ID:	NWO-039-5001 MS	Lab Sample ID:	SP702112-001-014-1/3
Project:	702112	Instrument:	7471H
Units:	mg/kg	Data File Name:	Hg070302.PRN
Standard Source:	AB.ST.	Standard ID:	

Analyte	Spiked Sample Result 03/02/07 10:04		Sample Result 03/02/07 10:01		Spike Added	%R
Mercury	0.53		0.06		0.48	98

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Matrix Spike Duplicate Recovery

Client ID:	NWO-039-5001 MSD	Lab Sample ID:	SD702112-001-014-1/3
Project:	702112	Instrument:	3050X
Units:	mg/kg	Data File Name:	070305MS.csv
Standard Source:	H.P.	Standard ID:	

Analyte	Spiked Sample Result 03/05/07 18:48		Sample Result 03/05/07 18:36		Spike Added	%R
Aluminum	13804.76		11037.31		714.29	387
Antimony	4.40		0.13	U	7.14	62
Arsenic	10.95		3.75		7.14	101
Barium	201.07		127.54		71.43	103
Beryllium	3.61		0.18		3.57	96
Cadmium	7.32		0.10	U	7.14	103
Calcium	5714.76		4297.01		714.29	198
Chromium	66.14		30.70		35.71	99
Cobalt	45.49		8.36		35.71	104
Copper	41.64		7.56		35.71	95
Iron	16878.57		15997.51		714.29	123
Lead	91.24		17.66		71.43	103
Magnesium	5458.33		4698.76		714.29	106
Manganese	988.33		947.76		71.43	57
Molybdenum	33.84		0.27	J	35.71	94
Nickel	108.31		66.81		35.71	116
Potassium	1292.86		445.42	J	714.29	119
Selenium	6.99		0.75	J	7.14	87
Silver	6.84		0.04	J	7.14	95
Sodium	916.43		124.00	J	714.29	111
Thallium	7.59		0.23	J	7.14	103
Vanadium	74.14		32.72		35.71	116
Zinc	115.05		41.19		71.43	103

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Matrix Spike Duplicate Recovery

Client ID:	NWO-039-5001 MSD	Lab Sample ID:	SD702112-001-014-1/3
Project:	702112	Instrument:	7471H
Units:	mg/kg	Data File Name:	Hg070302.PRN
Standard Source:	AB.ST.	Standard ID:	

Analyte	Spiked Sample Result 03/02/07 10:07		Sample Result 03/02/07 10:01		Spike Added	%R
Mercury	0.53		0.06		0.47	99

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Post Digestion Spike Recovery

Client ID:	NWO-039-5001	Lab Sample ID:	PS702112-001-014-1/3
Project:	702112	Instrument:	3050X
Units:	mg/kg	Data File Name:	070305MS.csv
Standard Source:	H.P.	Standard ID:	

Analyte	Spiked Sample Result 03/05/07 18:54		Sample Result 03/05/07 18:36		Spike Added	%R
Antimony	84.58		0.17	U	80	106
Barium	190.87		170.90		20	100
Chromium	60.89		41.14		20	99
Nickel	127.83		89.53		40	96
Potassium	5933.00		596.87	J	5000	107

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Duplicates RPD

Client ID:	NWO-039-5001 MSD	Lab Sample ID:	SD702112-001-014-1/3
Project:	702112	Instrument:	3050X
Units:	mg/kg	Data File Name:	070305MS.csv

Analyte	Matrix Spike ~~Original~~ Sample Results RA37		Matrix Spike Duplicate Sample Results		RPD	Control Limit	Q
Aluminum	13987.83		13804.76		1	20	D
Antimony	4.72		4.40		7	20	ND
Arsenic	10.57		10.95		3	20	D
Barium	215.38		201.07		7	20	ND
Beryllium	3.83		3.61		6	20	D
Cadmium	7.56		7.32		3	20	D
Calcium	5784.43		5714.76		1	20	D
Chromium	75.89		66.14		14	20	ND
Cobalt	46.38		45.49		2	20	D
Copper	42.98		41.64		3	20	D
Iron	17335.77		16878.57		3	20	D
Lead	94.65		91.24		4	20	D
Magnesium	5807.30		5458.33		6	20	D
Manganese	1041.61		988.33		5	20	D
Molybdenum	35.39		33.84		4	20	D
Mercury	0.53		0.53		0	20	
Nickel	112.41		108.31		4	20	ND
Potassium	1325.06		1292.86		2	20	ND
Selenium	7.06		6.99		1	20	D
Silver	7.08		6.84		3	20	D
Sodium	931.39		916.43		2	20	D
Thallium	7.83		7.59		3	20	D
Vanadium	74.96		74.14		1	20	D
Zinc	120.97		115.05		5	20	D

URIT Version 4.3.4 SW846

GPL Laboratories, LLLP

Laboratory Control Sample

Project:	702112	Lab Sample ID:	BKS96699
Units:	mg/kg	Instrument:	3050X
		Data File Name:	070301MS.csv
Standard Source:	H.P.	Standard ID:	

Analyte	Spiked Sample Result 03/01/07 18:44		Spike Added	%R
Aluminum	979.77		1000.00	98
Antimony	10.12		10.00	101
Arsenic	9.58		10.00	96
Barium	103.90		100.00	104
Beryllium	4.89		5.00	98
Cadmium	10.06		10.00	101
Calcium	1105.00		1000.00	111
Chromium	53.12		50.00	106
Cobalt	49.82		50.00	100
Copper	50.41		50.00	101
Iron	985.00		1000.00	99
Lead	103.50		100.00	104
Magnesium	1073.33		1000.00	107
Manganese	103.37		100.00	103
Molybdenum	50.62		50.00	101
Nickel	49.84		50.00	100
Potassium	974.90	J	1000.00	97
Selenium	10.17		10.00	102
Silver	10.00		10.00	100
Sodium	1014.00		1000.00	101
Thallium	10.74		10.00	107
Vanadium	50.73		50.00	101
Zinc	100.67		100.00	101

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Laboratory Control Sample

Project:	702112	Lab Sample ID:	BKS96674
Units:	mg/kg	Instrument:	7471H
		Data File Name:	Hg070302.PRN
Standard Source:	AB.ST.	Standard ID:	

Analyte	Spiked Sample Result 03/02/07 09:57	Spike Added	%R
Mercury	0.50	0.50	100

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Serial Dilutions

Client ID:	NWO-039-5001	Lab Sample ID:	SE702112-001-014-1/3
Project:	702112	Instrument:	3050X
Units:	mg/kg	Data File Name:	070305MS.csv

Analyte	Sample Result 03/05/07 18:36		Serial Dilution Result 03/05/07 19:01		Percent Difference	Flag
Aluminum	14790.00		14423.33		2	
Antimony	0.17	U	0.85	U		
Arsenic	5.02		3.31	J	34	
Barium	170.90		171.38		0	
Beryllium	0.24		0.18	J	27	
Cadmium	0.14	U	0.70	U		
Calcium	5758.00		5818.33		1	
Chromium	41.14		42.56		3	
Cobalt	11.20		11.26		1	
Copper	10.13		10.01		1	
Iron	21436.67		21143.33		1	
Lead	23.67		24.17		2	
Magnesium	6296.33		6475.00		3	
Manganese	1270.00		1252.83		1	
Molybdenum	0.36	J	1.45	U	100	
Nickel	89.53		89.65		0	
Potassium	596.87	J	617.00	J	3	
Selenium	1.00	J	4.85	U	100	
Silver	0.05	J	0.13	J	150	
Sodium	166.17	J	197.83	J	19	
Thallium	0.31	J	0.98	J	211	
Vanadium	43.84		40.89	J	7	
Zinc	55.20		51.82		6	

URIT Version 4.3.4 SW846

GPL Laboratories, LLLP

Detection Limits

Project: 702112 Instrument: 3050X

Units: ug/L

Analyte	Wavelength/Mass	Reporting Limit	Method Detection Limit	Date of MDL
Aluminum	27	100	2.7	04/14/06
Antimony	121	1.0	0.17	04/14/06
Arsenic	75	5.0	0.61	04/14/06
Barium	137	5.0	0.23	04/14/06
Beryllium	9	0.20	0.032	04/14/06
Cadmium	110	0.50	0.14	04/14/06
Calcium	44	1000	5.6	04/14/06
Chromium	52	2.0	0.28	04/14/06
Cobalt	59	1.0	0.017	04/14/06
Copper	65	2.0	0.20	04/14/06
Iron	56	50.0	3.2	04/14/06
Lead	208	2.0	0.079	04/14/06
Magnesium	25	100	1.8	04/14/06
Manganese	55	2.0	0.057	04/14/06
Molybdenum	95	5.0	0.29	04/14/06
Nickel	60	1.0	0.088	04/14/06
Potassium	39	1000	2.0	04/14/06
Selenium	82	5.0	0.97	04/14/06
Silver	107	0.30	0.019	04/14/06
Sodium	23	1000	9.4	04/14/06
Thallium	203	2.0	0.17	04/14/06
Vanadium	51	10.0	2.5	04/14/06
Zinc	66	10.0	0.49	04/14/06

URIT Version 4.3.4 SW846

GPL Laboratories, LLLP

Detection Limits

Project: 702112 Instrument: 7471H

Units: ug/L

Analyte	Wavelength/Mass	Reporting Limit	Method Detection Limit	Date of MDL
Mercury	253.7	0.20	0.020	01/30/07

URIT Version 4.3.4 SW846

GPL Laboratories, LLLP
Linear Dynamic Ranges

Project: 702112 Instrument: 3050X

Units: ug/L

Analyte	Wavelength/Mass	Linear Dynamic Range	Date of LDR
Aluminum	27	110000	~~04/14/06~~ 3/1/07
Antimony	121	550	04/14/06
Arsenic	75	1100	04/14/06
Barium	137	5500	04/14/06
Beryllium	9	275	04/14/06
Cadmium	110	1100	04/14/06
Calcium	44	330000	04/14/06
Chromium	52	5500	04/14/06
Cobalt	59	5500	04/14/06
Copper	65	5500	04/14/06
Iron	56	275000	04/14/06
Lead	208	11000	04/14/06
Magnesium	25	110000	04/14/06
Manganese	55	5500	04/14/06
Molybdenum	95	5500	04/14/06
Nickel	60	4125	04/14/06
Potassium	39	110000	04/14/06
Selenium	82	1100	04/14/06
Silver	107	550	04/14/06
Sodium	23	275000	04/14/06
Thallium	203	1100	04/14/06
Vanadium	51	5500	04/14/06
Zinc	66	2750	~~04/14/06~~

RA 3-7

URIT Version 4.3.4 SW846

GPL Laboratories, LLLP

Preparation Log

Project: 702112 Instrument: 3050X

Prep Method: Batch Number: 96699

Lab Sample ID	Client ID	Preparation Date	Initial Weight (grams)	Final Volume (ml)
BLK96699	BLK96699	02/28/2007	1.00	100
BKS96699	BKS96699	02/28/2007	1.00	100
S 702112-001-014-1/3	NWO-039-5001	02/28/2007	1.34	100
SP702112-001-014-1/3	NWO-039-5001 MS	02/28/2007	1.37	100
S 702112-002-001-1/1	NWO-039-5002	02/28/2007	1.33	100
S 702112-003-002-1/1	NWO-039-5003	02/28/2007	1.33	100
S 702112-004-003-1/1	NWO-039-5004	02/28/2007	1.38	100
S 702112-005-004-1/1	NWO-039-5005	02/28/2007	1.40	100
S 702112-006-005-1/1	NWO-039-5006	02/28/2007	1.32	100
S 702112-007-006-1/1	NWO-039-5007	02/28/2007	1.38	100
S 702112-008-007-1/1	NWO-039-5008	02/28/2007	1.38	100
S 702112-009-008-1/1	NWO-039-5009	02/28/2007	1.39	100
S 702112-010-009-1/1	NWO-039-5010	02/28/2007	1.40	100
S 702112-011-010-1/1	NWO-039-5011	02/28/2007	1.32	100
S 702112-012-011-1/1	NWO-039-5012	02/28/2007	1.32	100
S 702112-013-012-1/1	NWO-039-5013	02/28/2007	1.45	100
SD702112-001-014-1/3	NWO-039-5001 MSD	02/28/2007	1.40	100

URIT Version 4.3.4 SW846

GPL Laboratories, LLLP

Preparation Log

Project: 702112 Instrument: 7471H

Prep Method: Batch Number: 96674

Lab Sample ID	Client ID	Preparation Date	Initial Weight (grams)	Final Volume (ml)
BLK96674	BLK96674	03/01/2007	0.60	100
BKS96674	BKS96674	03/01/2007	0.60	100
S 702112-001-014-1/3	NWO-039-5001	03/01/2007	0.63	100
SP702112-001-014-1/3	NWO-039-5001 MS	03/01/2007	0.63	100
S 702112-002-001-1/1	NWO-039-5002	03/01/2007	0.63	100
S 702112-003-002-1/1	NWO-039-5003	03/01/2007	0.62	100
S 702112-004-003-1/1	NWO-039-5004	03/01/2007	0.60	100
S 702112-005-004-1/1	NWO-039-5005	03/01/2007	0.61	100
S 702112-006-005-1/1	NWO-039-5006	03/01/2007	0.62	100
S 702112-007-006-1/1	NWO-039-5007	03/01/2007	0.63	100
S 702112-008-007-1/1	NWO-039-5008	03/01/2007	0.66	100
S 702112-009-008-1/1	NWO-039-5009	03/01/2007	0.63	100
S 702112-010-009-1/1	NWO-039-5010	03/01/2007	0.63	100
S 702112-011-010-1/1	NWO-039-5011	03/01/2007	0.63	100
S 702112-012-011-1/1	NWO-039-5012	03/01/2007	0.64	100
S 702112-013-012-1/1	NWO-039-5013	03/01/2007	0.63	100
SD702112-001-014-1/3	NWO-039-5001 MSD	03/01/2007	0.64	100

URIT Version 4.3.4 SW846

GPL Laboratories, LLLP
Analysis Run Log

Project: 702112 Instrument: 3050X

Data File Name: 070301MS.csv

Sample Name	Client ID	Analysis Date	Analysis Time
BLANK		03/01/07	4:37 PM
STD1		03/01/07	4:42 PM
STD2		03/01/07	4:48 PM
STD3		03/01/07	4:53 PM
STD4		03/01/07	4:58 PM
STD5		03/01/07	5:03 PM
STD6		03/01/07	5:08 PM
ICV		03/01/07	5:13 PM
ICV(Cd)		03/01/07	5:18 PM
ICB		03/01/07	5:24 PM
CCV1		03/01/07	5:29 PM
CCB1		03/01/07	5:34 PM
PQL		03/01/07	5:39 PM
ICSA		03/01/07	5:49 PM
ICSAB		03/01/07	6:01 PM
CCV2		03/01/07	6:25 PM
CCB2		03/01/07	6:32 PM
BLK96699	BLK96699	03/01/07	6:38 PM
BKS96699	BKS96699	03/01/07	6:44 PM
S 702112-002-001-1/1	NWO-039-5002	03/01/07	7:21 PM
S 702112-003-002-1/1	NWO-039-5003	03/01/07	7:27 PM
S 702112-004-003-1/1	NWO-039-5004	03/01/07	7:33 PM
CCV3		03/01/07	7:39 PM
CCB3		03/01/07	7:46 PM
S 702112-005-004-1/1	NWO-039-5005	03/01/07	7:52 PM
S 702112-006-005-1/1	NWO-039-5006	03/01/07	7:58 PM
S 702112-007-006-1/1	NWO-039-5007	03/01/07	8:04 PM
S 702112-008-007-1/1	NWO-039-5008	03/01/07	8:10 PM
S 702112-009-008-1/1	NWO-039-5009	03/01/07	8:17 PM
S 702112-010-009-1/1	NWO-039-5010	03/01/07	8:23 PM
S 702112-011-010-1/1	NWO-039-5011	03/01/07	8:29 PM
S 702112-012-011-1/1	NWO-039-5012	03/01/07	8:35 PM
S 702112-013-012-1/1	NWO-039-5013	03/01/07	8:41 PM
CCV4		03/01/07	9:00 PM
CCB4		03/01/07	9:06 PM

URIT Version 4.3.4 SW846

GPL Laboratories, LLLP

Analysis Run Log

Project: 702112 Instrument: 3050X

Data File Name: 070305MS.csv

Sample Name	Client ID	Analysis Date	Analysis Time
BLANK		03/05/07	4:30 PM
STD1		03/05/07	4:35 PM
STD2		03/05/07	4:40 PM
STD3		03/05/07	4:46 PM
STD4		03/05/07	4:51 PM
STD5		03/05/07	4:56 PM
STD6		03/05/07	5:01 PM
ICV		03/05/07	5:06 PM
ICV(Cd)		03/05/07	5:11 PM
ICB		03/05/07	5:17 PM
CCV1		03/05/07	5:22 PM
CCB1		03/05/07	5:27 PM
PQL		03/05/07	5:32 PM
ICSA		03/05/07	5:53 PM
ICSAB		03/05/07	5:59 PM
CCV2		03/05/07	6:24 PM
CCB2		03/05/07	6:30 PM
S 702112-001-014-1/3	NWO-039-5001	03/05/07	6:36 PM
SP702112-001-014-1/3	NWO-039-5001 MS	03/05/07	6:42 PM
SD702112-001-014-1/3	NWO-039-5001 MSD	03/05/07	6:48 PM
PS702112-001-014-1/3	NWO-039-5001	03/05/07	6:54 PM
SE702112-001-014-1/3	NWO-039-5001	03/05/07	7:01 PM
CCV3		03/05/07	7:38 PM
CCB3		03/05/07	7:44 PM

URIT Version 4.3.4 SW846

GPL Laboratories, LLLP
Analysis Run Log

Project: 702112 Instrument: 7471H

Data File Name: Hg070302.PRN

Sample Name	Client ID	Analysis Date	Analysis Time
Std01Rep1		03/02/07	8:35 AM
Std01Rep2		03/02/07	8:38 AM
Std01Rep3		03/02/07	8:42 AM
Std02Rep1		03/02/07	8:45 AM
Std02Rep2		03/02/07	8:49 AM
Std02Rep3		03/02/07	8:52 AM
Std03Rep1		03/02/07	8:55 AM
Std03Rep2		03/02/07	8:58 AM
Std03Rep3		03/02/07	9:01 AM
Std04Rep1		03/02/07	9:04 AM
Std04Rep2		03/02/07	9:07 AM
Std04Rep3		03/02/07	9:11 AM
Std05Rep1		03/02/07	9:14 AM
Std05Rep2		03/02/07	9:17 AM
Std05Rep3		03/02/07	9:21 AM
Std06Rep1		03/02/07	9:24 AM
Std06Rep2		03/02/07	9:28 AM
Std06Rep3		03/02/07	9:31 AM
Ck2 ICV		03/02/07	9:38 AM
Ck3 ICB		03/02/07	9:42 AM
Ck4 CRA		03/02/07	9:45 AM
Ck5 CCV1		03/02/07	9:48 AM
Ck6 CCB1		03/02/07	9:51 AM
BLK96674	BLK96674	03/02/07	9:54 AM
BKS96674	BKS96674	03/02/07	9:57 AM
S 702112-001-014-1/3	NWO-039-5001	03/02/07	10:01 AM
SP702112-001-014-1/3	NWO-039-5001 MS	03/02/07	10:04 AM
SD702112-001-014-1/3	NWO-039-5001 MSD	03/02/07	10:07 AM
S 702112-002-001-1/1	NWO-039-5002	03/02/07	10:10 AM
S 702112-003-002-1/1	NWO-039-5003	03/02/07	10:13 AM
S 702112-004-003-1/1	NWO-039-5004	03/02/07	10:17 AM
S 702112-005-004-1/1	NWO-039-5005	03/02/07	10:20 AM
S 702112-006-005-1/1	NWO-039-5006	03/02/07	10:23 AM
Ck5 CCV2		03/02/07	10:26 AM
Ck6 CCB2		03/02/07	10:30 AM
S 702112-007-006-1/1	NWO-039-5007	03/02/07	10:33 AM
S 702112-008-007-1/1	NWO-039-5008	03/02/07	10:35 AM
S 702112-009-008-1/1	NWO-039-5009	03/02/07	10:39 AM
S 702112-010-009-1/1	NWO-039-5010	03/02/07	10:42 AM

URIT Version 4.3.4 SW846

GPL Laboratories, LLLP

Analysis Run Log

Project: 702112

Instrument: 7471H

Data File Name: Hg070302.PRN

Sample Name	Client ID	Analysis Date	Analysis Time
S 702112-011-010-1/1	NWO-039-5011	03/02/07	10:45 AM
S 702112-012-011-1/1	NWO-039-5012	03/02/07	10:48 AM
S 702112-013-012-1/1	NWO-039-5013	03/02/07	10:51 AM
Ck5 CCV3		03/02/07	11:03 AM
Ck6 CCB3		03/02/07	11:06 AM

URIT Version 4.3.4

SW846

ICPMS ANALYSIS LOG

Instrument ID: ICPMS (X0206) Inst. Method: 6020A Nebulizer CONCEPTRIC

Analytical Batch No: 070301 MS

Workorder	Project/SDG #	Prep. Seq.	Batch #	Matrix s/w/e	Prep. Date	Method	Comments / Dilution
702112	SHAW	96699	145	S	2.26.07	6020A	10x ON ALL
702077	ALION		141	↓	2.26.07	↓	↓

3.2.07

Source Solution Numbers			
Stds.	Number	Stds.	Number
S0	129-134-02	ICV	39297
S1	39279	CCV	39532
S2	39280	ICSA	39300
S3	39281	ICSAB	39303
S4	39282	Low Ck	39305
S5	39283	LR	39306
S6	39284	IS	39533

Post Digestion Spikes

Spike 9.9 mls of sample with 0.1 mls of 38352

Samples:

702112-001-014-1/3

702077-002-014-1/1

Analyst: [signature] Date: 3.2.07 Reviewed: RA Date: 3-2-07

ICP ANALYSIS LOG

GPL - Maryland Laboratory | ICPMS Analysis Log | Data File: 070301MS.csv

Seq	Sample Name	Dil	Date	Time	Seq	Sample Name	Dil	Date	Time	Seq	Sample Name	Dil	Date	Time	Seq	Sample Name	Dil	Date	Time	Seq	Sample Name	Dil	Date	Time
1	BLANK	1	3/1/2007	16:37	31	CCB	1	3/1/2007	19:46	61	S 702077-011-023-1/1	10	3/1/2007	22:57										
2	STD1	1	3/1/2007	16:42	32	S 702112-005-004-1/1	10	3/1/2007	19:52	62	S 702077-012-024-1/1	10	3/1/2007	23:03										
3	STD2	1	3/1/2007	16:46	33	S 702112-006-005-1/1	10	3/1/2007	19:58	63	ICSA	1	3/1/2007	23:16										
4	STD3	1	3/1/2007	16:53	34	S 702112-007-006-1/1	10	3/1/2007	20:04	64	ICSAB	1	3/1/2007	23:22										
5	STD4	1	3/1/2007	16:58	35	S 702112-008-007-1/1	10	3/1/2007	20:10	65	CCV	1	3/1/2007	23:28										
6	STD5	1	3/1/2007	17:03	36	S 702112-009-008-1/1	10	3/1/2007	20:17	66	CCB	1	3/1/2007	23:40										
7	STD6	1	3/1/2007	17:08	37	S 702112-010-009-1/1	10	3/1/2007	20:23															
8	ICV	1	3/1/2007	17:13	38	S 702112-011-010-1/1	10	3/1/2007	20:29															
9	ICV(Cd)	1	3/1/2007	17:18	39	S 702112-012-011-1/1	10	3/1/2007	20:35															
10	ICB	1	3/1/2007	17:24	40	S 702112-013-012-1/1	10	3/1/2007	20:41															
11	CCV	1	3/1/2007	17:29	41	BLK96639	10	3/1/2007	20:54															
12	CCB	1	3/1/2007	17:34	42	CCV	1	3/1/2007	21:00															
13	POL	1	3/1/2007	17:39	43	CCB	1	3/1/2007	21:06															
14	POL(CnSr)	1	3/1/2007	17:44	44	BKS96639	10	3/1/2007	21:12															
15	ICSA	1	3/1/2007	17:49	45	S 702077-001-013-1/1	10	3/1/2007	21:18															
16	ICSAB	1	3/1/2007	18:01	46	S 702077-002-014-1/1	10	3/1/2007	21:25															
17	LR	1	3/1/2007	18:07	47	SP702077-002-014-1/	10	3/1/2007	21:31															
18	CCV	1	3/1/2007	18:25	48	SD702077-002-014-1/	10	3/1/2007	21:37															
19	CCB	1	3/1/2007	18:32	49	PS702077-002-014-1/	10	3/1/2007	21:43															
20	BLK(145)	10	3/1/2007	18:38	50	SE702077-002-014-1/	50	3/1/2007	21:49															
21	BKS(145)	10	3/1/2007	18:44	51	S 702077-003-015-1/1	10	3/1/2007	21:55															
22	S 702112-001-014-1/3	10	3/1/2007	18:50	52	S 702077-004-016-1/1	10	3/1/2007	22:02															
23	SP702112-001-014-1/	10	3/1/2007	18:56	53	S 702077-005-017-1/1	10	3/1/2007	22:08															
24	SD702112-001-014-1/	10	3/1/2007	19:02	54	CCV	1	3/1/2007	22:14															
25	PS702112-001-014-1/	10	3/1/2007	19:09	55	CCB	1	3/1/2007	22:20															
26	SE702112-001-014-1/	50	3/1/2007	19:15	56	S 702077-006-018-1/1	10	3/1/2007	22:26															
27	S 702112-002-001-1/1	10	3/1/2007	19:21	57	S 702077-007-019-1/1	10	3/1/2007	22:32															
28	S 702112-003-002-1/1	10	3/1/2007	19:27	58	S 702077-008-020-1/1	10	3/1/2007	22:39															
29	S 702112-004-003-1/1	10	3/1/2007	19:33	59	S 702077-009-021-1/1	10	3/1/2007	22:45															
30	CCV	1	3/1/2007	19:39	60	S 702077-010-022-1/1	10	3/1/2007	22:51															

Analyst Signature: [signature] Date: 3.2.07 Analyst Signature: Date

[signature] 3.2.07

Sample Dilutions:

IS okay
LR okay

USEPA - CLP

15 - IN

ICP-MS Internal Standards Relative Intensity Summary

Lab Name: GPL LABORATORIES, LLLP Contract:

Lab Code: Case No.: NRAS No.: SDG No.: DHJK

ICP-MS Instrument ID: SEDI Start Date: 03/01/2007 End Date: 03/01/2007

EPA Sample No.	Time	Internal Standards %RI For:									
		Bi (209)	Q	In (115)	Q	Li (6)	Q	Sc (45)	Q	Tb (159)	Q
BLANK	16:37	100		100		100		100		100	
STD1	16:42	104		103		104		104		103	
STD2	16:48	104		104		106		106		104	
STD3	16:53	101		98		103		101		99	
STD4	16:58	100		98		103		101		98	
STD5	17:03	98		98		101		102		100	
STD6	17:08	97		98		103		102		100	
ICV	17:13	99		97		102		99		98	
ICV(Cd)	17:18	97		95		103		98		97	
ICB	17:24	97		96		103		98		97	
CCV	17:29	93		92		96		94		94	
CCB	17:34	96		95		100		96		96	
PQL	17:39	97		93		96		94		95	
PQL(CoSr)	17:44	95		95		100		96		96	
ICSA	17:49	76		80		71		78		83	
ICSAB	18:01	80		82		64		74		87	
LR	18:07	103		94		73		89		101	
CCV	18:25	99		93		80		88		100	
CCB	18:32	102		97		84		92		101	
BLK(145)	18:38	105		100		88		96		105	
BKS(145)	18:44	105		99		87		95		104	
S 702112-001-014-1/3	18:50	106		102		90		100		106	
SP702112-001-014-1/3	18:56	104		101		89		99		104	
SD702112-001-014-1/3	19:02	106		102		86		99		106	
PS702112-001-014-1/3	19:09	105		101		87		98		106	
SE702112-001-014-1/3	19:15	111		106		90		102		109	
S 702112-002-001-1/1	19:21	106		102		93		102		106	
S 702112-003-002-1/1	19:27	105		102		93		102		105	
S 702112-004-003-1/1	19:33	103		99		91		98		103	
CCV	19:39	96		91		83		88		97	
CCB	19:46	101		97		88		94		101	
S 702112-005-004-1/1	19:52	103		99		88		98		103	
S 702112-006-005-1/1	19:58	104		101		92		101		105	
S 702112-007-006-1/1	20:04	105		102		92		101		105	
S 702112-008-007-1/1	20:10	106		102		91		102		105	
S 702112-009-008-1/1	20:17	105		102		93		103		106	
S 702112-010-009-1/1	20:23	104		102		93		101		105	
S 702112-011-010-1/1	20:29	104		101		95		102		104	

FORM XV - IN SW846

USEPA - CLP

15 - IN

ICP-MS Internal Standards Relative Intensity Summary

Lab Name: GPL LABORATORIES, LLLP Contract:

Lab Code: Case No.: NRAS No.: SDG No.: DHJK

ICP-MS Instrument ID: SEDI Start Date: 03/01/2007 End Date: 03/01/2007

EPA Sample No.	Time	Internal Standards %RI For:									
		Bi (209)	Q	In (115)	Q	Li (6)	Q	Sc (45)	Q	Tb (159)	Q
S 702112-012-011-1/1	20:35	102		99		91		99		103	
S 702112-013-012-1/1	20:41	101		98		92		98		102	
BLK96639	20:54	105		102		100		102		104	
CCV	21:00	95		90		85		88		96	
CCB	21:06	98		93		93		91		97	
BKS96639	21:12	99		94		92		93		98	
S 702077-001-013-1/1	21:18	104		99		95		98		103	
S 702077-002-014-1/1	21:25	103		99		94		99		102	
SP702077-002-014-1/1	21:31	102		98		95		100		102	
SD702077-002-014-1/1	21:37	102		98		94		100		102	
PS702077-002-014-1/1	21:43	98		94		89		94		98	
SE702077-002-014-1/1	21:49	107		102		93		101		104	
S 702077-003-015-1/1	21:55	105		100		95		100		104	
S 702077-004-016-1/1	22:02	103		99		95		100		103	
S 702077-005-017-1/1	22:08	104		99		95		99		103	
CCV	22:14	95		92		88		92		97	
CCB	22:20	98		94		93		93		97	
S 702077-006-018-1/1	22:26	102		96		96		97		101	
S 702077-007-019-1/1	22:32	102		97		95		97		100	
S 702077-008-020-1/1	22:39	101		96		96		97		100	
S 702077-009-021-1/1	22:45	101		96		97		97		100	
S 702077-010-022-1/1	22:51	101		96		96		96		100	
S 702077-011-023-1/1	22:57	100		95		99		98		99	
S 702077-012-024-1/1	23:03	100		96		98		98		99	
ICSA	23:16	73		76		68		73		80	
ICSAB	23:22	74		75		62		69		81	
CCV	23:28	95		87		73		81		95	
CCB	23:40	98		90		78		86		96	

FORM XV - IN

SW846

USEPA - CLP

15 - IN

ICP-MS Internal Standards Relative Intensity Summary

Lab Name: GPL LABORATORIES, LLLP Contract:

Lab Code: Case No.: NRAS No.: SDG No.: DHJK

ICP-MS Instrument ID: SEDI Start Date: 03/01/2007 End Date: 03/01/2007

EPA Sample No.	Time	Internal Standards %RI For:									
		Y (89)	Q								
BLANK	16:37	100									
STD1	16:42	103									
STD2	16:48	104									
STD3	16:53	99									
STD4	16:58	99									
STD5	17:03	99									
STD6	17:08	100									
ICV	17:13	97									
ICV(Cd)	17:18	95									
ICB	17:24	96									
CCV	17:29	92									
CCB	17:34	94									
PQL	17:39	93									
PQL(CoSr)	17:44	95									
ICSA	17:49	77									
ICSAB	18:01	77									
LR	18:07	95									
CCV	18:25	92									
CCB	18:32	95									
BLK(145)	18:38	99									
BKS(145)	18:44	99									
S 702112-001-014-1/3	18:50	104									
SP702112-001-014-1/3	18:56	103									
SD702112-001-014-1/3	19:02	104									
PS702112-001-014-1/3	19:09	103									
SE702112-001-014-1/3	19:15	106									
S 702112-002-001-1/1	19:21	105									
S 702112-003-002-1/1	19:27	104									
S 702112-004-003-1/1	19:33	101									
CCV	19:39	91									
CCB	19:46	95									
S 702112-005-004-1/1	19:52	102									
S 702112-006-005-1/1	19:58	105									
S 702112-007-006-1/1	20:04	104									
S 702112-008-007-1/1	20:10	103									
S 702112-009-008-1/1	20:17	105									
S 702112-010-009-1/1	20:23	105									
S 702112-011-010-1/1	20:29	104									

FORM XV - IN SW846

USEPA - CLP

15 - IN

ICP-MS Internal Standards Relative Intensity Summary

Lab Name: GPL LABORATORIES, LLLP Contract:

Lab Code: Case No.: NRAS No.: SDG No.: DHJK

ICP-MS Instrument ID: SEDI Start Date: 03/01/2007 End Date: 03/01/2007

EPA Sample No.	Time	Internal Standards %RI For:									
		Y (89)	Q								
S 702112-012-011-1/1	20:35	103									
S 702112-013-012-1/1	20:41	103									
BLK96639	20:54	102									
CCV	21:00	90									
CCB	21:06	93									
BKS96639	21:12	94									
S 702077-001-013-1/1	21:18	104									
S 702077-002-014-1/1	21:25	105									
SP702077-002-014-1/1	21:31	105									
SD702077-002-014-1/1	21:37	105									
PS702077-002-014-1/1	21:43	100									
SE702077-002-014-1/1	21:49	103									
S 702077-003-015-1/1	21:55	105									
S 702077-004-016-1/1	22:02	103									
S 702077-005-017-1/1	22:08	104									
CCV	22:14	93									
CCB	22:20	93									
S 702077-006-018-1/1	22:26	104									
S 702077-007-019-1/1	22:32	98									
S 702077-008-020-1/1	22:39	99									
S 702077-009-021-1/1	22:45	98									
S 702077-010-022-1/1	22:51	97									
S 702077-011-023-1/1	22:57	100									
S 702077-012-024-1/1	23:03	100									
ICSA	23:16	73									
ICSAB	23:22	72									
CCV	23:28	86									
CCB	23:40	89									

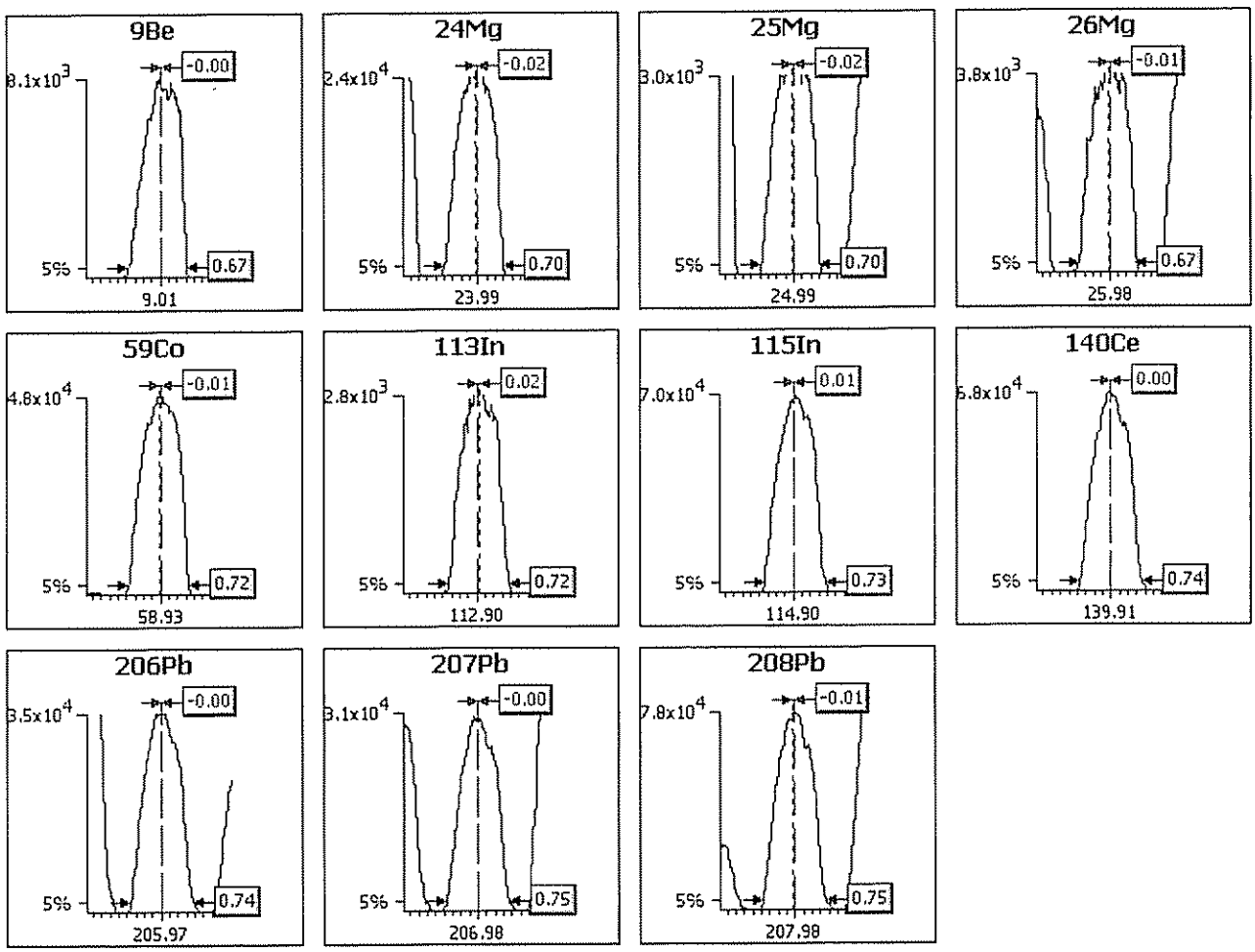
FORM XV - IN SW846

Performance Report

Sample details
Acquired at : 03/01/2007 01:59:53 PM
Report name : EPA 6020A 2.1A [05/30/2006 01:04:54 PM]

Mass Calibration verification

Acquisition parameters
Sweeps : 25
Dwell : 2.0 mSecs
Point spacing : 0.01 amu
Peak width measured at 5% of the peak maximum



Analyte	Limits			Results	
	Max. width	Min. width	Max. error	Peak width	Peak error

9Be	0.90	0.45	0.10	0.67	-0.00
24Mg	0.90	0.45	0.10	0.70	-0.02
25Mg	0.90	0.45	0.10	0.70	-0.02
26Mg	0.90	0.45	0.10	0.67	-0.01
59Co	0.90	0.45	0.10	0.72	-0.01
113In	0.90	0.45	0.10	0.72	0.02
115In	0.90	0.45	0.10	0.73	0.01
140Ce	0.90	0.45	0.10	0.74	0.00
206Pb	0.90	0.45	0.10	0.74	-0.00
207Pb	0.90	0.45	0.10	0.75	-0.00
208Pb	0.90	0.45	0.10	0.75	-0.01

Sample details
Acquired at : 03/01/2007 01:59:53 PM
Report name : EPA 6020A 2.1A [05/30/2006 01:04:54 PM]

Tune conditions

Major	
Extraction	-141
Lens 1	2.9
Focus	23.3
D1	-47.8
Pole Bias	4.0
Hexapole Bias	-3.0
Nebuliser	0.89
Sampling Depth	130

Minor	
Lens 2	-30.6
Lens 3	-184.3
Forward power	1404
Horizontal	95
Vertical	480
D2	-160
DA	-40.0
Cool	13.0
Auxiliary	0.90

Global	
Standard resolution	125
High resolution	105
Analogue Detector	2078
PC Detector	3451

Add. Gases

Sensitivity and stability results

Acquisition parameters
Sweeps : 180

Run	Time	5Bkg	9Be	24Mg	25Mg	26Mg	59Co	113In	115In	140Ce
Dwell (mSecs)		100.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Limits	%RSD	-	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
	Countrate	-	>4000	>5000	>1000	>1000	>10000	>1000	>50000	>50000
1	02:01:26 PM	0.278	8082.549	25443.236	3271.720	3947.856	50148.682	2962.822	68952.653	67620.077
2	02:02:37 PM	0.333	8011.432	25836.671	3336.722	4007.303	50402.699	2984.489	68281.081	67275.956
3	02:03:48 PM	0.444	8059.769	25442.125	3270.053	3930.077	50313.209	2911.709	69006.023	67439.955
4	02:05:11 PM	0.167	7939.204	25270.415	3404.502	3983.413	50081.982	3040.602	68917.073	67683.453
5	02:07:11 PM	0.167	8254.230	25975.595	3367.834	4015.636	50600.021	3030.046	69026.593	67773.514
x		0.278	8069.437	25593.608	3330.167	3976.857	50309.319	2985.933	68836.685	67558.591
σ		0.12	116.98	297.91	59.20	37.09	206.60	52.39	313.59	199.70
%RSD		42.426	1.450	1.164	1.778	0.933	0.411	1.755	0.456	0.296

Run	Time	156Ce O	206Pb	207Pb	208Pb	220Bkg
Dwell (mSecs)		30.0	10.0	10.0	10.0	100.0
Limits	%RSD	-	2.0%	2.0%	2.0%	-
	Countrate	-	>10000	>10000	>25000	<2
1	02:01:26 PM	862.411	35864.764	30052.293	75883.225	0.111
2	02:02:37 PM	865.559	35331.796	30117.868	74876.911	0.222
3	02:03:48 PM	822.411	35359.584	30484.090	75799.828	0.111
4	02:05:11 PM	813.892	35439.056	30460.750	75688.077	0.167
5	02:07:11 PM	815.189	35683.032	30450.191	75356.160	0.111
x		835.892	35535.646	30313.038	75520.840	0.144
σ		25.87	230.18	209.74	411.97	0.05
%RSD		3.095	0.648	0.692	0.546	34.401

Ratio results

Run	Time	156Ce O/140Ce
Ratio limits		<0.0200
1	02:01:26 PM	0.013

2	02:02:37 PM	0.013
3	02:03:48 PM	0.012
4	02:05:11 PM	0.012
5	02:07:11 PM	0.012
x		0.0124
σ		0.00
%RSD		3.2821

Result : The performance report passed.

Dilution Corrected Concentrations

BLANK 03/01/2007 04:37:48 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		100.000%	0.000	-0.000	-0.000	0.000	0.000	0.000	0.000	100.000%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.000	-0.000	0.000	-0.000	-0.000	-0.000	0.000	-0.000	0.000

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.000	-0.000	0.000	0.000	0.000	100.000%	0.000	0.000	-0.000

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.000	0.000	100.000%	-0.000	0.000	0.000	0.000	0.000	100.000%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.000	0.000	-0.000	100.000%

STD1 03/01/2007 04:42:56 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		104.391%	5.045	-1.654	-0.335	-0.343	τ4910.000	0.252	24.010	104.455%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		50.560	50.110	52.600	-15230.000	49.660	τ4979.000	49.760	50.550	51.400

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		51.010	50.110	0.025	48.980	50.810	103.250%	50.250	49.610	-1.584

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		49.920	50.020	103.451%	51.320	50.380	50.890	49.690	0.059	103.327%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		50.260	50.520	49.620	104.288%

STD2 03/01/2007 04:48:05 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		105.766%	10.430	-1.836	-0.373	-0.374	TM 10050.000	0.093	49.640	106.339%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		99.550	M 99.950	105.500	-26460.000	M 100.200	TM 10010.000	M 100.100	102.100	103.100

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		102.700	101.600	0.063	100.300	101.800	104.168%	101.500	M 100.200	-3.222

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 100.000	101.200	103.979%	104.100	101.800	102.600	101.700	0.081	104.198%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		102.300	102.600	M 100.200	104.106%

STD3 03/01/2007 04:53:12 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		102.535%	M 49.910	0.139	0.022	-0.087	3.038	2.743	101.500	101.142%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 996.900	M 937.100	M 999.300	-43990.000	TM 953.100	TM 48890.000	TM 943.100	M 749.700	M 999.600

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 499.400	M 199.200	-0.024	M 200.100	198.900	99.492%	M 999.800	M 99.940	-10.170

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 99.280	M 199.400	98.115%	M 999.500	M 499.600	M 499.400	M 999.800	0.900	99.098%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		M 198.800	M 198.600	TM 1912.000	100.683%

STD4 03/01/2007 04:58:21 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		102.941%	0.004	τ981.800	953.700	1018.000	0.532	947.000	1011.000	101.435%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.097	0.610	0.792	-36220.000	0.071	3.410	0.082	0.125	0.140

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.015	0.183	-0.048	-0.216	0.070	98.883%	0.537	0.012	-0.035

Run	Time	109Ag	110Cd	115In	118Sn	121Sb12	3Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.013	0.036	98.437%	0.619	0.075	0.073	0.103	-0.001	98.333%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.837	0.840	0.188	99.876%

STD5 03/01/2007 05:03:29 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		101.487%	0.006	τ10250.000	τ10260.000	10210.000	0.164	τ10220.000	10240.000	102.077%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.114	1.507	0.230	-54280.000	0.274	4.897	0.038	0.104	0.109

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.482	0.350	0.035	-0.290	0.162	99.469%	0.230	0.010	0.031

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.012	0.001	98.499%	0.407	0.024	0.042	0.150	0.001	99.983%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.334	0.362	0.204	98.179%

STD6 03/01/2007 05:08:37 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		102.652%	0.004	TN 19870.000	TN 19870.000	TN 19900.000	0.038	T 19890.000	19880.000	101.832%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.009	1.161	0.242	-55230.000	0.480	4.486	0.014	0.195	0.084

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.642	0.007	0.246	-0.468	0.292	100.006%	0.114	0.019	0.067

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.011	0.007	98.450%	0.319	0.021	0.029	0.115	0.005	100.203%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.205	0.200	0.261	96.777%

ICV 03/01/2007 05:13:47 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		101.986%	4.268	T 5029.000	T 5061.000	5142.000	487.000	T 5003.000	5152.000	98.726%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		42.950	43.170	42.690	-8648.000	43.010	524.200	42.180	42.960	42.770

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		42.510	41.720	0.130	42.620	43.100	97.038%	42.880	41.480	-0.465

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		41.850	4.889	96.830%	43.570	43.420	43.460	43.700	0.042	98.297%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		43.520	43.940	42.530	98.611%

ICV(Cd) 03/01/2007 05:18:57 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		103.151%	0.005	-1.262	0.424	0.334	-0.142	0.598	0.145	97.858%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.203	0.879	0.274	13480.000	0.072	7.707	0.079	0.085	0.119

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.675	0.058	0.096	-0.227	0.088	95.430%	0.279	0.027	0.064

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.027	4.104	95.397%	0.411	0.030	-0.012	0.165	-0.003	96.616%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.320	0.338	0.467	96.783%

ICB 03/01/2007 05:24:11 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		103.010%	-0.005	-1.777	-0.017	-0.022	-0.365	0.026	-0.323	97.802%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.093	0.022	0.227	6653.000	-0.011	-1.608	-0.001	0.014	-0.000

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.484	0.280	0.098	-0.482	-0.003	96.301%	0.022	0.001	0.046

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.000	-0.006	95.971%	0.161	-0.030	-0.039	0.053	-0.003	96.552%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.119	0.129	0.006	97.082%

CCV 03/01/2007 05:29:21 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		95.601%	5.056	τ 10160.000	τ 10160.000	τ 10130.000	τ 4913.000	τ 10060.000	10240.000	94.038%
Run	**Time**	**47Ti**	**51V**	**52Cr**	**53Cl O**	**55Mn**	**56Fe**	**59Co**	**60Ni**	**65Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		51.220	50.260	52.360	-43030.000	50.170	τ 4950.000	49.290	50.420	50.290
Run	**Time**	**66Zn**	**75As**	**77Ar Cl**	**82Se**	**88Sr**	**89Y**	**95Mo**	**107Ag**	**108Mo O**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		50.220	50.090	-0.011	51.880	51.480	92.453%	52.110	49.710	-1.778
Run	**Time**	**109Ag**	**110Cd**	**115In**	**118Sn**	**121Sb**	**123Sb**	**137Ba**	**153Ba O**	**159Tb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		50.030	50.820	91.852%	52.380	51.350	51.960	51.450	0.047	94.241%
Run	**Time**	**203Tl**	**205Tl**	**208Pb**	**209Bi**					
		ppb	ppb	ppb	ppb					
x		51.770	52.180	50.880	93.276%					

CCB 03/01/2007 05:34:31 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		100.340%	0.004	-1.579	-0.056	-0.073	-0.229	-0.073	-1.228	96.092%
Run	**Time**	**47Ti**	**51V**	**52Cr**	**53Cl O**	**55Mn**	**56Fe**	**59Co**	**60Ni**	**65Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.089	0.514	-0.012	-15500.000	-0.009	-2.553	0.000	0.010	-0.007
Run	**Time**	**66Zn**	**75As**	**77Ar Cl**	**82Se**	**88Sr**	**89Y**	**95Mo**	**107Ag**	**108Mo O**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.542	0.335	-0.033	-0.134	0.003	94.419%	0.038	0.004	0.026
Run	**Time**	**109Ag**	**110Cd**	**115In**	**118Sn**	**121Sb**	**123Sb**	**137Ba**	**153Ba O**	**159Tb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.002	-0.004	94.652%	0.135	-0.056	-0.031	0.123	0.000	95.820%
Run	**Time**	**203Tl**	**205Tl**	**208Pb**	**209Bi**					
		ppb	ppb	ppb	ppb					
x		0.247	0.266	0.006	96.303%					

PQL 03/01/2007 05:39:41 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		95.783%	0.223	983.800	99.780	104.500	97.300	964.900	1025.000	93.972%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		2.190	11.790	2.093	-36880.000	2.056	49.350	1.036	1.114	2.217

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		10.140	5.153	-0.039	4.746	2.023	93.145%	5.156	0.326	-0.006

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.308	0.466	93.369%	5.286	1.065	1.109	5.390	0.013	94.955%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		2.108	2.138	2.001	96.692%

PQL(CoSr) 03/01/2007 05:44:49 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		100.308%	0.001	-1.407	-0.140	-0.029	-0.208	-0.503	-0.570	96.460%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.079	1.266	0.063	-24660.000	-0.016	-2.747	0.572	0.021	0.012

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.615	0.125	-0.001	-0.521	0.552	94.641%	0.008	0.004	0.107

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.001	-0.026	94.752%	0.102	-0.040	-0.043	0.111	0.001	96.132%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.091	0.091	0.006	95.430%

ICSA 03/01/2007 05:49:57 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		71.375%	0.001	TM 247800.000	TM 98160.000	TM 98890.000	TM 97910.000	TM 103200.000	TM 311600.000	77.536%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 2196.000	1.174	0.502	-102300.000	-0.094	TM 242300.000	0.078	0.131	0.408

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		1.322	0.311	0.585	0.132	4.599	77.472%	M 2106.000	0.088	1.681

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.101	-0.112	80.312%	0.209	0.264	0.206	0.707	0.039	82.856%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.150	0.145	0.135	75.500%

ICSAB 03/01/2007 06:01:15 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		63.564%	16.030	TM 251400.000	TM 100900.000	TM 102200.000	TM 101300.000	TM 103600.000	TM 315200.000	73.505%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 2130.000	21.250	20.020	-104900.000	19.160	TM 242300.000	17.950	17.130	16.920

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		17.790	17.460	0.390	17.060	25.660	77.459%	M 2033.000	16.270	0.649

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		16.150	17.270	81.601%	20.490	19.070	19.170	20.760	0.063	87.146%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		21.730	22.050	20.780	79.811%

LR 03/01/2007 06:07:25 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		73.259%	M 226.800	54.030	21.950	22.660	23.250	22.290	2274.000	88.736%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 4745.000	TM 4734.000	TM 5008.000	-41320.000	TM 4987.000	TM 248500.000	TM 4712.000	M 3384.000	TM 4504.000

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 2419.000	M 925.000	-0.374	M 988.500	TM 6169.000	94.549%	M 4629.000	M 463.400	-29.610

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 465.400	M 970.700	94.402%	TM 4964.000	M 500.900	M 502.400	TM 5227.000	3.954	101.477%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		TM 1021.000	TM 1032.000	TM 9902.000	102.625%

CCV 03/01/2007 06:25:54 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		79.653%	4.740	T 10330.000	T 10600.000	10400.000	T 5166.000	T 10220.000	10260.000	87.551%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		49.510	49.860	50.410	-83070.000	50.010	T 5030.000	47.720	47.920	47.560

Run	Time	66Zn75	As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		50.360	48.670	-0.115	50.950	50.700	92.362%	49.700	47.930	-1.826

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		48.390	49.880	93.454%	52.330	50.890	51.670	50.160	0.043	99.542%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		51.340	52.010	50.320	99.377%

CCB 03/01/2007 06:32:05 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		84.151%	-0.000	4.315	2.071	2.276	1.183	2.718	4.917	91.767%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.057	1.201	-0.087	-64690.000	0.008	2.085	0.026	0.029	0.039

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.371	0.380	-0.085	-0.290	0.040	95.207%	0.172	0.012	0.111

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.010	-0.010	96.933%	0.484	-0.050	-0.037	0.074	0.001	101.401%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.372	0.388	0.062	102.189%

BLK(145) 03/01/2007 06:38:14 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		87.877%	-0.005	8.966	5.610	5.905	0.182	2.589	21.960	95.698%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.024	1.222	0.031	-61750.000	0.025	0.245	0.004	0.086	0.116

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.051	0.527	-0.046	0.453	0.086	99.020%	0.096	0.003	0.021

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.002	-0.001	100.235%	3.151	-0.167	-0.165	0.381	-0.003	104.656%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.205	0.237	0.037	105.474%

BKS(145) 03/01/2007 06:44:24 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		86.769%	4.894	T 1014.000	998.500	1073.000	979.700	974.900	1105.000	95.404%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		202.600	50.730	53.120	-45360.000	M 103.400	985.000	49.810	49.840	50.420

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		100.600	9.582	0.032	10.170	104.700	98.611%	50.620	9.996	-0.616

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		9.929	10.060	99.464%	56.340	10.120	10.270	103.900	0.092	103.844%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		10.740	10.790	M 103.500	104.900%

S 702112-001-014-1/3 03/01/2007 06:50:34 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		89.789%	0.254	161.900	T 6418.000	6369.000	TM 15350.000	599.900	5790.000	99.825%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		839.800	44.500	41.620	-56660.000	TM 1229.000	TM 20720.000	10.650	86.890	10.060

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		55.380	5.823	0.114	0.860	37.620	103.564%	0.308	0.046	-0.028

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.052	0.203	101.964%	2.720	0.148	0.116	172.700	1.148	105.685%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.182	0.183	22.880	105.879%

SP702112-001-014-1/3 03/01/2007 06:56:45 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		89.087%	5.336	T 1282.000	T 8386.000	8301.000	TM 20550.000	T 1863.000	8261.000	99.175%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 1454.000	M 102.200	109.700	-50120.000	TM 1441.000	TM 23960.000	63.720	156.000	61.700

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		166.500	16.090	0.148	10.540	151.800	102.621%	51.740	10.150	-0.679

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		10.150	10.750	100.644%	57.180	6.466	6.792	305.800	1.672	104.400%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		11.170	11.250	M 131.400	103.801%

SD702112-001-014-1/3 03/01/2007 07:02:55 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		86.290%	5.180	T 1269.000	T 8036.000	7988.000	TM 20180.000	T 1814.000	8271.000	98.508%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 1459.000	M 102.000	94.380	-48630.000	TM 1365.000	TM 23170.000	61.230	148.800	58.550

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		162.000	15.170	0.159	10.200	145.300	104.327%	50.020	9.830	-0.552

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		9.818	10.530	101.577%	56.210	6.212	6.576	286.500	1.568	106.058%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		10.830	10.930	M 127.000	105.626%

PS702112-001-014-1/3 03/01/2007 07:09:04 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		86.939%	3.844	T 1999.000	T 8320.000	8302.000	TH 15610.000	T 2453.000	7636.000	98.266%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		847.300	51.090	48.810	-51260.000	TH 1254.000	TH 21360.000	21.410	100.700	20.720

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		84.550	33.660	0.046	25.470	45.220	102.534%	11.420	14.470	-2.105

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		14.220	8.438	101.056%	42.730	29.730	31.100	180.400	1.056	105.572%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		37.960	38.280	52.490	105.196%

SE702112-001-014-1/3 03/01/2007 07:15:15 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		90.424%	0.045	32.240	1179.000	1281.000	T 2974.000	118.700	1150.000	102.004%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		166.300	9.484	8.871	-51560.000	H 244.500	T 4072.000	2.120	17.530	2.105

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		12.390	1.214	0.065	-0.545	7.564	105.634%	0.080	0.016	0.079

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.014	0.021	105.816%	0.723	-0.042	-0.045	33.720	0.236	108.835%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.114	0.117	4.512	111.033%

S 702112-002-001-1/1 03/01/2007 07:21:26 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		92.749%	0.227	169.900	T 5716.000	T 5730.000	TH 13130.000	T 1010.000	5469.000	102.441%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		855.600	39.830	32.800	-52150.000	H 603.900	TH 17530.000	8.422	43.190	12.450

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		48.030	4.161	0.059	0.688	35.970	105.083%	0.239	0.062	-0.071

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.064	0.185	102.043%	2.075	0.012	0.027	97.260	1.478	105.508%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.123	0.122	17.180	105.780%

S 702112-003-002-1/1 03/01/2007 07:27:37 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		93.210%	0.240	164.200	T 4284.000	4318.000	TH 14190.000	621.100	7583.000	101.830%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		766.200	38.670	29.810	-51640.000	TH 1905.000	TH 17220.000	9.527	58.190	10.630

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		70.540	7.736	0.106	0.401	54.760	103.825%	0.411	0.090	-0.000

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.095	0.229	101.623%	3.178	0.272	0.283	240.800	1.117	105.234%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.110	0.114	36.070	105.340%

S 702112-004-003-1/1 03/01/2007 07:33:48 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		90.582%	0.211	τ 274.900	τ 4153.000	4205.000	TM 11860.000	τ 1018.000	11740.000	98.408%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		676.500	33.810	21.210	-51160.000	TM 1120.000	TM 14700.000	6.728	36.060	12.190

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		74.100	4.380	0.012	0.625	88.920	100.960%	0.318	0.110	0.005

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.108	0.360	99.030%	2.776	0.157	0.151	225.800	1.095	102.859%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.074	0.082	23.590	103.143%

CCV 03/01/2007 07:39:58 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		82.889%	4.850	τ 10340.000	τ 10390.000	10310.000	τ 5123.000	τ 10230.000	10410.000	88.374%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		50.460	50.490	51.600	-76860.000	50.720	τ 5069.000	49.180	49.320	49.090

Run	Time	66Zn75	As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		51.400	49.180	-0.178	52.490	51.550	90.575%	51.100	49.270	-1.227

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		49.610	50.460	91.012%	53.030	51.680	52.180	50.920	0.041	96.603%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		51.900	52.050	51.240	95.530%

CCB 03/01/2007 07:46:09 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		88.011%	-0.003	6.231	3.942	3.906	2.608	4.788	8.489	93.575%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.048	2.137	-0.221	-52590.000	0.088	4.259	0.051	0.064	0.038

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.300	0.417	-0.069	0.022	0.056	95.444%	0.076	0.026	0.138

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.017	-0.009	96.904%	0.218	-0.069	-0.053	0.133	-0.001	100.978%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.207	0.216	0.099	101.312%

S 702112-005-004-1/1 03/01/2007 07:52:20 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		88.010%	0.255	T 234.100	T 5457.000	5502.000	TM 13800.000	895.600	9154.000	97.629%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		858.600	45.430	32.670	-44820.000	TM 779.900	TM 19330.000	8.768	50.950	13.140

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		56.590	7.738	0.062	0.030	65.070	101.816%	0.356	0.071	-0.072

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.083	0.323	99.001%	2.849	0.312	0.344	170.100	1.491	103.265%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.152	0.151	33.600	103.106%

S 702112-006-005-1/1 03/01/2007 07:58:33 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		92.435%	0.246	T 268.100	T 5467.000	5482.000	TM 13000.000	T 925.000	8660.000	101.169%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		786.900	42.260	31.700	-49970.000	TM 1670.000	TM 19080.000	11.810	58.440	15.120

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		74.640	8.733	0.058	0.553	62.430	104.547%	0.322	0.086	0.066

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.072	0.351	100.736%	3.040	0.224	0.178	207.600	1.704	104.704%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.144	0.144	26.540	104.352%

S 702112-007-006-1/1 03/01/2007 08:04:43 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		91.633%	0.238	T 202.700	T 3871.000	3948.000	TM 13550.000	T 844.800	7958.000	100.665%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		831.400	39.900	32.250	-44740.000	TM 1259.000	TM 17130.000	9.335	49.170	10.770

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		81.240	6.856	0.105	0.093	57.480	103.641%	0.251	0.065	0.060

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.055	0.271	101.549%	2.440	0.159	0.135	247.200	1.353	105.150%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.095	0.091	22.880	104.865%

S 702112-008-007-1/1 03/01/2007 08:10:53 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		91.352%	0.297	T 186.000	T 2680.000	2719.000	TM 14840.000	374.400	5770.000	101.527%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		726.400	38.150	29.070	-49900.000	TM 2697.000	TM 18930.000	10.190	53.810	11.150

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		112.100	5.511	0.178	0.182	41.480	103.380%	0.260	0.077	-0.056

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.072	0.304	102.026%	2.744	0.036	0.022	389.600	1.427	105.432%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.109	0.104	16.490	105.833%

S 702112-009-008-1/1 03/01/2007 08:17:02 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		93.405%	0.198	177.500	T 4590.000	4658.000	TM 14110.000	647.100	6858.000	102.685%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		850.900	40.520	30.860	-42490.000	H 545.000	TM 17390.000	8.208	55.040	9.525

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		74.830	3.221	0.185	0.131	54.660	104.697%	0.279	0.217	0.022

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.232	0.247	102.297%	2.938	0.026	0.045	152.000	1.136	105.934%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.066	0.070	25.540	105.466%

S 702112-010-009-1/1 03/01/2007 08:23:13 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		92.679%	0.247	T 244.400	T 4876.000	4925.000	TM 15400.000	836.000	4237.000	101.427%

Run	Time	47Ti	51V	52Cr	53Cl O55	Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 1010.000	53.400	38.610	-46570.000	M 482.400	TM 20890.000	10.560	59.200	13.430

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		57.730	3.295	0.213	0.126	33.120	104.744%	0.447	0.084	0.012

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.077	0.133	102.001%	2.956	-0.023	-0.023	131.300	1.496	104.812%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.083	0.088	31.160	103.703%

S 702112-011-010-1/1 03/01/2007 08:29:24 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		94.885%	0.221	T 228.200	T 4330.000	4412.000	TM 13970.000	T 778.600	3794.000	101.786%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		947.300	48.460	35.540	-45720.000	M 436.500	TM 19070.000	9.459	54.260	12.220

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		52.340	3.705	0.153	0.175	30.570	103.525%	0.411	0.077	-0.008

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.080	0.160	100.665%	2.704	-0.013	-0.007	117.600	1.364	104.013%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.074	0.081	26.680	104.188%

S 702112-012-011-1/1 03/01/2007 08:35:35 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		91.447%	0.249	T 396.800	T 7367.000	7467.000	TM 14240.000	T 1292.000	8461.000	99.211%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		806.300	44.750	37.570	-42140.000	TM 778.500	TM 20610.000	11.060	61.960	14.660

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		59.820	5.161	0.073	0.153	54.200	103.267%	0.207	0.152	-0.019

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.140	0.256	98.774%	1.901	0.053	0.026	173.000	2.011	102.829%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.093	0.103	16.900	102.171%

S 702112-013-012-1/1 03/01/2007 08:41:46 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		92.206%	0.133	T 540.200	T 9029.000	T 9020.000	T 9061.000	T 522.600	5205.000	98.015%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		832.900	41.630	34.020	-38490.000	M 252.300	TM 16780.000	7.704	60.360	11.430

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		29.420	1.924	0.028	0.138	23.360	102.682%	0.130	0.031	0.004

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.025	0.086	97.832%	2.750	-0.126	-0.127	37.360	1.888	101.766%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.040	0.051	2.146	101.127%

BLK96639 03/01/2007 08:54:05 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		100.133%	-0.007	9.958	3.678	3.861	2.603	2.852	16.690	102.222%
Run	**Time**	**47Ti**	**51V**	**52Cr**	**53Cl O**	**55Mn**	**56Fe**	**59Co**	**60Ni**	**65Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.065	1.479	0.390	-22630.000	0.023	0.865	-0.002	0.089	0.093
Run	**Time**	**66Zn**	**75As**	**77Ar Cl**	**82Se**	**88Sr**	**89Y**	**95Mo**	**107Ag**	**108Mo O**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.905	0.103	0.046	-0.110	0.055	102.058%	-0.003	0.005	0.068
Run	**Time**	**109Ag**	**110Cd**	**115In**	**118Sn**	**121Sb**	**123Sb**	**137Ba**	**153Ba O**	**159Tb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.002	-0.018	101.966%	2.893	-0.158	-0.161	0.299	0.001	104.287%
Run	**Time**	**203Tl**	**205Tl**	**208Pb**	**209Bi**					
		ppb	ppb	ppb	ppb					
x		0.005	0.011	0.019	104.630%					

CCV 03/01/2007 09:00:16 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		84.835%	4.828	τ9980.000	τ9983.000	10040.000	τ4944.000	τ9936.000	10200.000	88.205%
Run	**Time**	**47Ti**	**51V**	**52Cr**	**53Cl O**	**55Mn**	**56Fe**	**59Co**	**60Ni**	**65Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		49.010	50.070	50.090	-75630.000	49.720	τ4909.000	47.730	47.660	47.580
Run	**Time**	**66Zn**	**75As**	**77Ar Cl**	**82Se**	**88Sr**	**89Y**	**95Mo**	**107Ag**	**108Mo O**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		50.240	48.700	-0.141	50.580	50.660	89.523%	49.630	47.630	-1.627
Run	**Time**	**109Ag**	**110Cd**	**115In**	**118Sn**	**121Sb**	**123Sb**	**137Ba**	**153Ba O**	**159Tb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		48.030	49.890	90.097%	50.960	50.900	51.090	49.510	0.047	95.950%
Run	**Time**	**203Tl**	**205Tl**	**208Pb**	**209Bi**					
		ppb	ppb	ppb	ppb					
x		50.410	50.690	50.070	94.911%					

CCB 03/01/2007 09:06:26 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		92.684%	0.002	6.525	5.949	6.121	4.270	5.430	9.591	91.250%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.176	0.332	-0.133	-41300.000	0.196	5.969	0.066	0.089	0.063

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.157	0.095	-0.062	-0.302	0.079	92.569%	0.092	0.026	0.077

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.025	0.012	93.253%	0.170	-0.039	-0.036	0.171	0.000	97.045%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.205	0.222	0.107	97.921%

BKS96639 03/01/2007 09:12:37 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		92.238%	4.869	T 973.700	964.400	1034.000	944.000	943.200	1076.000	93.313%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		199.100	50.570	52.650	-9839.000	M 102.400	975.300	49.940	50.450	50.190

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		100.400	9.162	0.125	9.463	103.200	94.294%	50.090	9.786	-0.614

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		10.020	10.260	94.106%	54.490	9.983	10.100	102.500	0.083	98.394%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		10.390	10.440	M 100.600	99.485%

S 702077-001-013-1/1 03/01/2007 09:18:49 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		95.334%	0.415	19.410	103.700	108.900	T 1798.000	94.960	412.500	98.344%
Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		20.700	6.184	3.840	-40880.000	70.980	T 5925.000	5.683	2.288	3.061
Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		10.630	0.951	0.011	0.803	3.460	103.873%	0.167	0.012	0.048
Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.008	0.012	98.890%	1.887	-0.126	-0.134	25.920	2.132	102.643%
Run	Time	203Tl	205Tl	208Pb	209Bi					
		ppb	ppb	ppb	ppb					
x		0.137	0.135	9.995	104.176%					

S 702077-002-014-1/1 03/01/2007 09:25:00 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		94.028%	0.412	31.500	536.600	569.000	T 5344.000	330.400	2108.000	99.332%
Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		59.270	17.590	9.497	-23500.000	M 298.700	T 6280.000	5.238	4.514	10.110
Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		52.810	0.262	0.199	0.617	13.360	105.413%	0.332	0.158	0.098
Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.144	0.397	98.598%	4.850	-0.012	-0.018	79.510	2.918	102.446%
Run	Time	203Tl	205Tl	208Pb	209Bi					
		ppb	ppb	ppb	ppb					
x		0.146	0.147	57.970	103.361%					

SP702077-002-014-1/1 03/01/2007 09:31:10 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		94.531%	5.678	T 1075.000	T 1899.000	1943.000	TM 17580.000	T 1550.000	3498.000	100.004%
Run	**Time**	**47Ti**	**51V**	**52Cr**	**53Cl O**	**55Mn**	**56Fe**	**59Co**	**60Ni**	**65Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		210.900	76.140	69.410	-18050.000	M 434.400	TM 10100.000	56.500	57.800	61.350
Run	**Time**	**66Zn**	**75As**	**77Ar Cl**	**82Se**	**88Sr**	**89Y**	**95Mo**	**107Ag**	**108Mo O**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		162.100	10.520	0.300	10.070	116.400	104.906%	47.420	9.943	-0.446
Run	**Time**	**109Ag**	**110Cd**	**115In**	**118Sn**	**121Sb**	**123Sb**	**137Ba**	**153Ba O**	**159Tb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		10.190	10.220	97.850%	56.560	4.643	5.006	201.100	3.406	102.162%
Run	**Time**	**203Tl**	**205Tl**	**208Pb**	**209Bi**					
		ppb	ppb	ppb	ppb					
x		10.710	10.780	M 170.000	101.599%					

SD702077-002-014-1/1 03/01/2007 09:37:19 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		94.176%	5.801	T 1079.000	T 1915.000	1968.000	TM 18170.000	T 1601.000	3463.000	99.952%
Run	**Time**	**47Ti**	**51V**	**52Cr**	**53Cl O**	**55Mn**	**56Fe**	**59Co**	**60Ni**	**65Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		268.300	76.940	70.390	-22140.000	M 448.500	TM 10260.000	56.860	57.720	61.270
Run	**Time**	**66Zn**	**75As**	**77Ar Cl**	**82Se**	**88Sr**	**89Y**	**95Mo**	**107Ag**	**108Mo O**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		162.000	10.440	0.335	10.570	116.400	105.228%	48.210	9.983	-0.354
Run	**Time**	**109Ag**	**110Cd**	**115In**	**118Sn**	**121Sb**	**123Sb**	**137Ba**	**153Ba O**	**159Tb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		10.160	10.690	98.269%	58.520	5.147	5.464	203.600	3.495	101.905%
Run	**Time**	**203Tl**	**205Tl**	**208Pb**	**209Bi**					
		ppb	ppb	ppb	ppb					
x		10.870	10.950	M 170.600	101.720%					

PS702077-002-014-1/1 03/01/2007 09:43:30 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		88.640%	10.540	T 5256.000	T 5865.000	5943.000	T 6372.000	T 5558.000	7392.000	94.063%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		81.460	37.340	30.480	-918.000	H 374.500	T 8288.000	35.000	44.860	39.700

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		132.000	77.520	0.168	68.760	33.910	100.071%	30.720	40.910	-6.056

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		40.870	24.530	93.758%	116.700	81.760	85.240	99.540	2.866	98.318%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		108.100	108.200	H 141.600	98.047%

SE702077-002-014-1/1 03/01/2007 09:49:39 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		93.055%	0.079	6.808	108.300	115.000	T 1041.000	67.230	425.400	100.757%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		11.580	4.693	2.293	9993.000	60.390	T 1249.000	1.060	0.907	2.113

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		12.330	0.629	0.080	-0.038	2.828	102.727%	0.099	0.036	0.070

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.042	0.070	101.730%	1.063	0.024	-0.003	15.860	0.593	104.232%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.148	0.145	11.610	106.615%

S 702077-003-015-1/1 03/01/2007 09:55:49 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		95.331%	0.185	21.510	248.300	261.800	T 3671.000	226.200	576.900	100.311%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		42.990	8.249	4.393	-1836.000	M 142.400	T 2797.000	1.075	1.600	4.623

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		16.880	0.569	0.177	0.221	2.773	104.827%	0.262	0.094	0.095

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.076	0.006	100.413%	5.057	-0.002	-0.048	41.820	2.027	104.068%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.109	0.114	47.320	104.943%

S 702077-004-016-1/1 03/01/2007 10:02:01 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		95.174%	0.188	22.790	205.200	216.800	T 5686.000	224.700	420.700	99.869%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		42.620	15.590	7.894	-7123.000	65.970	T 5150.000	1.067	2.331	3.615

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		16.020	1.743	0.186	0.334	2.801	102.867%	0.292	0.017	0.025

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.010	0.062	98.963%	1.841	-0.079	-0.099	29.120	1.545	102.743%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.099	0.090	31.770	103.270%

S 702077-005-017-1/1 03/01/2007 10:08:11 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		95.146%	0.470	27.620	248.200	262.100	T 4109.000	251.100	1170.000	99.321%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		30.930	9.557	4.295	3382.000	H 348.200	T 2084.000	2.116	3.842	4.775

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		17.700	1.221	0.207	0.428	11.310	104.471%	0.213	0.027	0.008

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.035	0.086	98.864%	1.516	-0.003	0.008	72.280	2.261	102.825%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.096	0.097	31.330	103.893%

CCV 03/01/2007 10:14:21 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		87.919%	4.882	T 10030.000	T 10110.000	10140.000	T 4950.000	T 9972.000	10200.000	91.712%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		50.710	49.250	50.480	-53920.000	50.300	T 4923.000	48.240	48.120	47.880

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		50.230	49.660	-0.109	50.840	50.660	92.597%	50.120	48.040	-1.670

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		48.040	48.600	92.290%	51.300	50.490	50.810	50.140	0.034	97.024%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		50.310	50.680	50.090	95.345%

CCB 03/01/2007 10:20:29 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		92.657%	-0.003	7.130	6.820	6.828	4.824	6.523	10.090	92.765%
Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.057	0.369	-0.074	-19330.000	0.215	7.157	0.057	0.067	0.057
Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.111	0.084	-0.030	0.080	0.089	93.140%	0.093	0.029	0.124
Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.027	0.015	93.531%	0.163	-0.043	-0.047	0.153	-0.003	97.085%
Run	Time	203Tl	205Tl	208Pb	209Bi					
		ppb	ppb	ppb	ppb					
x		0.230	0.237	0.114	97.577%					

S 702077-006-018-1/1 03/01/2007 10:26:40 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		95.844%	0.407	23.210	314.500	330.500	T 5503.000	244.600	819.500	97.498%
Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		33.210	11.720	6.493	-4603.000	M 538.200	T 4127.000	2.492	3.547	3.816
Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		17.000	0.536	0.207	0.344	6.105	103.651%	0.241	0.032	0.054
Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.028	0.041	96.467%	2.071	-0.018	-0.052	69.410	3.343	100.827%
Run	Time	203Tl	205Tl	208Pb	209Bi					
		ppb	ppb	ppb	ppb					
x		0.185	0.195	33.200	101.522%					

S 702077-007-019-1/1 03/01/2007 10:32:50 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		94.783%	0.126	19.870	137.700	144.100	T2620.000	157.400	535.400	96.875%
Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		43.620	11.710	4.455	1125.000	62.540	T3094.000	0.637	2.032	3.430
Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		12.220	1.469	0.147	0.336	5.667	98.141%	0.398	0.065	0.160
Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.065	0.012	96.686%	3.747	-0.007	0.000	44.980	0.811	100.280%
Run	Time	203Tl	205Tl	208Pb	209Bi					
		ppb	ppb	ppb	ppb					
x		0.111	0.110	45.430	102.344%					

S 702077-008-020-1/1 03/01/2007 10:39:01 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		96.008%	0.066	21.510	168.600	178.600	T4244.000	156.000	192.200	97.496%
Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		53.910	13.100	6.775	2668.000	13.530	T3963.000	0.485	1.573	1.806
Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		6.637	1.305	0.141	0.245	1.785	99.405%	0.277	0.008	-0.028
Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.004	0.041	96.455%	2.015	-0.061	-0.072	14.490	1.174	100.191%
Run	Time	203Tl	205Tl	208Pb	209Bi					
		ppb	ppb	ppb	ppb					
x		0.102	0.109	13.550	101.457%					

S 702077-009-021-1/1 03/01/2007 10:45:13 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		96.559%	0.089	18.540	156.600	165.500	τ4005.000	158.200	121.400	96.501%
Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		56.510	15.480	5.877	815.500	15.600	τ3477.000	0.803	1.824	3.062
Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		8.393	1.151	0.197	0.444	1.802	97.742%	0.358	0.024	0.165
Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.026	-0.015	95.779%	2.284	-0.027	-0.020	16.770	1.293	99.889%
Run	Time	203Tl	205Tl	208Pb	209Bi					
		ppb	ppb	ppb	ppb					
x		0.110	0.121	25.720	101.081%					

S 702077-010-022-1/1 03/01/2007 10:51:23 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		96.486%	0.110	19.600	126.400	133.500	τ4137.000	130.600	84.400	95.824%
Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		61.400	17.210	12.120	-3851.000	14.510	τ6317.000	0.486	1.579	3.295
Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		7.319	1.914	0.158	0.339	1.158	97.099%	0.327	0.016	0.036
Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.013	0.018	95.521%	2.099	-0.075	-0.058	11.560	0.862	99.584%
Run	Time	203Tl	205Tl	208Pb	209Bi					
		ppb	ppb	ppb	ppb					
x		0.086	0.093	18.110	100.893%					

S 702077-011-023-1/1 03/01/2007 10:57:34 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		99.060%	0.215	24.890	268.300	286.600	T 9557.000	275.200	157.600	98.082%
Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		65.670	27.750	14.380	-11620.000	17.910	TH 11830.000	1.354	3.136	5.489
Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		11.840	2.149	0.231	0.383	3.570	99.807%	0.532	0.021	0.015
Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.016	0.032	95.438%	2.328	-0.011	-0.011	42.050	2.059	99.310%
Run	Time	203Tl	205Tl	208Pb	209Bi					
		ppb	ppb	ppb	ppb					
x		0.173	0.186	24.330	100.019%					

S 702077-012-024-1/1 03/01/2007 11:03:45 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		97.842%	0.193	18.960	250.600	266.000	T 7772.000	304.800	508.200	97.864%
Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		66.480	24.360	12.720	-11590.000	88.440	TH 10080.000	1.346	2.805	6.947
Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		14.230	1.682	0.292	0.684	4.151	100.441%	0.536	0.060	-0.055
Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.062	0.051	95.531%	2.706	0.030	0.007	36.920	2.327	98.593%
Run	Time	203Tl	205Tl	208Pb	209Bi					
		ppb	ppb	ppb	ppb					
x		0.123	0.136	38.050	99.729%					

ICSA 03/01/2007 11:16:01 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		68.301%	-0.000	TM 241200.000	TM 95240.000	TM 96030.000	TM 95280.000	TM 99410.000	TM 303100.000	72.688%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 2111.000	1.405	0.391	-96520.000	-0.104	TM 235500.000	0.058	0.104	0.425

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		1.721	0.568	0.477	0.547	4.502	72.972%	M 2026.000	0.081	1.515

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.097	-0.163	75.729%	0.156	0.167	0.149	0.680	0.048	80.423%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.078	0.086	0.127	73.098%

ICSAB 03/01/2007 11:22:10 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		62.342%	17.050	TM 242800.000	TM 96800.000	TM 98000.000	TM 96560.000	TM 100000.000	TM 303600.000	69.434%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 2085.000	22.110	20.990	-99500.000	19.980	TM 234500.000	18.780	17.820	17.240

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		18.770	19.220	0.340	19.120	26.520	71.857%	M 1994.000	17.070	0.914

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		17.100	17.920	74.958%	21.500	20.280	20.210	21.400	0.040	80.761%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		22.260	22.570	21.780	73.616%

CCV 03/01/2007 11:28:21 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		73.076%	4.751	τ10150.000	τ10400.000	10470.000	τ5095.000	τ10060.000	10380.000	80.751%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		51.010	49.090	50.080	-74230.000	51.400	τ5059.000	47.550	46.640	46.730

Run	Time	66Zn75	As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		50.880	47.890	-0.088	51.210	51.430	85.785%	50.070	47.420	-1.633

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		47.850	50.280	86.568%	52.080	51.600	51.480	49.530	0.034	94.745%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		50.580	51.040	50.250	95.443%

CCB 03/01/2007 11:40:40 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		78.144%	0.005	15.080	9.747	10.260	7.011	9.186	17.090	85.534%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.432	1.118	-0.316	-60820.000	0.231	9.305	0.076	0.074	0.063

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.284	0.382	-0.100	-0.011	0.091	88.718%	0.158	0.041	0.149

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.039	0.006	90.288%	0.091	-0.060	-0.065	0.158	0.003	95.923%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.121	0.140	0.121	98.004%

ICPMS ANALYSIS LOG

Instrument ID: ICPMS (X0206) Inst. Method: 6020A Nebulizer: CONIKAL

Analytical Batch No: 070305MS

Workorder	Project/SDG #	Prep. Seq.	Batch #	Matrix s/w/e	Prep. Date	Method	Comments / Dilution
702112	SHAW	86699	145	S	2.28.07	6020A	10x ON 001
702113	↓		146	↓	↓	↓	10x ON ALL RERUN (BLK(1AL): Tb(T))
702114	↓	↓	↓	↓	↓	↓	↓
703003	CP		155	↓	3.3.07	↓	BATCH QC ONLY
703009	USACE	↓	↓	↓	↓	↓	↓
MDL			083	W	2.7.07	↓	
		3.7.07					I.S.: No Bi

Source Solution Numbers				Post Digestion Spikes
Stds.	Number	Stds.	Number	Spike 9.9 mls of sample with 0.1 mls of 38352
S0	129-134-02	ICV	39297	Samples:
S1	39279	CCV	39532	702112-001-014-1/3
S2	39280	ICSA	39300	702113-001-007-1/1
S3	39281	ICSAB	39303	703003-004-117-1/3
S4	39282	Low Ck	39305	
S5	39283	LR	39306	
S6	39284	IS	39533	

Analyst: [signature] Date: 3.7.07 Reviewed: RA Date: 3-7-07

ICP ANALYSIS LOG

GPL - Maryland Laboratory ICPMS Analysis Log Data File: 070305MS.csv

Seq	Sample Name	Dil	Date	Time	Seq	Sample Name	Dil	Date	Time	Seq	Sample Name	Dil	Date	Time	Seq	Sample Name	Dil	Date	Time	Seq	Sample Name	Dil	Date	Time
1	BLANK	1	3/5/2007	18:30	31	CCV	1	3/5/2007	19:38	61	S 703009-001-003-1/1	10	3/5/2007	22:50										
2	STD1	1	3/5/2007	18:35	32	CCB	1	3/5/2007	19:44	62	S 703009-002-004-1/1	10	3/5/2007	22:56										
3	STD2	1	3/5/2007	18:40	33	PS702113-001-007-1/	10	3/5/2007	19:50	63	ICSA	1	3/5/2007	23:08										
4	STD3	1	3/5/2007	18:46	34	SE702113-001-007-1/	50	3/5/2007	19:56	64	ICSAB	1	3/5/2007	23:14										
5	STD4	1	3/5/2007	18:51	35	S 702113-002-008-1/1	10	3/5/2007	20:02	65	CCV	1	3/5/2007	23:27										
6	STD5	1	3/5/2007	18:56	36	S 702113-003-009-1/1	10	3/5/2007	20:09	66	CCB	1	3/5/2007	23:39										
7	STD6	1	3/5/2007	17:01	37	S 702113-004-010-1/1	10	3/5/2007	20:15	67	BLK(083)	1	3/5/2007	23:45										
8	ICV	1	3/5/2007	17:06	38	S 702113-005-011-1/1	10	3/5/2007	20:21	68	S MDL(3010)-1	1	3/5/2007	23:51										
9	ICV(Cd)	1	3/5/2007	17:11	39	S 702113-006-012-1/1	10	3/5/2007	20:27	69	S MDL(3010)-2	1	3/5/2007	23:58										
10	ICB	1	3/5/2007	17:17	40	S 702114-001-001-1/1	10	3/5/2007	20:33	70	S MDL(3010)-3	1	3/6/2007	0:04										
11	CCV	1	3/5/2007	17:22	41	S 702114-002-002-1/1	10	3/5/2007	20:40	71	S MDL(3010)-4	1	3/6/2007	0:10										
12	CCB	1	3/5/2007	17:27	42	S 702114-003-003-1/1	10	3/5/2007	20:46	72	S MDL(3010)-5	1	3/6/2007	0:16										
13	PQL	1	3/5/2007	17:32	43	CCV	1	3/5/2007	20:52	73	S MDL(3010)-6	1	3/6/2007	0:22										
14	PQL(CoSr)	1	3/5/2007	17:41	44	CCB	1	3/5/2007	20:58	74	S MDL(3010)-7	1	3/6/2007	0:29										
15	S DRINKING WATER	1	3/5/2007	17:47	45	S 702114-004-004-1/1	10	3/5/2007	21:04	75	CCV	1	3/6/2007	0:35										
16	ICSA	1	3/5/2007	17:53	46	S 702114-005-005-1/1	10	3/5/2007	21:11	76	CCB	1	3/6/2007	0:41										
17	ICSAB	1	3/5/2007	17:59	47	S 702114-006-006-1/1	10	3/5/2007	21:17															
18	LR	1	3/5/2007	18:05	48	S 702114-007-007-1/1	10	3/5/2007	21:23															
19	CCV	1	3/5/2007	18:24	49	S 702114-008-008-1/1	10	3/5/2007	21:29															
20	CCB	1	3/5/2007	18:30	50	S 702114-009-009-1/1	10	3/5/2007	21:35															
21	S 702112-001-014-1/3	10	3/5/2007	18:36	51	S 702114-010-010-1/1	10	3/5/2007	21:42															
22	SP702112-001-014-1/	10	3/5/2007	18:42	52	BLK(155)	10	3/5/2007	21:54															
23	SD702112-001-014-1/	10	3/5/2007	18:48	53	BKS(155)	10	3/5/2007	22:00															
24	PS702112-001-014-1/	10	3/5/2007	18:54	54	S 703003-004-117-1/3	10	3/5/2007	22:06															
25	SE702112-001-014-1/	50	3/5/2007	19:01	55	CCV	1	3/5/2007	22:12															
26	BLK(146)	10	3/5/2007	19:07	56	CCB	1	3/5/2007	22:19															
27	BKS(146)	10	3/5/2007	19:13	57	SP703003-004-117-1/	10	3/5/2007	22:25															
28	S 702113-001-007-1/1	10	3/5/2007	19:19	58	SD703003-004-117-1/	10	3/5/2007	22:31															
29	SP702113-001-007-1/	10	3/5/2007	19:25	59	PS703003-004-117-1/	10	3/5/2007	22:37															
30	SD702113-001-007-1/	10	3/5/2007	19:32	60	SE703003-004-117-1/	50	3/5/2007	22:43															

Analyst Signature: [signature] Date: 3.6.07 Analyst Signature: Date:

[signature] 3.7.07

Sample Dilutions:

TS okay
LR okay

USEPA - CLP

15 - IN

ICP-MS Internal Standards Relative Intensity Summary

Lab Name: GPL LABORATORIES, LLLP Contract:

Lab Code: Case No.: NRAS No.: SDG No.: DHJK

ICP-MS Instrument ID: SEDI Start Date: 03/05/2007 End Date: 03/06/2007

EPA Sample No.	Time	Internal Standards %RI For:									
		In (115)	Q	Li (6)	Q	Sc (45)	Q	Tb (159)	Q	Y (89)	Q
BLANK	16:30	100		100		100		100		100	
STD1	16:35	98		103		99		99		99	
STD2	16:40	101		108		104		102		102	
STD3	16:46	94		98		96		96		95	
STD4	16:51	99		100		99		100		100	
STD5	16:56	101		98		102		102		102	
STD6	17:01	103		98		102		105		104	
ICV	17:06	103		97		99		105		102	
ICV(Cd)	17:11	100		96		96		101		99	
ICB	17:17	99		95		95		101		98	
CCV	17:22	97		90		93		101		97	
CCB	17:27	99		93		93		101		97	
PQL	17:32	100		92		94		102		98	
PQL(CoSr)	17:41	100		95		96		102		99	
S DRINKING WATER	17:47	106		93		101		108		106	
ICSA	17:53	80		66		72		86		76	
ICSAB	17:59	81		62		69		88		76	
LR	18:05	96		75		86		104		94	
CCV	18:24	99		79		87		107		96	
CCB	18:30	103		83		89		109		99	
S 702112-001-014-1/3	18:36	106		81		93		112		104	
SP702112-001-014-1/3	18:42	106		81		93		111		105	
SD702112-001-014-1/3	18:48	105		84		94		111		105	
PS702112-001-014-1/3	18:54	104		81		93		111		104	
SE702112-001-014-1/3	19:01	115		82		99		120		112	
BLK(146)	19:07	119		85		103		122		115	
BKS(146)	19:13	114		83		98		120		110	
S 702113-001-007-1/1	19:19	114		82		100		119		114	
SP702113-001-007-1/1	19:25	112		83		99		117		112	
SD702113-001-007-1/1	19:32	112		81		98		118		112	
CCV	19:38	105		79		90		113		101	
CCB	19:44	110		83		94		116		105	
PS702113-001-007-1/1	19:50	108		78		94		115		107	
SE702113-001-007-1/1	19:56	117		83		99		121		112	
S 702113-002-008-1/1	20:02	113		83		99		119		112	
S 702113-003-009-1/1	20:09	109		86		96		115		107	
S 702113-004-010-1/1	20:15	112		85		98		118		110	
S 702113-005-011-1/1	20:21	113		83		100		119		112	

FORM XV - IN SW846

USEPA - CLP

15 - IN

ICP-MS Internal Standards Relative Intensity Summary

Lab Name: GPL LABORATORIES, LLLP Contract:

Lab Code: Case No.: NRAS No.: SDG No.: DHJK

ICP-MS Instrument ID: SEDI Start Date: 03/05/2007 End Date: 03/06/2007

EPA Sample No.	Time	Internal Standards %RI For:									
		In (115)	Q	Li (6)	Q	Sc (45)	Q	Tb (159)	Q	Y (89)	Q
S 702113-006-012-1/1	20:27	113		84		99		118		112	
S 702114-001-001-1/1	20:33	112		81		98		118		111	
S 702114-002-002-1/1	20:40	114		84		100		120		113	
S 702114-003-003-1/1	20:46	112		84		98		117		111	
CCV	20:52	103		77		86		110		99	
CCB	20:58	105		84		89		111		100	
S 702114-004-004-1/1	21:04	107		83		95		114		109	
S 702114-005-005-1/1	21:11	107		83		94		114		107	
S 702114-006-006-1/1	21:17	109		86		97		116		110	
S 702114-007-007-1/1	21:23	110		86		98		115		110	
S 702114-008-008-1/1	21:29	108		86		96		114		110	
S 702114-009-009-1/1	21:35	108		86		95		114		108	
S 702114-010-010-1/1	21:42	108		85		95		114		109	
BLK(155)	21:54	113		90		99		118		109	
BKS(155)	22:00	108		84		93		114		103	
S 703003-004-117-1/3	22:06	109		87		97		115		117	
CCV	22:12	98		75		83		106		94	
CCB	22:19	104		81		88		110		99	
SP703003-004-117-1/3	22:25	105		82		92		112		112	
SD703003-004-117-1/3	22:31	105		83		93		111		111	
PS703003-004-117-1/3	22:37	103		78		90		110		110	
SE703003-004-117-1/3	22:43	111		85		95		117		109	
S 703009-001-003-1/1	22:50	108		83		95		115		120	
S 703009-002-004-1/1	22:56	106		79		91		113		110	
ICSA	23:08	87		58	R	69		95		80	
ICSAB	23:14	87		57	R	69		97		80	
CCV	23:27	100		65		78		112		93	
CCB	23:39	104		70		82		114		96	
BLK(083)	23:45	104		72		83		115		97	
S MDL(3010)-1	23:51	102		74		83		113		96	
S MDL(3010)-2	23:58	102		75		83		113		96	
S MDL(3010)-3	0:04	104		74		84		114		97	
S MDL(3010)-4	0:10	101		75		82		112		95	
S MDL(3010)-5	0:16	102		75		83		112		95	
S MDL(3010)-6	0:22	101		76		83		112		95	
S MDL(3010)-7	0:29	100		74		82		112		94	
CCV	0:35	98		71		80		109		93	
CCB	0:41	101		74		81		111		94	

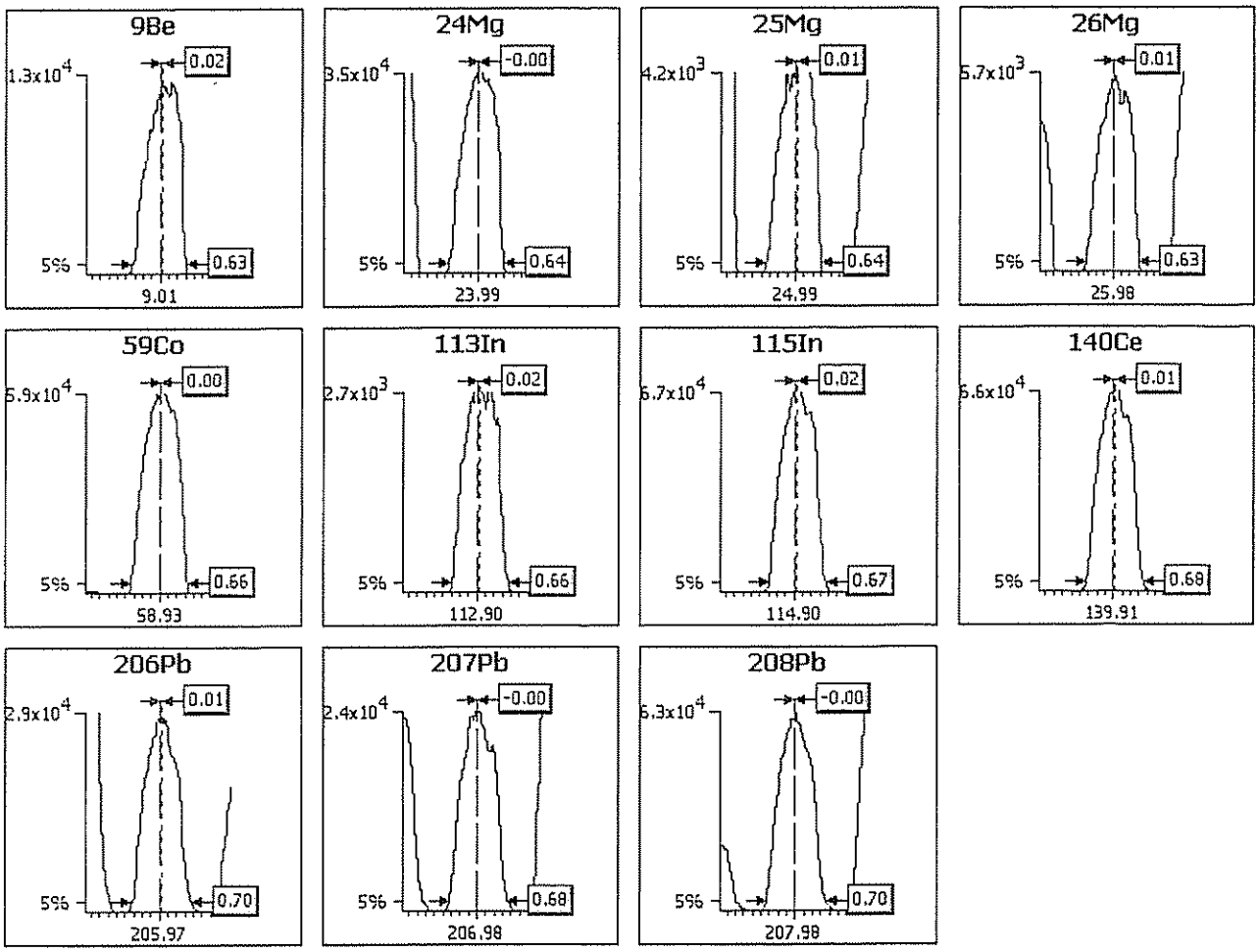
FORM XV - IN SW846

Performance Report

Sample details
Acquired at : 03/05/2007 03:02:12 PM
Report name : EPA 6020A 2.1A [05/30/2006 01:04:54 PM]

Mass Calibration verification

Acquisition parameters
Sweeps : 25
Dwell : 2.0 mSecs
Point spacing : 0.01 amu
Peak width measured at 5% of the peak maximum



Analyte	Limits			Results	
	Max. width	Min. width	Max. error	Peak width	Peak error

9Be	0.90	0.45	0.10	0.63	0.02
24Mg	0.90	0.45	0.10	0.64	-0.00
25Mg	0.90	0.45	0.10	0.64	0.01
26Mg	0.90	0.45	0.10	0.63	0.01
59Co	0.90	0.45	0.10	0.66	0.00
113In	0.90	0.45	0.10	0.66	0.02
115In	0.90	0.45	0.10	0.67	0.02
140Ce	0.90	0.45	0.10	0.68	0.01
206Pb	0.90	0.45	0.10	0.70	0.01
207Pb	0.90	0.45	0.10	0.68	-0.00
208Pb	0.90	0.45	0.10	0.70	-0.00

Sample details
Acquired at : 03/05/2007 03:02:12 PM
Report name : EPA 6020A 2.1A [05/30/2006 01:04:54 PM]

Tune conditions

Major	
Extraction	-141
Lens 1	2.9
Focus	23.3
D1	-47.8
Pole Bias	4.0
Hexapole Bias	-3.0
Nebuliser	0.89
Sampling Depth	130

Minor	
Lens 2	-30.6
Lens 3	-184.3
Forward power	1404
Horizontal	100
Vertical	480
D2	-160
DA	-40.0
Cool	13.0
Auxiliary	0.90

Global	
Standard resolution	125
High resolution	105
Analogue Detector	2110
PC Detector	3480

Add. Gases

Sensitivity and stability results

Acquisition parameters

Sweeps : 180

Run	Time	5Bkg	9Be	24Mg	25Mg	26Mg	59Co	113In	115In	140Ce
Dwell (mSecs)		100.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Limits	%RSD	-	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
	Countrate	-	>4000	>5000	>1000	>1000	>10000	>1000	>50000	>50000
1	03:03:45 PM	0.056	12425.216	37000.733	4531.214	5427.369	61148.134	2976.711	67500.552	67034.683
2	03:04:55 PM	0.056	12316.870	36453.865	4600.106	5430.147	60547.769	3011.156	67187.007	67160.323
3	03:06:07 PM	0.111	12242.972	37060.199	4572.327	5301.252	60030.235	3016.157	67237.041	66871.796
4	03:07:17 PM	0.000	12016.833	36536.118	4582.883	5300.696	60330.416	2970.044	66897.925	67021.341
5	03:08:28 PM	0.167	12407.992	37292.508	4684.554	5331.809	60492.180	2953.377	67025.788	67128.635
x		0.078	12281.977	36868.685	4594.217	5358.255	60509.747	2985.489	67169.663	67043.355
σ		0.06	165.41	359.31	56.51	65.59	409.69	27.14	228.51	112.86
%RSD		81.441	1.347	0.975	1.230	1.224	0.677	0.909	0.340	0.168

Run	Time	156Ce O	206Pb	207Pb	208Pb	220Bkg
Dwell (mSecs)		30.0	10.0	10.0	10.0	100.0
Limits	%RSD	-	2.0%	2.0%	2.0%	-
	Countrate	-	>10000	>10000	>25000	<2
1	03:03:45 PM	898.152	28500.172	24320.179	60534.984	0.167
2	03:04:55 PM	898.337	28520.733	24150.694	60902.985	0.056
3	03:06:07 PM	908.337	28664.108	23998.991	60782.356	0.167
4	03:07:17 PM	891.300	28707.453	24062.895	60740.664	0.056
5	03:08:28 PM	911.115	28905.844	24304.064	60797.365	0.167
x		901.449	28659.662	24167.364	60751.671	0.122
σ		8.13	164.05	142.81	135.09	0.06
%RSD		0.902	0.572	0.591	0.222	49.793

Ratio results

Run	Time	156Ce O/140Ce
Ratio limits		<0.0200
1	03:03:45 PM	0.013

2	03:04:55 PM	0.013
3	03:06:07 PM	0.014
4	03:07:17 PM	0.013
5	03:08:28 PM	0.014
x		0.0134
σ		0.00
%RSD		0.9389

Result : The performance report passed.

Dilution Corrected Concentrations

BLANK 03/05/2007 04:30:43 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		100.000%	-0.000	-0.000	0.000	-0.000	0.000	0.000	-0.000	100.000%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.000	-0.000	0.000	0.000	0.000	-0.000	-0.000	-0.000	0.000

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.000	-0.000	0.000	0.000	0.000	100.000%	-0.000	0.000	0.000

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.000	0.000	100.000%	0.000	0.000	0.000	-0.000	0.000	100.000%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		-0.000	0.000	-0.000	0.000

STD1 03/05/2007 04:35:50 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		103.037%	M 5.000	0.066	0.027	0.070	T 5033.000	0.017	29.350	98.836%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		51.490	53.220	53.190	-27110.000	51.050	T 5061.000	52.630	51.090	51.000

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		50.640	50.260	0.024	50.730	51.040	98.553%	50.890	50.560	-1.338

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		50.830	49.840	98.077%	52.190	51.440	51.150	51.370	0.072	99.136%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		50.220	50.370	50.910	0.000

STD2 03/05/2007 04:40:57 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		108.235%	M 10.250	0.444	0.086	0.171	TM 9984.000	0.333	58.980	103.618%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		101.600	104.100	103.400	-48060.000	M 99.480	TM 9969.000	103.300	99.790	100.400

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		99.330	100.400	0.045	100.700	99.680	102.032%	99.270	M 99.720	-3.501

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 99.580	98.500	101.104%	103.000	101.400	101.500	100.900	0.107	101.640%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		99.590	99.530	M 99.550	0.000

STD3 03/05/2007 04:46:06 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		97.883%	M 50.390	2.355	0.480	0.574	2.872	2.078	116.200	95.689%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 999.800	M 999.400	M 999.500	-63460.000	TM 971.700	TM 49720.000	TM 999.500	M 750.000	M 999.900

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 500.100	M 199.800	0.105	M 199.500	M 199.900	94.611%	M 1000.000	M 100.600	-10.190

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 99.880	M 200.800	94.068%	M 999.600	M 499.600	M 499.600	M 999.800	0.993	95.802%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		M 200.200	M 200.100	TM 1896.000	0.000

STD4 03/05/2007 04:51:16 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		100.051%	-0.008	τ970.400	931.700	1005.000	0.653	940.300	993.100	99.056%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.123	-0.608	1.427	-39900.000	0.045	0.911	0.021	0.033	0.041

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.218	-0.927	0.165	0.017	0.049	99.517%	0.534	0.005	-0.006

Run	Time	109Ag	110Cd	115In	118Sn	121Sb12	3Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.005	0.013	99.391%	0.449	0.016	0.058	-0.073	-0.001	99.724%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		1.030	1.055	0.090	0.000

STD5 03/05/2007 04:56:26 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		98.037%	-0.006	τ10090.000	τ10060.000	τ10040.000	0.059	τ9978.000	10140.000	101.602%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.122	-0.634	0.106	-61570.000	0.256	3.599	0.013	0.087	0.042

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.516	-1.021	0.142	-0.394	0.153	102.433%	0.250	0.006	0.063

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.009	-0.014	101.196%	0.336	-0.006	0.005	-0.077	-0.000	102.380%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.437	0.440	0.141	0.000

STD6 03/05/2007 05:01:36 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		98.284%	-0.011	TM 19960.000	TM 19970.000	TM 19980.000	0.099	TM 20010.000	M 19930.000	102.051%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.108	-0.338	-0.185	-55520.000	0.497	4.444	0.011	0.184	0.078

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.842	-0.388	0.192	-0.229	0.275	104.435%	0.169	0.009	0.124

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.013	-0.027	102.968%	0.237	-0.002	0.020	0.026	0.001	104.753%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.253	0.253	0.236	0.000

ICV 03/05/2007 05:06:46 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		97.365%	4.222	T 4926.000	T 4947.000	4962.000	478.600	T 4887.000	5051.000	98.935%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		41.690	42.120	41.210	-11120.000	42.890	523.900	42.630	42.110	40.920

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		41.440	39.840	0.187	40.000	41.880	102.358%	40.880	40.090	-0.496

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		40.340	4.600	102.610%	42.510	43.460	42.890	43.900	0.050	104.522%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		42.710	42.700	42.800	0.000

ICV(Cd) 03/05/2007 05:11:56 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		96.188%	0.003	0.763	-0.021	0.086	0.123	0.988	0.625	96.042%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.348	-2.269	0.017	16510.000	0.086	6.686	0.070	0.047	0.056

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.295	-0.239	0.109	0.025	0.073	98.757%	0.254	0.025	-0.003

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.018	4.184	99.535%	0.305	-0.008	-0.003	0.056	-0.000	101.487%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.401	0.421	0.473	0.000

ICB 03/05/2007 05:17:06 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		95.242%	-0.011	0.660	-0.019	0.100	-0.085	0.358	0.999	95.291%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.075	-1.735	-0.145	12330.000	0.006	-2.825	-0.000	-0.010	-0.025

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.294	-0.664	0.166	-0.307	0.003	98.209%	0.027	-0.001	0.058

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.001	-0.019	99.291%	0.038	-0.046	-0.034	0.003	-0.001	101.438%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.150	0.173	-0.001	0.000

CCV 03/05/2007 05:22:18 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		89.697%	M 4.992	T 10110.000	T 10020.000	9921.000	T 4868.000	T 9944.000	10170.000	92.860%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		51.240	51.320	50.790	-43850.000	50.410	T 4976.000	51.320	49.100	48.480

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		49.400	48.950	0.050	49.840	50.600	96.901%	49.450	48.410	-1.673

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		48.710	49.870	97.458%	50.970	51.420	51.970	50.790	0.051	100.833%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		50.320	50.460	50.730	0.000

CCB 03/05/2007 05:27:29 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		92.560%	-0.014	1.259	0.076	0.130	0.008	1.378	1.215	93.255%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.067	-2.334	-0.332	-8467.000	-0.003	-3.463	0.001	-0.009	-0.025

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.281	-0.231	0.028	-0.418	-0.001	97.459%	0.070	0.001	0.119

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.000	-0.037	98.515%	0.058	-0.060	-0.022	0.017	-0.003	100.809%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.350	0.354	0.002	0.000

PQL 03/05/2007 05:32:40 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		91.893%	0.189	τ964.500	96.050	100.900	96.320	953.800	1002.000	94.340%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		2.031	8.947	1.614	-27470.000	2.033	47.860	1.039	0.975	2.052

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		10.220	4.189	0.030	4.263	2.020	98.457%	5.006	0.304	0.145

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.326	0.493	99.629%	5.132	1.131	1.062	5.278	0.009	102.065%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		2.092	2.152	2.042	0.000

PQL(CoSr) 03/05/2007 05:41:56 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		94.780%	-0.012	0.823	0.010	0.166	0.046	-0.194	0.980	95.522%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.038	-2.641	-0.328	-5425.000	-0.007	-3.285	0.553	-0.010	0.013

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.422	-0.551	0.047	-0.689	0.566	99.082%	0.013	-0.001	0.137

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.000	-0.041	99.974%	0.018	-0.076	-0.056	-0.081	-0.001	101.861%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.060	0.062	-0.000	0.000

S DRINKING WATER 03/05/2007 05:47:08 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		92.871%	-0.014	TM 34460.000	T 6740.000	6674.000	22.740	T 3656.000	M 29320.000	100.669%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		2.096	-2.681	-8.038	-92990.000	5.194	5.052	0.089	0.855	10.710

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		5.963	12.060	-1.688	52.510	116.600	105.650%	0.698	-0.000	0.109

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.000	-0.024	105.902%	-0.064	-0.047	-0.029	31.100	0.027	107.592%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.030	0.030	0.086	0.000

ICSA 03/05/2007 05:53:18 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		66.440%	-0.015	TM 247600.000	TM 96190.000	TM 96510.000	TM 93820.000	TM 99710.000	TM 307600.000	72.162%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 2124.000	-1.156	-0.088	-91330.000	-0.010	TM 242700.000	0.072	0.364	0.528

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		1.712	0.468	0.513	2.327	4.382	76.382%	M 2009.000	0.085	1.708

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.096	-0.172	80.202%	0.175	0.188	0.182	0.513	0.049	85.655%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.077	0.099	0.111	0.000

ICSAB 03/05/2007 05:59:27 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		61.894%	M 16.980	TM 250100.000	TM 99370.000	TM 100600.000	TM 96830.000	TM 102800.000	TM 321000.000	68.762%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 2146.000	20.240	20.390	-92400.000	20.190	TM 247900.000	19.620	18.120	17.090

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		19.300	18.820	0.395	18.550	26.390	75.631%	M 1992.000	17.060	1.214

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		17.050	17.640	80.825%	21.370	20.260	20.350	21.300	0.073	88.363%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		20.810	21.010	20.390	0.000

LR 03/05/2007 06:05:38 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		75.317%	M 226.600	28.060	10.070	10.010	10.280	11.020	2530.000	85.885%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 4718.000	TM 5219.000	TM 5060.000	-88220.000	TM 5061.000	TM 253100.000	TM 4898.000	M 3433.000	TM 4569.000

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 2431.000	M 929.800	-0.254	M 936.900	TM 6070.000	93.690%	M 4513.000	M 464.300	-28.660

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 466.600	M 966.700	95.678%	TM 4780.000	M 500.500	M 499.900	TM 4968.000	4.333	103.538%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		M 994.800	TM 986.300	TM 9691.000	0.000

CCV 03/05/2007 06:24:05 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		79.336%	4.631	τ 10410.000	τ 10360.000	τ 10130.000	τ 4972.000	τ 10250.000	10160.000	86.820%
Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		49.640	50.280	49.590	-67150.000	50.660	τ 5125.000	50.080	49.040	46.930
Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		50.100	48.480	-0.163	48.580	50.730	95.709%	48.610	47.770	-1.520
Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		47.830	48.830	99.124%	51.770	51.460	51.550	49.710	0.057	106.723%
Run	Time	203Tl	205Tl	208Pb	209Bi					
		ppb	ppb	ppb	ppb					
x		51.280	51.700	51.430	0.000					

CCB 03/05/2007 06:30:15 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		83.105%	-0.009	4.507	1.005	1.222	0.648	2.652	5.878	89.418%
Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.170	-1.756	-0.329	-42540.000	0.011	-3.017	0.027	0.004	0.015
Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.372	0.034	-0.061	0.259	0.033	99.134%	0.160	0.005	0.201
Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.005	-0.049	103.091%	0.372	-0.056	-0.051	-0.020	-0.003	109.390%
Run	Time	203Tl	205Tl	208Pb	209Bi					
		ppb	ppb	ppb	ppb					
x		0.436	0.456	0.060	0.000					

S 702112-001-014-1/3 03/05/2007 06:36:26 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		80.763%	0.239	166.200	T 6574.000	6296.000	TM 14790.000	596.900	5758.000	93.040%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		839.200	43.840	41.140	-35110.000	TM 1270.000	TM 21440.000	11.200	89.530	10.130

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		55.200	5.020	0.180	1.003	37.730	104.449%	0.357	0.051	0.125

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.047	0.129	105.914%	2.763	0.156	0.236	170.900	1.103	112.203%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.315	0.335	23.670	0.000

SP702112-001-014-1/3 03/05/2007 06:42:36 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		80.945%	M 5.245	T 1276.000	T 8292.000	7956.000	TM 19170.000	T 1815.000	7925.000	93.335%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 1399.000	102.700	104.000	-29820.000	TM 1427.000	TM 23750.000	63.540	154.000	58.880

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		165.700	14.490	0.247	9.678	145.800	105.063%	48.480	9.697	-0.495

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		9.621	10.360	105.637%	55.070	6.464	6.617	295.000	1.509	111.488%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		10.730	10.900	M 129.700	0.000

SD702112-001-014-1/3 03/05/2007 06:48:45 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		83.605%	M 5.051	T 1283.000	T 7979.000	7642.000	TM 19330.000	T 1810.000	8001.000	94.300%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 1433.000	103.800	92.600	-32300.000	TM 1384.000	TM 23630.000	63.690	151.600	58.300

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		161.100	15.320	0.109	9.784	142.700	105.001%	47.380	9.576	-0.533

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		9.495	10.250	105.037%	54.810	6.166	6.415	281.500	1.566	110.785%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		10.630	10.740	M 127.800	0.000

PS702112-001-014-1/3 03/05/2007 06:54:56 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		81.367%	M 10.050	T 5572.000	T 11800.000	T 11380.000	TM 15520.000	T 5933.000	10900.000	93.491%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		843.900	64.530	60.880	-32540.000	TM 1325.000	TM 23100.000	42.100	127.900	39.540

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		137.100	82.000	0.116	67.060	58.360	103.816%	30.920	39.370	-6.073

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		39.180	24.300	104.175%	114.400	84.580	87.770	190.800	1.112	111.210%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		109.700	109.500	M 108.500	0.000

SE702112-001-014-1/3 03/05/2007 07:01:07 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		82.216%	0.035	39.570	1183.000	1295.000	T 2885.000	123.400	1164.000	99.489%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		165.300	8.177	8.513	-37320.000	M 250.500	T 4229.000	2.253	17.930	2.002

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		10.370	0.663	0.120	0.170	7.582	111.645%	0.110	0.026	0.164

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.020	0.013	115.465%	0.696	0.076	0.051	34.280	0.213	119.634%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.196	0.215	4.835	0.000

BLK(146) 03/05/2007 07:07:18 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		84.677%	-0.015	3.074	0.232	0.396	0.236	3.693	4.264	103.478%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.151	-2.170	0.363	-20730.000	0.023	-0.861	0.000	0.049	0.013

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.129	-0.551	0.173	0.380	-0.004	114.704%	0.022	-0.002	0.168

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.001	-0.047	118.680%	2.832	-0.090	-0.059	-0.331	-0.001	122.176%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.089	0.088	0.009	0.000

BKS(146) 03/05/2007 07:13:27 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		82.767%	M 5.116	T 1088.000	1015.000	1100.000	952.800	1004.000	1118.000	98.364%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		220.800	54.190	55.980	-7231.000	M 111.500	T 1060.000	55.140	55.120	53.260

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		111.000	9.828	0.226	10.900	110.900	110.006%	53.580	10.360	-0.404

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		10.460	10.930	113.708%	61.340	11.290	11.660	110.300	0.082	119.655%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		11.260	11.270	M 112.700	0.000

S 702113-001-007-1/1 03/05/2007 07:19:39 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		82.381%	0.138	171.100	T 6566.000	6321.000	T 9309.000	T 672.600	3546.000	99.993%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		740.800	35.320	30.070	-32560.000	M 258.300	TM 15610.000	6.948	46.230	10.840

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		34.680	2.505	0.142	0.658	17.830	113.701%	0.464	0.026	0.116

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.029	0.064	114.055%	2.207	-0.027	-0.002	37.960	1.221	119.283%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.137	0.153	5.090	0.000

SP702113-001-007-1/1 03/05/2007 07:25:51 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		82.874%	M 5.207	T 1269.000	T 7968.000	7660.000	TM 12210.000	T 1820.000	5577.000	98.635%
Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 1122.000	93.210	81.490	-23290.000	M 376.600	TM 17480.000	58.320	98.860	59.610
Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		138.000	12.230	0.158	9.737	124.000	112.436%	50.240	9.818	-0.425
Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		9.786	10.420	111.714%	57.070	7.194	7.511	147.500	1.556	117.303%
Run	Time	203Tl	205Tl	208Pb	209Bi					
		ppb	ppb	ppb	ppb					
x		10.800	10.930	M 112.700	0.000					

SD702113-001-007-1/1 03/05/2007 07:32:02 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		81.365%	M 5.162	T 1309.000	T 8130.000	7846.000	TM 12640.000	T 1892.000	5890.000	97.717%
Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 1147.000	96.190	86.990	-22000.000	M 393.000	TM 18270.000	59.860	101.600	60.360
Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		141.300	11.750	0.228	10.620	128.900	111.791%	51.290	9.911	-0.418
Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		10.080	10.520	111.620%	58.260	7.272	7.460	153.400	1.732	117.821%
Run	Time	203Tl	205Tl	208Pb	209Bi					
		ppb	ppb	ppb	ppb					
x		11.030	11.060	M 114.900	0.000					

CCV 03/05/2007 07:38:13 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		79.230%	4.673	τ10460.000	τ10500.000	10090.000	τ4931.000	τ10260.000	10110.000	90.446%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		49.880	50.500	49.660	-61760.000	50.890	τ5125.000	50.010	48.850	47.090

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		51.000	47.940	-0.083	51.290	50.870	101.204%	48.630	47.400	-1.284

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		47.390	49.690	105.354%	51.350	51.850	51.760	50.690	0.040	112.801%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		50.650	50.960	51.580	0.000

CCB 03/05/2007 07:44:24 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		83.439%	-0.011	9.403	3.279	3.518	2.520	4.700	11.240	94.335%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.244	-1.545	-0.499	-24940.000	0.103	7.164	0.111	0.077	0.108

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.202	-0.111	0.003	-0.030	0.120	105.235%	0.167	0.016	0.165

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.014	-0.022	109.799%	0.199	-0.071	-0.040	0.116	-0.000	116.085%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.258	0.282	0.229	0.000

Instrument ID:	HYDRA AA	Method:	7471	Start Seq #:	1	Traceability-Solutions	
Corr. Coef.	0.999992	Data File:	Hg070302	End Seq #:	68	Rinse 10% HCL Bath:	129-129-10
Test Optics Sample:	861024	Rack 1:	070302	Folder:	07 Mar	Stannous CL 10%:	129-127-08
Hg Lamp:	8.819 V	Rack 2:		Batch Name:			

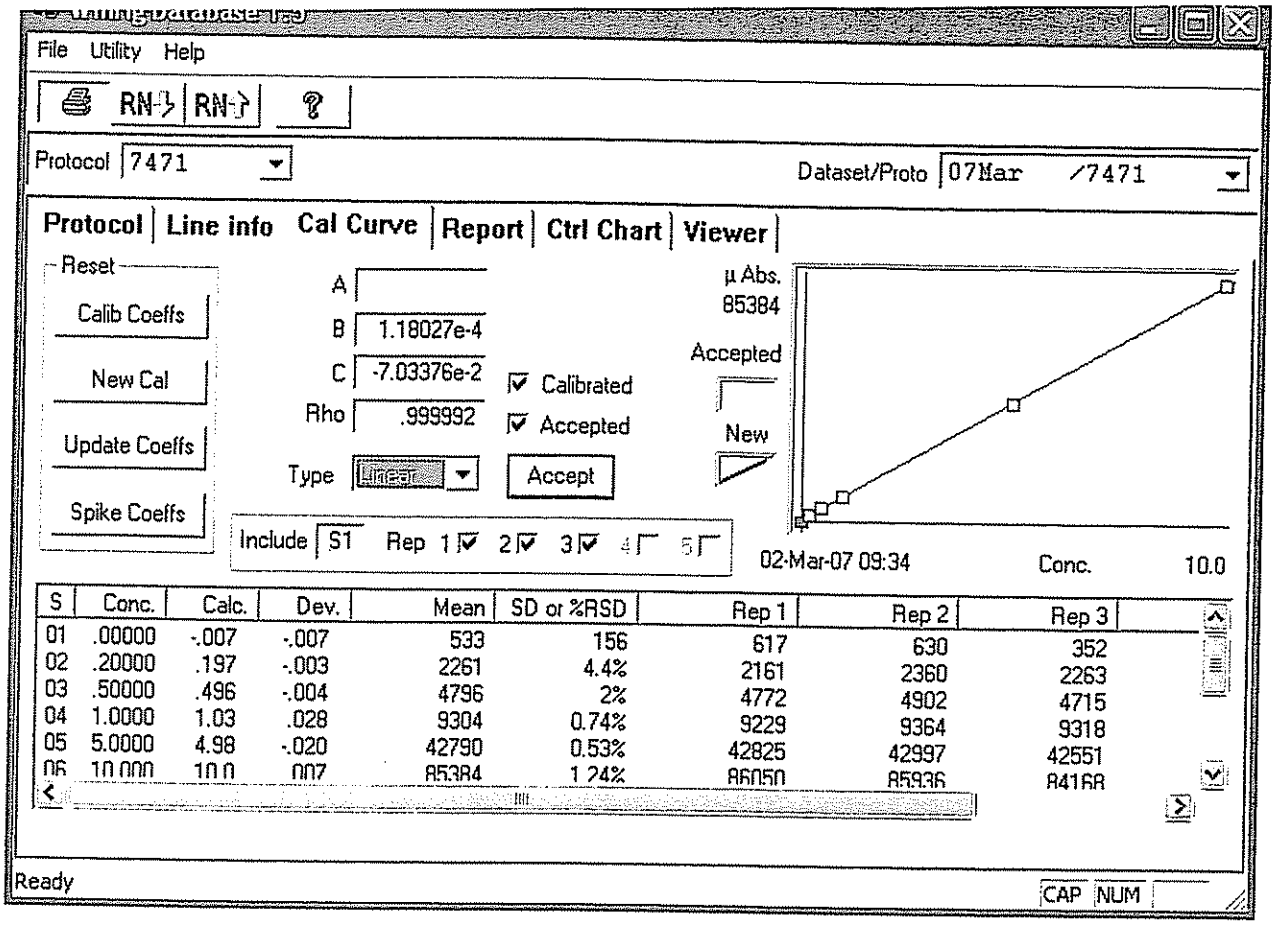
GPL - Maryland Laboratory — CVAA Analysis Log

Seq	Sample Name	Dil	Date	Time	Seq	Sample Name	Dil	Date	Time	Seq	Sample Name	Dil	Date	Time
1	Std01Rep1	1	3/2/2007	8:35	31	S 702112-004-003-1/1	1	3/2/2007	10:17	61	S 702132-009-015-1/1	1	3/2/2007	11:50
2	Std01Rep2	1	3/2/2007	8:38	32	S 702112-005-004-1/1	1	3/2/2007	10:20	62	S 702132-010-016-1/1	1	3/2/2007	11:53
3	Std01Rep3	1	3/2/2007	8:42	33	S 702112-006-005-1/1	1	3/2/2007	10:23	63	S 702086-002-002-1/1	1	3/2/2007	11:56
4	Std02Rep1	1	3/2/2007	8:45	34	Ck5 CCV2	1	3/2/2007	10:26	64	SP702086-002-002-1/	1	3/2/2007	11:59
5	Std02Rep2	1	3/2/2007	8:49	35	Ck6 CCB2	1	3/2/2007	10:30	65	SD702086-002-002-1/	1	3/2/2007	12:03
6	Std02Rep3	1	3/2/2007	8:52	36	S 702112-007-006-1/1	1	3/2/2007	10:33	66	S 702086-003-003-1/1	1	3/2/2007	12:06
7	Std03Rep1	1	3/2/2007	8:55	37	S 702112-008-007-1/1	1	3/2/2007	10:35	67	Ck5 CCV5	1	3/2/2007	12:12
8	Std03Rep2	1	3/2/2007	8:58	38	S 702112-009-008-1/1	1	3/2/2007	10:39	68	Ck6 CCB5	1	3/2/2007	12:15
9	Std03Rep3	1	3/2/2007	9:01	39	S 702112-010-009-1/1	1	3/2/2007	10:42					
10	Std04Rep1	1	3/2/2007	9:04	40	S 702112-011-010-1/1	1	3/2/2007	10:45					
11	Std04Rep2	1	3/2/2007	9:07	41	S 702112-012-011-1/1	1	3/2/2007	10:48					
12	Std04Rep3	1	3/2/2007	9:11	42	S 702112-013-012-1/1	1	3/2/2007	10:51					
13	Std05Rep1	1	3/2/2007	9:14	43	BLK96675	1	3/2/2007	10:54					
14	Std05Rep2	1	3/2/2007	9:17	44	BKS96675	1	3/2/2007	10:57					
15	Std05Rep3	1	3/2/2007	9:21	45	S 702132-001-013-1/1	1	3/2/2007	11:00					
16	Std06Rep1	1	3/2/2007	9:24	46	Ck5 CCV3	1	3/2/2007	11:03					
17	Std06Rep2	1	3/2/2007	9:28	47	Ck6 CCB3	1	3/2/2007	11:06					
18	Std06Rep3	1	3/2/2007	9:31	48	S 702132-002-014-1/1	1	3/2/2007	11:09					
19	Ck2 ICV	1	3/2/2007	9:38	49	S 702132-003-039-1/3	1	3/2/2007	11:13					
20	Ck3 ICB	1	3/2/2007	9:42	50	SP702132-003-039-1/	1	3/2/2007	11:16					
21	Ck4 CRA	1	3/2/2007	9:45	51	SD702132-003-039-1/	1	3/2/2007	11:19					
22	Ck5 CCV1	1	3/2/2007	9:48	52	S 702132-004-009-1/1	1	3/2/2007	11:23					
23	Ck6 CCB1	1	3/2/2007	9:51	53	S 702132-005-010-1/1	1	3/2/2007	11:26					
24	BLK96674	1	3/2/2007	9:54	54	S 702132-006-011-1/1	1	3/2/2007	11:29					
25	BKS96674	1	3/2/2007	9:57	55	S 702132-007-012-1/1	1	3/2/2007	11:32					
26	S 702112-001-014-1/3	1	3/2/2007	10:01	56	Ck5 CCV4	1	3/2/2007	11:35					
27	SP702112-001-014-1/	1	3/2/2007	10:04	57	Ck6 CCB4	1	3/2/2007	11:38					
28	SD702112-001-014-1/	1	3/2/2007	10:07	58	S 702132-008-042-1/3	1	3/2/2007	11:41					
29	S 702112-002-001-1/1	1	3/2/2007	10:10	59	SP702132-008-042-1/	1	3/2/2007	11:44					
30	S 702112-003-002-1/1	1	3/2/2007	10:13	60	SD702132-008-042-1/	1	3/2/2007	11:47					

Analyst Signature: kc Date: 2/Mar/2007 Analyst

Workorders	Dilutions/Reanalyses/Comments	Source Solutions	
702112		Stds	Numbers
702132		S0	—
702086		S1	39737
		S2	
		S3	
		S4	
	kc 2/Mar/2007	S5	
		CRA	↓
		ICV	39712
		CCV	39737

Analyst: kc Date: 2/Mar/2007 Reviewed: RA Date: 3-2-07


File Utility Help
Protocol 7471
Dataset/Proto 07Mar /7471
Protocol
Line info
Cal Curve
Report
Ctrl Chart
Viewer
Reset
Calib Coeffs
New Cal
Update Coeffs
Spike Coeffs
A
B 1.18027e-4
C -7.03376e-2
Rho .999992
Type Linear
Calibrated
Accepted
Accept
µ Abs.
85384
Accepted
New
Include S1 Rep 1 2 3 4 5
02-Mar-07 09:34
Conc. 10.0
S Conc. Calc. Dev. Mean SD or %RSD Rep 1 Rep 2 Rep 3
01 .00000 -.007 -.007 533 156 617 630 352
02 .20000 .197 -.003 2261 4.4% 2161 2360 2263
03 .50000 .496 -.004 4796 2% 4772 4902 4715
04 1.0000 1.03 .028 9304 0.74% 9229 9364 9318
05 5.0000 4.98 -.020 42790 0.53% 42825 42997 42551
Ready
CAP NUM

Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Standard: 1 Rep: 1				Seq: 1	08:35:08 02 Mar 07	HG		
Hg	.000	ppb	617					
*** Standard: 1 Rep: 2				Seq: 2	08:38:50 02 Mar 07	HG		
Hg	.000	ppb	630					
*** Standard: 1 Rep: 3				Seq: 3	08:42:44 02 Mar 07	HG		
Hg	.000	ppb	352					
*** Standard: 2 Rep: 1				Seq: 4	08:45:45 02 Mar 07	HG		
Hg	.200	ppb	2161					
*** Standard: 2 Rep: 2				Seq: 5	08:49:07 02 Mar 07	HG		
Hg	.200	ppb	2360					
*** Standard: 2 Rep: 3				Seq: 6	08:52:07 02 Mar 07	HG		
Hg	.200	ppb	2263					
*** Standard: 3 Rep: 1				Seq: 7	08:55:16 02 Mar 07	HG		
Hg	.500	ppb	4771					
*** Standard: 3 Rep: 2				Seq: 8	08:58:45 02 Mar 07	HG		
Hg	.500	ppb	4902					
*** Standard: 3 Rep: 3				Seq: 9	09:01:54 02 Mar 07	HG		
Hg	.500	ppb	4715					
*** Standard: 4 Rep: 1				Seq: 10	09:04:59 02 Mar 07	HG		
Hg	1.00	ppb	9228					
*** Standard: 4 Rep: 2				Seq: 11	09:07:59 02 Mar 07	HG		
Hg	1.00	ppb	9364					
*** Standard: 4 Rep: 3				Seq: 12	09:11:11 02 Mar 07	HG		
Hg	1.00	ppb	9318					
*** Standard: 5 Rep: 1				Seq: 13	09:14:10 02 Mar 07	HG		
Hg	5.00	ppb	42824					
*** Standard: 5 Rep: 2				Seq: 14	09:17:39 02 Mar 07	HG		
Hg	5.00	ppb	42997					
*** Standard: 5 Rep: 3				Seq: 15	09:21:01 02 Mar 07	HG		
Hg	5.00	ppb	42551					

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Standard: 6 Rep: 1 Seq: 16 09:24:02 02 Mar 07 HG

Hg 10.0 ppb 86049

*** Standard: 6 Rep: 2 Seq: 17 09:28:04 02 Mar 07 HG

Hg 10.0 ppb 85936

*** Standard: 6 Rep: 3 Seq: 18 09:31:13 02 Mar 07 HG

Hg 10.0 ppb 84168

*** Check Standard: 2 Ck2 ICV Seq: 19 09:38:33 02 Mar 07 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		100.	3.01	3.00	ppb	.000

*** Check Standard: 3 Ck3 ICB Seq: 20 09:42:03 02 Mar 07 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg	L	-60.9	-.030	.050	ppb	.000

*** Check Standard: 4 Ck4 CRA Seq: 21 09:45:01 02 Mar 07 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		101.	.203	.200	ppb	.000

*** Check Standard: 5 Ck5 CCV Seq: 22 09:48:30 02 Mar 07 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		102.	5.08	5.00	ppb	.000

*** Check Standard: 6 Ck6 CCB Seq: 23 09:51:31 02 Mar 07 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg	L	-101.	-.050	.050	ppb	.000

```
Line   Conc.  Units     SD/RSD      1       2       3       4       5
-----------------------------------------------------------------------------------

*** Sample ID: BLK96674                Seq:  24     09:54:30 02 Mar 07   HG

Hg    .019    ppb       .000      .019

*** Sample ID: BKS96674                Seq:  25     09:57:58 02 Mar 07   HG

Hg    3.01    ppb       .000      3.01

*** Sample ID: S 702112-0              Seq:  26     10:01:26 02 Mar 07   HG
                            01-014-1/3
Hg    .392    ppb       .000      .392

*** Sample ID: SP702112-0              Seq:  27     10:04:58 02 Mar 07   HG
                            01-014-1/3
Hg    3.33    ppb       .000      3.33

*** Sample ID: SD702112-0              Seq:  28     10:07:58 02 Mar 07   HG
                            01-014-1/3
Hg    3.36    ppb       .000      3.36

*** Sample ID: S 702112-0              Seq:  29     10:10:56 02 Mar 07   HG
                            02-001-1/1
Hg    .328    ppb       .000      .328

*** Sample ID: S 702112-0              Seq:  30     10:13:55 02 Mar 07   HG
                            03-002-1/1
Hg    .943    ppb       .000      .943

*** Sample ID: S 702112-0              Seq:  31     10:17:13 02 Mar 07   HG
                            04-003-1/1
Hg    .790    ppb       .000      .790

*** Sample ID: S 702112-0              Seq:  32     10:20:22 02 Mar 07   HG
                            05-004-1/1
Hg    .557    ppb       .000      .557

*** Sample ID: S 702112-0              Seq:  33     10:23:34 02 Mar 07   HG
                            06-005-1/1
Hg    .737    ppb       .000      .737

*** Check Standard: 5  Ck5 CCV         Seq:  34     10:26:33 02 Mar 07   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          105.     5.24    5.00  ppb         .000

*** Check Standard: 6  Ck6 CCB         Seq:  35     10:30:01 02 Mar 07   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          31.2     .016    .050  ppb         .000

*** Sample ID: S 702112-0              Seq:  36     10:33:00 02 Mar 07   HG
                            07-006-1/1
Hg    .559    ppb       .000      .559

*** Sample ID: S 702112-0              Seq:  37     10:35:59 02 Mar 07   HG
                            08-007-1/1
Hg    .473    ppb       .000      .473

*** Sample ID: S 702112-0              Seq:  38     10:39:17 02 Mar 07   HG
                            09-008-1/1
Hg    .499    ppb       .000      .499
```

```
Line   Conc.  Units     SD/RSD      1       2       3       4       5
-----------------------------------------------------------------------------------------

*** Sample ID: S 702112-0            Seq:  39     10:42:15 02 Mar 07   HG
                              10-009-1/1
Hg    .604    ppb       .000      .604

*** Sample ID: S 702112-0            Seq:  40     10:45:15 02 Mar 07   HG
                              11-010-1/1
Hg    .611    ppb       .000      .611

*** Sample ID: S 702112-0            Seq:  41     10:48:24 02 Mar 07   HG
                              12-011-1/1
Hg    .525    ppb       .000      .525

*** Sample ID: S 702112-0            Seq:  42     10:51:35 02 Mar 07   HG
                              13-012-1/1
Hg    .041    ppb       .000      .041

*** Sample ID: BLK96675              Seq:  43     10:54:35 02 Mar 07   HG

Hg    .029    ppb       .000      .029

*** Sample ID: BKS96675              Seq:  44     10:57:44 02 Mar 07   HG

Hg    3.11    ppb       .000      3.11

*** Sample ID: S 702132-0            Seq:  45     11:00:43 02 Mar 07   HG
                              01-013-1/1
Hg    .135    ppb       .000      .135

*** Check Standard: 5  Ck5 CCV      Seq:  46     11:03:43 02 Mar 07   HG
Line  Flag  %Rcv.   Found    True  Units     SD/RSD
Hg          103.     5.17    5.00  ppb        .000

*** Check Standard: 6  Ck6 CCB      Seq:  47     11:06:57 02 Mar 07   HG
Line  Flag  %Rcv.   Found    True  Units     SD/RSD
Hg      L  -28.8    -.014    .050  ppb        .000

*** Sample ID: S 702132-0            Seq:  48     11:09:58 02 Mar 07   HG
                              02-014-1/1
Hg    .256    ppb       .000      .256

*** Sample ID: S 702132-0            Seq:  49     11:13:13 02 Mar 07   HG
                              03-039-1/3
Hg    .188    ppb       .000      .188

*** Sample ID: SP702132-0            Seq:  50     11:16:33 02 Mar 07   HG
                              03-039-1/3
Hg    3.21    ppb       .000      3.21

*** Sample ID: SD702132-0            Seq:  51     11:19:44 02 Mar 07   HG
                              03-039-1/3
Hg    3.24    ppb       .000      3.24

*** Sample ID: S 702132-0            Seq:  52     11:23:03 02 Mar 07   HG
                              04-009-1/1
Hg    .177    ppb       .000      .177

*** Sample ID: S 702132-0            Seq:  53     11:26:03 02 Mar 07   HG
                              05-010-1/1
Hg    .167    ppb       .000      .167
```

```
Line   Conc.  Units     SD/RSD      1       2       3       4       5
-----------------------------------------------------------------------------------------

*** Sample ID: S 702132-0                Seq:  54     11:29:03 02 Mar 07   HG
                                 06-011-1/1
Hg     .154    ppb        .000      .154

*** Sample ID: S 702132-0                Seq:  55     11:32:11 02 Mar 07   HG
                                 07-012-1/1
Hg     .304    ppb        .000      .304

*** Check Standard: 5  Ck5 CCV          Seq:  56     11:35:10 02 Mar 07   HG
Line   Flag  %Rcv.   Found    True  Units      SD/RSD
Hg           105.     5.27    5.00  ppb         .000

*** Check Standard: 6  Ck6 CCB          Seq:  57     11:38:15 02 Mar 07   HG
Line   Flag  %Rcv.   Found    True  Units      SD/RSD
Hg       L  -97.2    -.049    .050  ppb         .000

*** Sample ID: S 702132-0                Seq:  58     11:41:24 02 Mar 07   HG
                                 08-042-1/3
Hg     .184    ppb        .000      .184

*** Sample ID: SP702132-0               Seq:  59     11:44:25 02 Mar 07   HG
                                 08-042-1/3
Hg    3.31     ppb        .000      3.31

*** Sample ID: SD702132-0               Seq:  60     11:47:25 02 Mar 07   HG
                                 08-042-1/3
Hg    3.33     ppb        .000      3.33

*** Sample ID: S 702132-0               Seq:  61     11:50:35 02 Mar 07   HG
                                 09-015-1/1
Hg     .227    ppb        .000      .227

*** Sample ID: S 702132-0               Seq:  62     11:53:35 02 Mar 07   HG
                                 10-016-1/1
Hg     .197    ppb        .000      .197

*** Sample ID: S 702086-0               Seq:  63     11:56:44 02 Mar 07   HG
                                 02-002-1/1
Hg    -.040    ppb        .000     -.040

*** Sample ID: SP702086-0               Seq:  64     11:59:45 02 Mar 07   HG
                                 02-002-1/1
Hg    2.36     ppb        .000      2.36

*** Sample ID: SD702086-0               Seq:  65     12:03:04 02 Mar 07   HG
                                 02-002-1/1
Hg    2.34     ppb        .000      2.34

*** Sample ID: S 702086-0               Seq:  66     12:06:25 02 Mar 07   HG
                                 03-003-1/1
Hg    -.040    ppb        .000     -.040

*** Check Standard: 5  Ck5 CCV          Seq:  67     12:12:49 02 Mar 07   HG
Line   Flag  %Rcv.   Found    True  Units      SD/RSD
Hg           107.     5.35    5.00  ppb         .000

*** Check Standard: 6  Ck6 CCB          Seq:  68     12:15:54 02 Mar 07   HG
Line   Flag  %Rcv.   Found    True  Units      SD/RSD
Hg       L  -99.6    -.050    .050  ppb         .000
```

Metals Preparation & Sample Description Log

Date: 2-28-07 Prep: 200.7 / 3005A / 3020A / 3050B / 3010A / ILC03.1 / ILM04.1 / ILM05.3 Batch No: 187- 145

Analyst: D-S-S Comments: MOD BLOCK DIGESTION (SOIL)

Reviewed by: RA Date: 3-2-07 Spike Witness: KC Pep. Seq: 96699

	GPL Work Order No.	Sample	Frac	Size mL (g)	Final Vol. (mL)	Matrix S, W Other	Color Before	Color After	Clarity Before or Soil Texture	Clarity After Clear, Cloudy, Opaque	Soil Artifacts or Water pH
							R, Bl, Y, G, O, V, W, Colorless, Br, Grey, Bk.				
1	BLK	145		1.00	100	S				Clear	—
2	BKS	145		1.00							—
3	702112	001	014 - 1/3	1.34		SOIL	BLACK ~~Brown~~ DKS	Yellow	Medium		—
4		001-MS		1.37							
5		001-MSD		1.40							
6		002	001 - 1/2	1.33							
7		003	002 - 1/1	1.33							
8		004	003 - 1/1	1.38							
9		005	004 - 1/1	1.40							
10		006	005 - 1/1	1.32							
11		007	006 - 1/1	1.38							
12		008	007 - 1/1	1.38							
13		009	008 - 1/1	1.39							
14		010	009 - 1/1	1.40							
15		011	010 - 1/1	1.32							
16		012	011 - 1/1	1.32							
17		013	012 - 1/1	1.45							
18											
19											
20											
21											
22											
23											
24											

2-28-07

D.S.S.

LCS ID/ Amt. Added (ml ,g) : 0.2 ml (38355 38356 38357)

Spiking ID / Amt. Added (ml) : 0.2 ml (38355 38356 38357)

10 ml 1:1 HNO_3, 10 ml - HNO_3 conc, 7 ml H_2O, 10 ml HCL conc

Temperature C: 94°C

HNO3(1+1) ID: GP-057-142-0

HNO3(conc) ID: GP-129-09-11

HCl(conc) ID: GP-129-09-06

HCl(1+1) ID: —

Peroxide ID: GP-129-09-10

Mercury Digestion Log

Method: 7470A / 7471A / 245.1 / ILM04.1 / ILM05.2 / ILM05.3 Batch No: 188- 1 of 2

Digestion Date: 1/Mar/2007 Analyst: kc

Reviewed By / Date: RA 3-1-07

GPL Workorder	Frac	Client ID	Matrix	SIZE mL / g	VOL (mL)	Spk.A. (mL)	KMnO4 (mL)
		S 0.0 / ICB / CCB	Water	10 mL	100	—	15
		S 0.2 / CRA				0.2	
		S 0.5				0.5	
		S 1.0				1.0	
		S5.0 / CCV				5.0	
		S 10.0				10.0	
		ICV				3.0	
		Blk 96674	Soil	0.609		—	
		BKS 96674		0.600		3.0	
				0.533		—	
T02112-01	014-1/3						
		Spk		0.631		3.0	
		MSD		0.639		3.0	
02	001-1/1			0.629		—	
03	002-			0.617		—	
04	003-			0.604		—	
05	004-			0.609		—	
06	005-			0.619		—	
07	006-			0.626		—	
08	007-			0.645		—	
09	008-			0.632		—	
10	009-			0.633		—	
11	010-			0.631		—	
12	011-			0.639		—	
13	012-1/1		Soil	0.625	100	—	15
		~~kc 1/Mar/2007~~					

50% Aqua regia:	GP-129-144-01	Spiking Solution Conc:	0.1 PPM Hg
HNO_3:	—	Std/CRA/BKS/Spk:	39737
H_2SO_4:	—	(2nd source) ICV:	39712
$KMnO_4$:	136-07	H_2O Bath Temp: 95°C	In Time: 14:03
$K_2S_2O_8$:	—	H_2O Bath Temp: 95°C	Out Time: 14:05
$NH_2OH*HCl$:	143-01	H_2O Bath Temp: 95°C	In Time: 15:35
Comments:		H_2O Bath Temp: 95°C	Out Time: 16:05

Mercury Digestion Log

Method: 7470A / 7471A / 245.1 / ILM04.1 / ILM05.2 / ILM05.3 Batch No: 188- 2 of 2

Digestion Date: 1 / Mar / 2007 Analyst: KC

Reviewed By / Date: RA 3-1-07

GPL Workorder	Frac	Client ID	Matrix	SIZE mL / (g)	VOL (mL)	Spk.A. (mL)	KMnO4 (mL)
		BLK 96675	Soil	0.600	100	—	15
		BKS 96675		0.600		3.0	
702132-01	013-1/1			0.679		—	
02	014-1/1			0.641		—	
03	019-1/3			0.657		—	
		SPK		0.661		3.0	
		MSD		0.655		3.0	
04	009-1/1			0.711		—	
05	010-1/1			0.642		—	
06	011-1/1			0.675		—	
07	012-1/1			0.672		—	
08	042-1/3			0.654		—	
		SPK		0.664		3.0	
		MSD		0.656		3.0	
09	017-1/1			0.691		—	
10	016-1/1		Soil	0.674		—	
702086-02	002-1/1		Liquid	1.387		—	
		SPK		1.373		3.0	
		MSD		1.453		3.0	
03	003-1/1		Liquid	1.226	100	—	15

KC 1 Mar 2007

50% Aqua regia:	GP-129-144-01	Spiking Solution Conc:	0.1 PPM Hg
HNO_3:	—	Std/CRA/BKS/Spk:	39737
H_2SO_4:	—	(2nd source) ICV:	39712
$KMnO_4$:	136-07	H_2O Bath Temp: 95°C	In Time: 14:03
$K_2S_2O_8$:	—	H_2O Bath Temp: 95°C	Out Time: 14:05
$NH_2OH*HCl$:	143-01	H_2O Bath Temp: 95°C	In Time: 15:35
Comments:		H_2O Bath Temp: 95°C	Out Time: 16:05

SHAW SOIL DRYING LOGBOOK

BALANCE ID: SARTORIUS - BL - 610 . REVIEWED BY: RA 3-7-07

Work Order	Fraction	Starting Date	Initials	Wet Weight(g)	2nd Weighing(g)	Confirming Weighing(g)	After 10 mesh seive Weighing(g)	Date	Initials
702081	002	2-19-07	DSS	257.13	202.25	202.25	180.16	2-21-07	avP
	003			204.39	171.44	171.44	163.85		
	004			252.13	206.34	206.34	192.43		
	005			193.78	156.92	156.92	154.55		
	006			276.94	233.35	233.35	225.04		
	007			221.87	173.15	173.18	167.16		
	008			219.52	179.11	179.11	176.95		
	009			305.79	248.62	248.62	240.03		
	010			286.14	239.19	239.19	205.81		
702112	001	2-26-07	avP.	209.32	168.03 ~~166.24~~	168.03	112.38	2-28-07	D.S.S.
	002			192.31	154.71	154.71	149.14		
	003			177.58	128.56	128.56	112.58		
	004			131.67 DSS	81.24 ~~81.38~~	~~81.38~~	73.63		
	005			147.92	110.44	110.44	101.91		
	006			176.88	128.85	128.85	126.01		
	007			186.37	151.60	151.60	126.43		
	008			207.09	176.68	176.68	142.35		
	009			169.78	122.55	122.55	119.38		
	010			208.62	154.32	154.32	151.55		
	011			207.04	152.24	152.24	150.73		
	012			203.00	164.81	164.81	162.45		
	013			379.36	336.66	336.66	315.47		
702113	001			206.34	166.24	166.24	134.05	2-27-07	avP
	002			223.86	191.46	191.46	162.43		
	003			156.30	120.62	120.62	90.69		
	004			157.08	121.72	121.72	93.42		
	005			196.46	171.26	171.25	152.28		

COMMENTS:

GPL Laboratories, LLLP
Percent Solids Determination Log

Method Title:	CLP_SOLIDS	**Analyst:**	ISAAC ERUSIAFE
Method Reference:	Percent Solids by CLP	**Reviewed By/Date:**	
Analytical Balance ID:	Saratorius CP153	**Analytical Batch:**	97549
Date/Time In (Oven):	02/28/2007 09:52	**Oven Temperature:**	105C
Date/Time Out (Oven):	02/28/2007 01:52	**Oven Temperature:**	105C
Dessicator Temp:	21C	**% Humidity (<20%):**	12%

Drying Oven Temp Maintained at 103-105C

SDG	Lab Sample ID	Client Sample ID	Weight of Dish	Weight of Wet Sample + Dish	Weight of Dry Sample + Dish	Percent Moisture	Percent Solids	RPD (<20)
702115	702115-001-001-1/1	CL3-BM09-01-086	1.3280g	10.7250g	7.9720g	29.3%	70.7%	
702115	702115-002-002-1/1	CL3-BM10-01-087	1.3180g	10.1930g	7.9810g	24.9%	75.1%	
702122	702122-001-001-1/1	CL3-BM11-01-088	1.3170g	10.4240g	8.2250g	24.2%	75.9%	
702122	702122-001-001-1/1D	CL3-BM11-01-088	1.3140g	10.4430g	8.2050g	24.5%	75.5%	0.5
702129	702129-001-025-1/2	FTSWC022707 A	1.3100g	10.6400g	9.3920g	13.4%	86.6%	
702129	702129-002-027-1/2	FTSWC022707 B	1.3090g	10.4950g	9.4100g	11.8%	88.2%	
702129	702129-003-029-1/2	FTSWC022707 C	1.3060g	10.4750g	8.8850g	17.3%	82.7%	
702129	702129-004-031-1/2	FTSWC022707 D	1.3080g	10.8160g	9.4030g	14.9%	85.1%	

	Sample Id	Clas	Method	Q	Anal Date	Tech	SEQ No.	Multip	M	Prep	R	Client	A	B	C	Calculate	Meth	Col	Col	C	Perce	Last QC Sample
1																						
2																						
3																						
4	702115-001-0	SMP	CLP_SOLIDS		02-28-07 01:5	1300-18	97549	00000	S		Y	CL3-B	1.32800	10.72500	7.97200	70.7034	1.0000			1	29.30	
5	702115-002-0	SMP	CLP_SOLIDS		02-28-07 01:5	1300-18	97549	00000	S		Y	CL3-B	1.31800	10.19300	7.98100	75.0761	1.0000			1	24.92	
6	702122-001-0	SMP	CLP_SOLIDS		02-28-07 01:5	1300-18	97549	00000	S		Y	CL3-B	1.31700	10.42400	8.22500	75.8537	1.0000			1	24.15	
7	702122-001-0	MD	CLP_SOLIDS		02-28-07 01:5	1300-18	97549	00000	S		Y	CL3-B	1.31400	10.44300	8.20500	75.4847	1.0000			1	24.52	
8	702129-001-0	SMP	CLP_SOLIDS		02-28-07 01:5	1300-18	97549	00000	S		Y	FTSWC	1.31000	10.64000	9.39200	86.6238	1.0000			1	13.38	
9	702129-002-0	SMP	CLP_SOLIDS		02-28-07 01:5	1300-18	97549	00000	S		Y	FTSWC	1.30900	10.49500	9.41000	88.1885	1.0000			1	11.81	
10	702129-003-0	SMP	CLP_SOLIDS		02-28-07 01:5	1300-18	97549	00000	S		Y	FTSWC	1.30600	10.47500	8.88500	82.6590	1.0000			1	17.34	
11	702129-004-0	SMP	CLP_SOLIDS		02-28-07 01:5	1300-18	97549	00000	S		Y	FTSWC	1.30800	10.81600	9.40300	85.1388	1.0000			1	14.86	

	Description {90}	A n	Sample Id {92}	ST Sam	Method {94}	Results {95}	RL Raw {96}	R	Raw Results	Multiplier {99}	Reporti ng	Raw Unt	nFinal Result	Sort Order	spk Amount	% Recover	Raw Final {110}
1																	
2																	
3																	
4	Percent Solids	AN	702115-001-	SMP	CLP_SOLI	70.7	1.0000	✓	70.7000	00000000	PER	PER	70.7000	0	0.0000	0.00	70.7000
5	Percent Solids	AN	702115-002-	SMP	CLP_SOLI	75.08	1.0000	✓	75.0800	00000000	PER	PER	75.0800	0	0.0000	0.00	75.0800
6	Percent Solids	AN	702122-001-	MD /	CLP_SOLI	75.48	1.0000	✓	75.4800	00000000	PER	PER	75.4800	0	0.0000	0.00	75.4800
7	Percent Solids	AN	702122-001-	SMP	CLP_SOLI	75.85	1.0000	✓	75.8500	00000000	PER	PER	75.8500	0	0.0000	0.00	75.8500
8	Percent Solids	AN	702129-001-	SMP	CLP_SOLI	86.62	1.0000	✓	86.6200	00000000	PER	PER	86.6200	0	0.0000	0.00	86.6200
9	Percent Solids	AN	702129-002-	SMP	CLP_SOLI	88.19	1.0000	✓	88.1900	00000000	PER	PER	88.1900	0	0.0000	0.00	88.1900
10	Percent Solids	AN	702129-003-	SMP	CLP_SOLI	82.66	1.0000	✓	82.6600	00000000	PER	PER	82.6600	0	0.0000	0.00	82.6600
11	Percent Solids	AN	702129-004-	SMP	CLP_SOLI	85.14	1.0000	✓	85.1400	00000000	PER	PER	85.1400	0	0.0000	0.00	85.1400

	Sample Id	Clas	Method	Q	Anal Date	Tech	SEQ No.	Multip	M	Prep	R	Client	A	B	C	Calculate	Meth	Col	Col	C	Perce	Last QC Sample
1																						
2																						
3																						
4	702115-001-0	SMP	CLP_SOLIDS		02-28-07 01:5	1300-18	97549	00000	S		Y	CL3-B	1.32800	10.72500	7.97200	70.7034	1.0000			1	29.30	
5	702115-002-0	SMP	CLP_SOLIDS		02-28-07 01:5	1300-18	97549	00000	S		Y	CL3-B	1.31800	10.19300	7.98100	75.0761	1.0000			1	24.92	
6	702122-001-0	SMP	CLP_SOLIDS		02-28-07 01:5	1300-18	97549	00000	S		Y	CL3-B	1.31700	10.42400	8.22500	75.8537	1.0000			1	24.15	
7	702122-001-0	MD	CLP_SOLIDS		02-28-07 01:5	1300-18	97549	00000	S		Y	CL3-B	1.31400	10.44300	8.20500	75.4847	1.0000			1	24.52	
8	702129-001-0	SMP	CLP_SOLIDS		02-28-07 01:5	1300-18	97549	00000	S		Y	FTSWC	1.31000	10.64000	9.39200	86.6238	1.0000			1	13.38	
9	702129-002-0	SMP	CLP_SOLIDS		02-28-07 01:5	1300-18	97549	00000	S		Y	FTSWC	1.30900	10.49500	9.41000	88.1885	1.0000			1	11.81	
10	702129-003-0	SMP	CLP_SOLIDS		02-28-07 01:5	1300-18	97549	00000	S		Y	FTSWC	1.30600	10.47500	8.88500	82.6590	1.0000			1	17.34	
11	702129-004-0	SMP	CLP_SOLIDS		02-28-07 01:5	1300-18	97549	00000	S		Y	FTSWC	1.30800	10.81600	9.40300	85.1388	1.0000			1	14.86	

	Description {90}	A n	Sample Id {92}	ST Sam	Method {94}	Results {95}	RL Raw {96}	R	Raw Results	Multiplier {99}	Reporti ng	Raw Unt	nFinal Result	Sort Order	spk Amount	% Recover	Raw Final {110}
1																	
2																	
3																	
4	Percent Solids	AN	702115-001-	SMP	CLP_SOLI	70.7	1.0000	✓	70.7000	00000000	PER	PER	70.7000	0	0.0000	0.00	70.7000
5	Percent Solids	AN	702115-002-	SMP	CLP_SOLI	75.08	1.0000	✓	75.0800	00000000	PER	PER	75.0800	0	0.0000	0.00	75.0800
6	Percent Solids	AN	702122-001-	MD /	CLP_SOLI	75.48	1.0000	✓	75.4800	00000000	PER	PER	75.4800	0	0.0000	0.00	75.4800
7	Percent Solids	AN	702122-001-	SMP	CLP_SOLI	75.85	1.0000	✓	75.8500	00000000	PER	PER	75.8500	0	0.0000	0.00	75.8500
8	Percent Solids	AN	702129-001-	SMP	CLP_SOLI	86.62	1.0000	✓	86.6200	00000000	PER	PER	86.6200	0	0.0000	0.00	86.6200
9	Percent Solids	AN	702129-002-	SMP	CLP_SOLI	88.19	1.0000	✓	88.1900	00000000	PER	PER	88.1900	0	0.0000	0.00	88.1900
10	Percent Solids	AN	702129-003-	SMP	CLP_SOLI	82.66	1.0000	✓	82.6600	00000000	PER	PER	82.6600	0	0.0000	0.00	82.6600
11	Percent Solids	AN	702129-004-	SMP	CLP_SOLI	85.14	1.0000	✓	85.1400	00000000	PER	PER	85.1400	0	0.0000	0.00	85.1400

	Description {90}	An	Sample Id {92}	Flag {111}	Val	Rpd {113}	Rpd Limit	N	mdl {125}	S	Retention Time	LCL {131	UCL {132	Moisture	Final Reporting	Final MDL {139}	Valid.	Comments {145}	Anal Multiplier	Prep Multiplier
1																				
2																				
3																				
4	Percent Solids	AN	702115-001-			0	1		1.0000					29.3	1.000	1.00000			1.000	
5	Percent Solids	AN	702115-002-			0	1		1.0000					24.92	1.000	1.00000			1.000	
6	Percent Solids	AN	702122-001-			1	1		1.0000					24.52	1.000	1.00000			1.000	
7	Percent Solids	AN	702122-001-			0	1		1.0000					24.15	1.000	1.00000			1.000	
8	Percent Solids	AN	702129-001-			0	1		1.0000					13.38	1.000	1.00000			1.000	
9	Percent Solids	AN	702129-002-			0	1		1.0000					11.81	1.000	1.00000			1.000	
10	Percent Solids	AN	702129-003-			0	1		1.0000					17.34	1.000	1.00000			1.000	
11	Percent Solids	AN	702129-004-			0	1		1.0000					14.86	1.000	1.00000			1.000	

	Description {90}	A n	Sample Id {92}	ST Sam	Method {94}	Results {95}	RL Raw {96}	R	Raw Results	Multiplier {99}	Reporti ng	Raw Unt	nFinal Result	Sort Order	spk Amount	% Recover	Raw Final {110}
1																	
2																	
3																	
4	Percent Solids	AN	702115-001-	SMP	CLP_SOLI	70.7	1.0000	✓	70.7000	00000000	PER	PER	70.7000	0	0.0000	0.00	70.7000
5	Percent Solids	AN	702115-002-	SMP	CLP_SOLI	75.08	1.0000	✓	75.0800	00000000	PER	PER	75.0800	0	0.0000	0.00	75.0800
6	Percent Solids	AN	702122-001-	MD /	CLP_SOLI	75.48	1.0000	✓	75.4800	00000000	PER	PER	75.4800	0	0.0000	0.00	75.4800
7	Percent Solids	AN	702122-001-	SMP	CLP_SOLI	75.85	1.0000	✓	75.8500	00000000	PER	PER	75.8500	0	0.0000	0.00	75.8500
8	Percent Solids	AN	702129-001-	SMP	CLP_SOLI	86.62	1.0000	✓	86.6200	00000000	PER	PER	86.6200	0	0.0000	0.00	86.6200
9	Percent Solids	AN	702129-002-	SMP	CLP_SOLI	88.19	1.0000	✓	88.1900	00000000	PER	PER	88.1900	0	0.0000	0.00	88.1900
10	Percent Solids	AN	702129-003-	SMP	CLP_SOLI	82.66	1.0000	✓	82.6600	00000000	PER	PER	82.6600	0	0.0000	0.00	82.6600
11	Percent Solids	AN	702129-004-	SMP	CLP_SOLI	85.14	1.0000	✓	85.1400	00000000	PER	PER	85.1400	0	0.0000	0.00	85.1400

	Description {90}	An	Sample Id {92}	Flag {111}	Val	Rpd {113}	Rpd Limit	N	mdl {125}	S	Retention Time	LCL {131	UCL {132	Moisture	Final Reporting	Final MDL {139}	Valid.	Comments {145}	Anal Multiplier	Prep Multiplier
1																				
2																				
3																				
4	Percent Solids	AN	702115-001-			0	1		1.0000					29.3	1.000	1.00000			1.000	
5	Percent Solids	AN	702115-002-			0	1		1.0000					24.92	1.000	1.00000			1.000	
6	Percent Solids	AN	702122-001-			1	1		1.0000					24.52	1.000	1.00000			1.000	
7	Percent Solids	AN	702122-001-			0	1		1.0000					24.15	1.000	1.00000			1.000	
8	Percent Solids	AN	702129-001-			0	1		1.0000					13.38	1.000	1.00000			1.000	
9	Percent Solids	AN	702129-002-			0	1		1.0000					11.81	1.000	1.00000			1.000	
10	Percent Solids	AN	702129-003-			0	1		1.0000					17.34	1.000	1.00000			1.000	
11	Percent Solids	AN	702129-004-			0	1		1.0000					14.86	1.000	1.00000			1.000	

	Description {90}	An	Sample Id {92}	Flag {111}	Val	Rpd {113}	Rpd Limit	N	mdl {125}	S	Retention Time	LCL {131	UCL {132	Moisture	Final Reporting	Final MDL {139}	Valid.	Comments {145}	Anal Multiplier	Prep Multiplier
1																				
2																				
3																				
4	Percent Solids	AN	702115-001-			0	1		1.0000					29.3	1.000	1.00000			1.000	
5	Percent Solids	AN	702115-002-			0	1		1.0000					24.92	1.000	1.00000			1.000	
6	Percent Solids	AN	702122-001-			1	1		1.0000					24.52	1.000	1.00000			1.000	
7	Percent Solids	AN	702122-001-			0	1		1.0000					24.15	1.000	1.00000			1.000	
8	Percent Solids	AN	702129-001-			0	1		1.0000					13.38	1.000	1.00000			1.000	
9	Percent Solids	AN	702129-002-			0	1		1.0000					11.81	1.000	1.00000			1.000	
10	Percent Solids	AN	702129-003-			0	1		1.0000					17.34	1.000	1.00000			1.000	
11	Percent Solids	AN	702129-004-			0	1		1.0000					14.86	1.000	1.00000			1.000	

	Description {90}	A n	Sample Id {92}	ST Sam	Method {94}	Results {95}	RL Raw {96}	R	Raw Results	Multiplier {99}	Reporti ng	Raw Unt	nFinal Result	Sort Order	spk Amount	% Recover	Raw Final {110}
1																	
2																	
3																	
4	Percent Solids	AN	702115-001-	SMP	CLP_SOLI	70.7	1.0000	✓	70.7000	00000000	PER	PER	70.7000	0	0.0000	0.00	70.7000
5	Percent Solids	AN	702115-002-	SMP	CLP_SOLI	75.08	1.0000	✓	75.0800	00000000	PER	PER	75.0800	0	0.0000	0.00	75.0800
6	Percent Solids	AN	702122-001-	MD /	CLP_SOLI	75.48	1.0000	✓	75.4800	00000000	PER	PER	75.4800	0	0.0000	0.00	75.4800
7	Percent Solids	AN	702122-001-	SMP	CLP_SOLI	75.85	1.0000	✓	75.8500	00000000	PER	PER	75.8500	0	0.0000	0.00	75.8500
8	Percent Solids	AN	702129-001-	SMP	CLP_SOLI	86.62	1.0000	✓	86.6200	00000000	PER	PER	86.6200	0	0.0000	0.00	86.6200
9	Percent Solids	AN	702129-002-	SMP	CLP_SOLI	88.19	1.0000	✓	88.1900	00000000	PER	PER	88.1900	0	0.0000	0.00	88.1900
10	Percent Solids	AN	702129-003-	SMP	CLP_SOLI	82.66	1.0000	✓	82.6600	00000000	PER	PER	82.6600	0	0.0000	0.00	82.6600
11	Percent Solids	AN	702129-004-	SMP	CLP_SOLI	85.14	1.0000	✓	85.1400	00000000	PER	PER	85.1400	0	0.0000	0.00	85.1400

	Description {90}	An	Sample Id {92}	Flag {111}	Val	Rpd {113}	Rpd Limit	N	mdl {125}	S	Retention Time	LCL {131	UCL {132	Moisture	Final Reporting	Final MDL {139}	Valid.	Comments {145}	Anal Multiplier	Prep Multiplier
1																				
2																				
3																				
4	Percent Solids	AN	702115-001-			0	1		1.0000					29.3	1.000	1.00000			1.000	
5	Percent Solids	AN	702115-002-			0	1		1.0000					24.92	1.000	1.00000			1.000	
6	Percent Solids	AN	702122-001-			1	1		1.0000					24.52	1.000	1.00000			1.000	
7	Percent Solids	AN	702122-001-			0	1		1.0000					24.15	1.000	1.00000			1.000	
8	Percent Solids	AN	702129-001-			0	1		1.0000					13.38	1.000	1.00000			1.000	
9	Percent Solids	AN	702129-002-			0	1		1.0000					11.81	1.000	1.00000			1.000	
10	Percent Solids	AN	702129-003-			0	1		1.0000					17.34	1.000	1.00000			1.000	
11	Percent Solids	AN	702129-004-			0	1		1.0000					14.86	1.000	1.00000			1.000	

	Description {90}	A n	Sample Id {92}	ST Sam	Method {94}	Results {95}	RL Raw {96}	R	Raw Results	Multiplier {99}	Reporti ng	Raw Unt	nFinal Result	Sort Order	spk Amount	% Recover	Raw Final {110}
1																	
2																	
3																	
4	Percent Solids	AN	702115-001-	SMP	CLP_SOLI	70.7	1.0000	✓	70.7000	00000000	PER	PER	70.7000	0	0.0000	0.00	70.7000
5	Percent Solids	AN	702115-002-	SMP	CLP_SOLI	75.08	1.0000	✓	75.0800	00000000	PER	PER	75.0800	0	0.0000	0.00	75.0800
6	Percent Solids	AN	702122-001-	MD /	CLP_SOLI	75.48	1.0000	✓	75.4800	00000000	PER	PER	75.4800	0	0.0000	0.00	75.4800
7	Percent Solids	AN	702122-001-	SMP	CLP_SOLI	75.85	1.0000	✓	75.8500	00000000	PER	PER	75.8500	0	0.0000	0.00	75.8500
8	Percent Solids	AN	702129-001-	SMP	CLP_SOLI	86.62	1.0000	✓	86.6200	00000000	PER	PER	86.6200	0	0.0000	0.00	86.6200
9	Percent Solids	AN	702129-002-	SMP	CLP_SOLI	88.19	1.0000	✓	88.1900	00000000	PER	PER	88.1900	0	0.0000	0.00	88.1900
10	Percent Solids	AN	702129-003-	SMP	CLP_SOLI	82.66	1.0000	✓	82.6600	00000000	PER	PER	82.6600	0	0.0000	0.00	82.6600
11	Percent Solids	AN	702129-004-	SMP	CLP_SOLI	85.14	1.0000	✓	85.1400	00000000	PER	PER	85.1400	0	0.0000	0.00	85.1400

	Description {90}	An	Sample Id {92}	Flag {111}	Val	Rpd {113}	Rpd Limit	N	mdl {125}	S	Retention Time	LCL {131	UCL {132	Moisture	Final Reporting	Final MDL {139}	Valid.	Comments {145}	Anal Multiplier	Prep Multiplier
1																				
2																				
3																				
4	Percent Solids	AN	702115-001-			0	1		1.0000					29.3	1.000	1.00000			1.000	
5	Percent Solids	AN	702115-002-			0	1		1.0000					24.92	1.000	1.00000			1.000	
6	Percent Solids	AN	702122-001-			1	1		1.0000					24.52	1.000	1.00000			1.000	
7	Percent Solids	AN	702122-001-			0	1		1.0000					24.15	1.000	1.00000			1.000	
8	Percent Solids	AN	702129-001-			0	1		1.0000					13.38	1.000	1.00000			1.000	
9	Percent Solids	AN	702129-002-			0	1		1.0000					11.81	1.000	1.00000			1.000	
10	Percent Solids	AN	702129-003-			0	1		1.0000					17.34	1.000	1.00000			1.000	
11	Percent Solids	AN	702129-004-			0	1		1.0000					14.86	1.000	1.00000			1.000	

	Description {90}	An	Sample Id {92}	Flag {111}	Val	Rpd {113}	Rpd Limit	N	mdl {125}	S	Retention Time	LCL {131	UCL {132	Moisture	Final Reporting	Final MDL {139}	Valid.	Comments {145}	Anal Multiplier	Prep Multiplier
1																				
2																				
3																				
4	Percent Solids	AN	702115-001-			0	1		1.0000					29.3	1.000	1.00000			1.000	
5	Percent Solids	AN	702115-002-			0	1		1.0000					24.92	1.000	1.00000			1.000	
6	Percent Solids	AN	702122-001-			1	1		1.0000					24.52	1.000	1.00000			1.000	
7	Percent Solids	AN	702122-001-			0	1		1.0000					24.15	1.000	1.00000			1.000	
8	Percent Solids	AN	702129-001-			0	1		1.0000					13.38	1.000	1.00000			1.000	
9	Percent Solids	AN	702129-002-			0	1		1.0000					11.81	1.000	1.00000			1.000	
10	Percent Solids	AN	702129-003-			0	1		1.0000					17.34	1.000	1.00000			1.000	
11	Percent Solids	AN	702129-004-			0	1		1.0000					14.86	1.000	1.00000			1.000	

	Description {90}	An	Sample Id {92}	Flag {111}	Val	Rpd {113}	Rpd Limit	N	mdl {125}	S	Retention Time	LCL {131	UCL {132	Moisture	Final Reporting	Final MDL {139}	Valid.	Comments {145}	Anal Multiplier	Prep Multiplier
1																				
2																				
3																				
4	Percent Solids	AN	702115-001-			0	1		1.0000					29.3	1.000	1.00000			1.000	
5	Percent Solids	AN	702115-002-			0	1		1.0000					24.92	1.000	1.00000			1.000	
6	Percent Solids	AN	702122-001-			1	1		1.0000					24.52	1.000	1.00000			1.000	
7	Percent Solids	AN	702122-001-			0	1		1.0000					24.15	1.000	1.00000			1.000	
8	Percent Solids	AN	702129-001-			0	1		1.0000					13.38	1.000	1.00000			1.000	
9	Percent Solids	AN	702129-002-			0	1		1.0000					11.81	1.000	1.00000			1.000	
10	Percent Solids	AN	702129-003-			0	1		1.0000					17.34	1.000	1.00000			1.000	
11	Percent Solids	AN	702129-004-			0	1		1.0000					14.86	1.000	1.00000			1.000	

Analytical Report For 702113

for

Shaw E&I, Inc

Project Manager: Tim Roth

Project Name: Fort Flagler Military Reservation - 039

GPL

Laboratories

GPL Laboratories, LLLP certifies that the test results meet all requirements of the NELAC Standards unless otherwise noted.

Reviewed By,
Project Manager

Approved By,
Laboratory Director

The Case Narrative, Chain of Custody, Sample Receipt Checklist, and the cover page of the Sample Analysis Report, are integral parts of GPL Laboratories' report package. If you did not receive all of these documents, please contact GPL immediately.

Sample Receipt

Seven soil samples were received on 02/23/2007. The samples were delivered by Federal Express. Sample receipt conditions an temperatures are documented on the Sample Receipt checklist.

Sample Analysis

Samples were prepared and analyzed by GPL using the analytical methodologies indicated on the Sample Analysis Summary Report. In some chromatographic analyses, manual integration is used instead of automated integration because it produces more accurate results. All manual integrations are denoted on the sample quantitation report. Analysis results and limits for soil are reported on a dry weight basis unless otherwise specified on the report.

Explosives/Propellants

Seven soil samples were extracted and analyzed for explosive compounds, using the EPA-SW846 method 8330A including Nitroglycerine.

All extraction and analysis holding times were met.

Samples NWO-039-0008 and NWO-039-0009 had surrogate recoveries that were above the QC limits. All other surrogate recoveries were within the QC limits.

The matrix spike and matrix spike duplicate analyses were performed on sample NWO-039-0006. All recoveries were within the QC limits

A laboratory control sample was extracted and analyzed along with the batch. All recoveries were within the QC limits.

Manual integration was performed on some data files, when automatic integration provided by the software was inappropriate.

PETN

Seven soil samples were analyzed for PETN, using the modified SW846 method 8330A.

All extraction and analysis holding times were met.

The surrogate recoveries for five samples were above the QC limits. All other recoveries were within the QC limits. No further corrective action was necessary.

The matrix spike and matrix spike duplicate analyses for the soil batch were performed in sample NWO-039-0006. The percent recovery was above the QC limits in the MS and MSD.

A laboratory control sample was extracted and analyzed along with the soil batch. The percent recoveries were within the QC limits.

Manual integration was performed on some data files, when automatic integration provided by the software was inappropriate.

Metals

Six soil samples were analyzed for aluminum, chromium, copper, iron, lead, manganese, molybdenum, and nickel by EPA SW846 methods. The samples were analyzed by ICPMS.

The soil samples were air dried, crushed, and then sieved. The sieved samples were digested for all analytes. All the samples are assumed one hundred percent solid because dried samples were used for the digestions.

On form one, The software flags all results for specific elements with a B qualifier if they have a result above two times the MDL and less than ½ the reporting limit for a continuing calibration blank, initial calibration blank or interference check solution A.

The matrix spike, matrix spike duplicate, and serial dilutions were performed on sample NOW-039-0006 for all required ICPMS analytes. The matrix spike and matrix spike duplicates were outside of the control limits for manganese; all associated data were flagged with an "N". A post digestion analytical spike was performed with a recovery of 85% for manganese. No control limits were applied to the matrix spike and matrix spike duplicate aluminum, and iron due to an insignificant spike addition.

Calibration standards are verified against independent check standards purchased from a commercial vendor of environmental standards.

All GPL QA/QC criteria were met with the exceptions of those mentioned above.

Pat Weisbach

Reviewed By,

Project Manager

Approved By,

Laboratory Director

Sample Summary Report

Shaw E&I, Inc

Work Order: 702113

Client Sample ID	Lab Sample ID	Analytical Method	Matrix	Date Sampled	Date Recieved
NWO-039-0006	702113-001-001-1/1	SW8330	SOIL	02/21/2007	02/23/2007
	702113-001-001-1/1	SW8330A_SHAW			
	702113-001-007-1/1	SW6020_SL			
NWO-039-0007	702113-002-002-1/1	SW8330	SOIL	02/21/2007	02/23/2007
	702113-002-002-1/1	SW8330A_SHAW			
	702113-002-008-1/1	SW6020_SL			
NWO-039-0008	702113-003-003-1/1	SW8330	SOIL	02/21/2007	02/23/2007
	702113-003-003-1/1	SW8330A_SHAW			
	702113-003-009-1/1	SW6020_SL			
NWO-039-0009	702113-004-004-1/1	SW8330	SOIL	02/21/2007	02/23/2007
	702113-004-004-1/1	SW8330A_SHAW			
	702113-004-010-1/1	SW6020_SL			
NWO-039-0010	702113-006-006-1/1	SW8330	SOIL	02/21/2007	02/23/2007
	702113-006-006-1/1	SW8330A_SHAW			
	702113-006-012-1/1	SW6020_SL			
NWO-039-0013	702113-007-013-1/1	SW8330	SOIL	02/21/2007	02/23/2007
	702113-007-013-1/1	SW8330A_SHAW			
NWO-039-1005	702113-005-005-1/1	SW8330	SOIL	02/21/2007	02/23/2007
	702113-005-005-1/1	SW8330A_SHAW			
	702113-005-011-1/1	SW6020_SL			

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-0006	Lab Sample ID:	702113-001-001-1/1
Sample Date/Time:	02/21/2007 14:00	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:55	Preparation Method:	EXT_SW8330
Prepared Date/Time:	02/27/2007 13:53	Analytical Method:	SW8330

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	Nitroglycerine	BQL	U	4.0	1	mg/kg	03/02/07	22:30
2)	Pentaerythritol Tetranitrate	BQL	U	0.20	1	mg/kg	03/07/07	21:20

#	Surrogate Parameter	Percent Recovery	Control Limits	Dil Fact	Analysis Date/Time	
3)	**4-Nitroaniline**	**194 %**	**31 - 129**	**1**	**03/07/07**	**21:20**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-0006	Lab Sample ID:	702113-001-001-1/1
Sample Date/Time:	02/21/2007 14:00	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:55	Preparation Method:	EXT_SW8330
Prepared Date/Time:	02/27/2007 00:00	Analytical Method:	SW8330A_SHAW

# Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1) 1,3,5-Trinitrobenzene	BQL	U	0.040	1	mg/kg	03/02/07	22:30
2) 1,3-Dinitrobenzene	BQL	U	0.040	1	mg/kg	03/02/07	22:30
3) 2,4,6-Trinitrotoluene	BQL	U	0.040	1	mg/kg	03/02/07	22:30
4) 2,4-Dinitrotoluene	BQL	U	0.040	1	mg/kg	03/02/07	22:30
5) 2,6-Dinitrotoluene	BQL	U	0.040	1	mg/kg	03/02/07	22:30
6) 2-Amino-4,6-Dinitrotoluene	BQL	U	0.040	1	mg/kg	03/02/07	22:30
7) 4-Amino-2,6-Dinitrotoluene	BQL	U	0.040	1	mg/kg	03/02/07	22:30
8) HMX	BQL	U	0.080	1	mg/kg	03/02/07	22:30
9) Nitrobenzene	BQL	U	0.040	1	mg/kg	03/02/07	22:30
10) RDX	BQL	U	0.080	1	mg/kg	03/02/07	22:30
11) Tetryl	BQL	U	0.080	1	mg/kg	03/02/07	22:30
12) m-Nitrotoluene	BQL	U	0.080	1	mg/kg	03/02/07	22:30
13) o-Nitrotoluene	BQL	U	0.080	1	mg/kg	03/02/07	22:30
14) p-Nitrotoluene	BQL	U	0.080	1	mg/kg	03/02/07	22:30

# Surrogate Parameter	Percent Recovery	Control Limits	Dil Fact	Analysis Date/Time	
15) 4-Nitroaniline	119 %	31 - 129	1	03/02/07	22:30

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-0006	Lab Sample ID:	702113-001-007-1/1
Sample Date/Time:	02/21/2007 14:00	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:55	Preparation Method:	SW3050B
Prepared Date/Time:	02/28/2007 00:00	Analytical Method:	SW6020_SL

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Aluminum**	**8470**	**D**	**82.6**	**10**	**mg/kg**	**03/06/07**	**17:16**
2)	**Chromium**	**25.9**	**DB**	**1.7**	**10**	**mg/kg**	**03/06/07**	**17:16**
3)	**Copper**	**9.3**	**DB**	**1.7**	**10**	**mg/kg**	**03/06/07**	**17:16**
4)	**Iron**	**13200**	**D**	**41.3**	**10**	**mg/kg**	**03/06/07**	**17:16**
5)	**Lead**	**4.3**	**D**	**1.7**	**10**	**mg/kg**	**03/06/07**	**17:16**
6)	**Manganese**	**218**	**ND**	**1.7**	**10**	**mg/kg**	**03/06/07**	**17:16**
7)	Molybdenum	0.47	JD	4.1	10	mg/kg	03/06/07	17:16
8)	**Nickel**	**38.3**	**DB**	**0.83**	**10**	**mg/kg**	**03/06/07**	**17:16**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-0007	Lab Sample ID:	702113-002-002-1/1
Sample Date/Time:	02/21/2007 13:40	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:55	Preparation Method:	EXT_SW8330
Prepared Date/Time:	02/27/2007 13:53	Analytical Method:	SW8330

# Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1) Nitroglycerine	BQL	U	4.0	1	mg/kg	03/02/07	23:27
2) Pentaerythritol Tetranitrate	BQL	U	0.20	1	mg/kg	03/07/07	21:40

# Surrogate Parameter	Percent Recovery	Control Limits	Dil Fact	Analysis Date/Time	
3) 4-Nitroaniline	103 %	31 - 129	1	03/07/07	21:40

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-0007	Lab Sample ID:	702113-002-002-1/1
Sample Date/Time:	02/21/2007 13:40	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:55	Preparation Method:	EXT_SW8330
Prepared Date/Time:	02/27/2007 00:00	Analytical Method:	SW8330A_SHAW

# Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1) 1,3,5-Trinitrobenzene	BQL	U	0.040	1	mg/kg	03/02/07	23:27
2) 1,3-Dinitrobenzene	BQL	U	0.040	1	mg/kg	03/02/07	23:27
3) 2,4,6-Trinitrotoluene	BQL	U	0.040	1	mg/kg	03/02/07	23:27
4) 2,4-Dinitrotoluene	BQL	U	0.040	1	mg/kg	03/02/07	23:27
5) 2,6-Dinitrotoluene	BQL	U	0.040	1	mg/kg	03/02/07	23:27
6) 2-Amino-4,6-Dinitrotoluene	BQL	U	0.040	1	mg/kg	03/02/07	23:27
7) 4-Amino-2,6-Dinitrotoluene	BQL	U	0.040	1	mg/kg	03/02/07	23:27
8) HMX	BQL	U	0.080	1	mg/kg	03/02/07	23:27
9) Nitrobenzene	BQL	U	0.040	1	mg/kg	03/02/07	23:27
10) RDX	BQL	U	0.080	1	mg/kg	03/02/07	23:27
11) Tetryl	BQL	U	0.080	1	mg/kg	03/02/07	23:27
12) m-Nitrotoluene	BQL	U	0.080	1	mg/kg	03/02/07	23:27
13) o-Nitrotoluene	BQL	U	0.080	1	mg/kg	03/02/07	23:27
14) p-Nitrotoluene	BQL	U	0.080	1	mg/kg	03/02/07	23:27

# Surrogate Parameter	Percent Recovery	Control Limits	Dil Fact	Analysis Date/Time	
15) 4-Nitroaniline	106 %	31 - 129	1	03/02/07	23:27

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-0007	Lab Sample ID:	702113-002-008-1/1
Sample Date/Time:	02/21/2007 13:40	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:55	Preparation Method:	SW3050B
Prepared Date/Time:	02/28/2007 00:00	Analytical Method:	SW6020_SL

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Aluminum**	**9470**	**D**	**80.6**	**10**	**mg/kg**	**03/06/07**	**17:42**
2)	**Chromium**	**23.4**	**DB**	**1.6**	**10**	**mg/kg**	**03/06/07**	**17:42**
3)	**Copper**	**7.9**	**DB**	**1.6**	**10**	**mg/kg**	**03/06/07**	**17:42**
4)	**Iron**	**13600**	**D**	**40.3**	**10**	**mg/kg**	**03/06/07**	**17:42**
5)	**Lead**	**3.0**	**D**	**1.6**	**10**	**mg/kg**	**03/06/07**	**17:42**
6)	**Manganese**	**245**	**ND**	**1.6**	**10**	**mg/kg**	**03/06/07**	**17:42**
7)	Molybdenum	BQL	UD	4	10	mg/kg	03/06/07	17:42
8)	**Nickel**	**42.2**	**DB**	**0.81**	**10**	**mg/kg**	**03/06/07**	**17:42**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-0008	Lab Sample ID:	702113-003-003-1/1
Sample Date/Time:	02/21/2007 13:15	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:55	Preparation Method:	EXT_SW8330
Prepared Date/Time:	02/27/2007 13:53	Analytical Method:	SW8330

# Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1) Nitroglycerine	BQL	U	4.0	1	mg/kg	03/03/07	00:25
2) Pentaerythritol Tetranitrate	BQL	U	0.20	1	mg/kg	03/07/07	21:59

# Surrogate Parameter	Percent Recovery	Control Limits	Dil Fact	Analysis Date/Time	
3) **4-Nitroaniline**	**172 %**	**31 - 129**	**1**	**03/07/07**	**21:59**

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-0008	Lab Sample ID:	702113-003-003-1/1
Sample Date/Time:	02/21/2007 13:15	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:55	Preparation Method:	EXT_SW8330
Prepared Date/Time:	02/27/2007 00:00	Analytical Method:	SW8330A_SHAW

# Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1) 1,3,5-Trinitrobenzene	BQL	U	0.040	1	mg/kg	03/03/07	00:25
2) 1,3-Dinitrobenzene	BQL	U	0.040	1	mg/kg	03/03/07	00:25
3) 2,4,6-Trinitrotoluene	BQL	U	0.040	1	mg/kg	03/03/07	00:25
4) 2,4-Dinitrotoluene	BQL	U	0.040	1	mg/kg	03/03/07	00:25
5) 2,6-Dinitrotoluene	BQL	U	0.040	1	mg/kg	03/03/07	00:25
6) 2-Amino-4,6-Dinitrotoluene	BQL	U	0.040	1	mg/kg	03/03/07	00:25
7) 4-Amino-2,6-Dinitrotoluene	BQL	U	0.040	1	mg/kg	03/03/07	00:25
8) HMX	BQL	U	0.080	1	mg/kg	03/03/07	00:25
9) Nitrobenzene	BQL	U	0.040	1	mg/kg	03/03/07	00:25
10) RDX	BQL	U	0.080	1	mg/kg	03/03/07	00:25
11) Tetryl	BQL	U	0.080	1	mg/kg	03/03/07	00:25
12) m-Nitrotoluene	BQL	U	0.080	1	mg/kg	03/03/07	00:25
13) o-Nitrotoluene	BQL	U	0.080	1	mg/kg	03/03/07	00:25
14) p-Nitrotoluene	BQL	U	0.080	1	mg/kg	03/03/07	00:25

# Surrogate Parameter	Percent Recovery	Control Limits	Dil Fact	Analysis Date/Time	
15) **4-Nitroaniline**	**233 %**	**31 - 129**	**1**	**03/03/07**	**00:25**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-0008	Lab Sample ID:	702113-003-009-1/1
Sample Date/Time:	02/21/2007 13:15	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:55	Preparation Method:	SW3050B
Prepared Date/Time:	02/28/2007 00:00	Analytical Method:	SW6020_SL

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Aluminum**	**8060**	**D**	**84**	**10**	**mg/kg**	**03/06/07**	**17:47**
2)	**Chromium**	**17.9**	**DB**	**1.7**	**10**	**mg/kg**	**03/06/07**	**17:47**
3)	**Copper**	**10.8**	**DB**	**1.7**	**10**	**mg/kg**	**03/06/07**	**17:47**
4)	**Iron**	**11500**	**D**	**42**	**10**	**mg/kg**	**03/06/07**	**17:47**
5)	**Lead**	**17.3**	**D**	**1.7**	**10**	**mg/kg**	**03/06/07**	**17:47**
6)	**Manganese**	**998**	**ND**	**1.7**	**10**	**mg/kg**	**03/06/07**	**17:47**
7)	Molybdenum	0.28	JD	4.2	10	mg/kg	03/06/07	17:47
8)	**Nickel**	**27.9**	**DB**	**0.84**	**10**	**mg/kg**	**03/06/07**	**17:47**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-0009	Lab Sample ID:	702113-004-004-1/1
Sample Date/Time:	02/21/2007 13:15	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:55	Preparation Method:	EXT_SW8330
Prepared Date/Time:	02/27/2007 13:53	Analytical Method:	SW8330

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	Nitroglycerine	BQL	U	4.0	1	mg/kg	03/03/07	04:14
2)	Pentaerythritol Tetranitrate	BQL	U	0.20	1	mg/kg	03/07/07	22:18

#	Surrogate Parameter	Percent Recovery	Control Limits	Dil Fact	Analysis Date/Time	
3)	**4-Nitroaniline**	**189 %**	**31 - 129**	**1**	**03/07/07**	**22:18**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-0009	Lab Sample ID:	702113-004-004-1/1
Sample Date/Time:	02/21/2007 13:15	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:55	Preparation Method:	EXT_SW8330
Prepared Date/Time:	02/27/2007 00:00	Analytical Method:	SW8330A_SHAW

# Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1) 1,3,5-Trinitrobenzene	BQL	U	0.040	1	mg/kg	03/03/07	04:14
2) 1,3-Dinitrobenzene	BQL	U	0.040	1	mg/kg	03/03/07	04:14
3) 2,4,6-Trinitrotoluene	BQL	U	0.040	1	mg/kg	03/03/07	04:14
4) 2,4-Dinitrotoluene	BQL	U	0.040	1	mg/kg	03/03/07	04:14
5) 2,6-Dinitrotoluene	BQL	U	0.040	1	mg/kg	03/03/07	04:14
6) 2-Amino-4,6-Dinitrotoluene	BQL	U	0.040	1	mg/kg	03/03/07	04:14
7) 4-Amino-2,6-Dinitrotoluene	BQL	U	0.040	1	mg/kg	03/03/07	04:14
8) HMX	BQL	U	0.080	1	mg/kg	03/03/07	04:14
9) Nitrobenzene	BQL	U	0.040	1	mg/kg	03/03/07	04:14
10) RDX	BQL	U	0.080	1	mg/kg	03/03/07	04:14
11) Tetryl	BQL	U	0.080	1	mg/kg	03/03/07	04:14
12) m-Nitrotoluene	BQL	U	0.080	1	mg/kg	03/03/07	04:14
13) o-Nitrotoluene	BQL	U	0.080	1	mg/kg	03/03/07	04:14
14) p-Nitrotoluene	BQL	U	0.080	1	mg/kg	03/03/07	04:14

# Surrogate Parameter	Percent Recovery	Control Limits	Dil Fact	Analysis Date/Time	
15) **4-Nitroaniline**	**162 %**	**31 - 129**	**1**	**03/03/07**	**04:14**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-0009	Lab Sample ID:	702113-004-010-1/1
Sample Date/Time:	02/21/2007 13:15	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:55	Preparation Method:	SW3050B
Prepared Date/Time:	02/28/2007 00:00	Analytical Method:	SW6020_SL

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Aluminum**	**8210**	**D**	**84**	**10**	**mg/kg**	**03/06/07**	**17:52**
2)	**Chromium**	**19.9**	**DB**	**1.7**	**10**	**mg/kg**	**03/06/07**	**17:52**
3)	**Copper**	**10.3**	**DB**	**1.7**	**10**	**mg/kg**	**03/06/07**	**17:52**
4)	**Iron**	**11600**	**D**	**42**	**10**	**mg/kg**	**03/06/07**	**17:52**
5)	**Lead**	**15.9**	**D**	**1.7**	**10**	**mg/kg**	**03/06/07**	**17:52**
6)	**Manganese**	**950**	**ND**	**1.7**	**10**	**mg/kg**	**03/06/07**	**17:52**
7)	Molybdenum	0.28	JD	4.2	10	mg/kg	03/06/07	17:52
8)	**Nickel**	**27.2**	**DB**	**0.84**	**10**	**mg/kg**	**03/06/07**	**17:52**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-1005	Lab Sample ID:	702113-005-005-1/1
Sample Date/Time:	02/21/2007 14:05	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:55	Preparation Method:	EXT_SW8330
Prepared Date/Time:	02/27/2007 13:53	Analytical Method:	SW8330

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	Nitroglycerine	BQL	U	4.0	1	mg/kg	03/03/07	05:12
2)	Pentaerythritol Tetranitrate	BQL	U	0.20	1	mg/kg	03/07/07	22:38

#	Surrogate Parameter	Percent Recovery	Control Limits	Dil Fact	Analysis Date/Time	
3)	4-Nitroaniline	101 %	31 - 129	1	03/07/07	22:38

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-1005	Lab Sample ID:	702113-005-005-1/1
Sample Date/Time:	02/21/2007 14:05	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:55	Preparation Method:	EXT_SW8330
Prepared Date/Time:	02/27/2007 00:00	Analytical Method:	SW8330A_SHAW

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	1,3,5-Trinitrobenzene	BQL	U	0.040	1	mg/kg	03/03/07	05:12
2)	1,3-Dinitrobenzene	BQL	U	0.040	1	mg/kg	03/03/07	05:12
3)	2,4,6-Trinitrotoluene	BQL	U	0.040	1	mg/kg	03/03/07	05:12
4)	2,4-Dinitrotoluene	BQL	U	0.040	1	mg/kg	03/03/07	05:12
5)	2,6-Dinitrotoluene	BQL	U	0.040	1	mg/kg	03/03/07	05:12
6)	2-Amino-4,6-Dinitrotoluene	BQL	U	0.040	1	mg/kg	03/03/07	05:12
7)	4-Amino-2,6-Dinitrotoluene	BQL	U	0.040	1	mg/kg	03/03/07	05:12
8)	HMX	BQL	U	0.080	1	mg/kg	03/03/07	05:12
9)	Nitrobenzene	BQL	U	0.040	1	mg/kg	03/03/07	05:12
10)	RDX	BQL	U	0.080	1	mg/kg	03/03/07	05:12
11)	Tetryl	BQL	U	0.080	1	mg/kg	03/03/07	05:12
12)	m-Nitrotoluene	BQL	U	0.080	1	mg/kg	03/03/07	05:12
13)	o-Nitrotoluene	BQL	U	0.080	1	mg/kg	03/03/07	05:12
14)	p-Nitrotoluene	BQL	U	0.080	1	mg/kg	03/03/07	05:12

#	Surrogate Parameter	Percent Recovery	Control Limits	Dil Fact	Analysis Date/Time	
15)	4-Nitroaniline	126 %	31 - 129	1	03/03/07	05:12

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-1005	Lab Sample ID:	702113-005-011-1/1
Sample Date/Time:	02/21/2007 14:05	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:55	Preparation Method:	SW3050B
Prepared Date/Time:	02/28/2007 00:00	Analytical Method:	SW6020_SL

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Aluminum**	**7860**	**D**	**80.6**	**10**	**mg/kg**	**03/06/07**	**18:08**
2)	**Chromium**	**25.5**	**DB**	**1.6**	**10**	**mg/kg**	**03/06/07**	**18:08**
3)	**Copper**	**8.0**	**DB**	**1.6**	**10**	**mg/kg**	**03/06/07**	**18:08**
4)	**Iron**	**13100**	**DB**	**40.3**	**10**	**mg/kg**	**03/06/07**	**18:08**
5)	**Lead**	**3.6**	**DB**	**1.6**	**10**	**mg/kg**	**03/06/07**	**18:08**
6)	**Manganese**	**175**	**ND**	**1.6**	**10**	**mg/kg**	**03/06/07**	**18:08**
7)	Molybdenum	0.25	JD	4	10	mg/kg	03/06/07	18:08
8)	**Nickel**	**37.7**	**DB**	**0.81**	**10**	**mg/kg**	**03/06/07**	**18:08**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-0010	Lab Sample ID:	702113-006-006-1/1
Sample Date/Time:	02/21/2007 10:05	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:55	Preparation Method:	EXT_SW8330
Prepared Date/Time:	02/27/2007 13:53	Analytical Method:	SW8330

# Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1) Nitroglycerine	BQL	U	4.0	1	mg/kg	03/03/07	06:09
2) Pentaerythritol Tetranitrate	BQL	U	0.20	1	mg/kg	03/07/07	22:57

# Surrogate Parameter	Percent Recovery	Control Limits	Dil Fact	Analysis Date/Time	
3) 4-Nitroaniline	100 %	31 - 129	1	03/07/07	22:57

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-0010	Lab Sample ID:	702113-006-006-1/1
Sample Date/Time:	02/21/2007 10:05	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:55	Preparation Method:	EXT_SW8330
Prepared Date/Time:	02/27/2007 00:00	Analytical Method:	SW8330A_SHAW

# Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1) 1,3,5-Trinitrobenzene	BQL	U	0.040	1	mg/kg	03/03/07	06:09
2) 1,3-Dinitrobenzene	BQL	U	0.040	1	mg/kg	03/03/07	06:09
3) 2,4,6-Trinitrotoluene	BQL	U	0.040	1	mg/kg	03/03/07	06:09
4) 2,4-Dinitrotoluene	BQL	U	0.040	1	mg/kg	03/03/07	06:09
5) 2,6-Dinitrotoluene	BQL	U	0.040	1	mg/kg	03/03/07	06:09
6) 2-Amino-4,6-Dinitrotoluene	BQL	U	0.040	1	mg/kg	03/03/07	06:09
7) 4-Amino-2,6-Dinitrotoluene	BQL	U	0.040	1	mg/kg	03/03/07	06:09
8) HMX	BQL	U	0.080	1	mg/kg	03/03/07	06:09
9) Nitrobenzene	BQL	U	0.040	1	mg/kg	03/03/07	06:09
10) RDX	BQL	U	0.080	1	mg/kg	03/03/07	06:09
11) Tetryl	BQL	U	0.080	1	mg/kg	03/03/07	06:09
12) m-Nitrotoluene	BQL	U	0.080	1	mg/kg	03/03/07	06:09
13) o-Nitrotoluene	BQL	U	0.080	1	mg/kg	03/03/07	06:09
14) p-Nitrotoluene	BQL	U	0.080	1	mg/kg	03/03/07	06:09

# Surrogate Parameter	Percent Recovery	Control Limits	Dil Fact	Analysis Date/Time	
15) 4-Nitroaniline	117 %	31 - 129	1	03/03/07	06:09

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-0010	Lab Sample ID:	702113-006-012-1/1
Sample Date/Time:	02/21/2007 10:05	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:55	Preparation Method:	SW3050B
Prepared Date/Time:	02/28/2007 00:00	Analytical Method:	SW6020_SL

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Aluminum**	**12200**	**D**	**82**	**10**	**mg/kg**	**03/06/07**	**18:13**
2)	**Chromium**	**36.3**	**DB**	**1.6**	**10**	**mg/kg**	**03/06/07**	**18:13**
3)	**Copper**	**7.6**	**DB**	**1.6**	**10**	**mg/kg**	**03/06/07**	**18:13**
4)	**Iron**	**16700**	**DB**	**41**	**10**	**mg/kg**	**03/06/07**	**18:13**
5)	**Lead**	**10.0**	**DB**	**1.6**	**10**	**mg/kg**	**03/06/07**	**18:13**
6)	**Manganese**	**562**	**ND**	**1.6**	**10**	**mg/kg**	**03/06/07**	**18:13**
7)	Molybdenum	BQL	UD	4.1	10	mg/kg	03/06/07	18:13
8)	**Nickel**	**85.8**	**DB**	**0.82**	**10**	**mg/kg**	**03/06/07**	**18:13**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-0013	Lab Sample ID:	702113-007-013-1/1
Sample Date/Time:	02/21/2007 10:25	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:55	Preparation Method:	EXT_SW8330
Prepared Date/Time:	02/27/2007 13:53	Analytical Method:	SW8330

# Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1) Nitroglycerine	BQL	U	4.0	1	mg/kg	03/03/07	07:06
2) Pentaerythritol Tetranitrate	BQL	U	0.20	1	mg/kg	03/07/07	23:16

# Surrogate Parameter	Percent Recovery	Control Limits	Dil Fact	Analysis Date/Time	
3) 4-Nitroaniline	100 %	31 - 129	1	03/07/07	23:16

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-0013	Lab Sample ID:	702113-007-013-1/1
Sample Date/Time:	02/21/2007 10:25	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 13:55	Preparation Method:	EXT_SW8330
Prepared Date/Time:	02/27/2007 00:00	Analytical Method:	SW8330A_SHAW

# Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1) 1,3,5-Trinitrobenzene	BQL	U	0.040	1	mg/kg	03/03/07	07:06
2) 1,3-Dinitrobenzene	BQL	U	0.040	1	mg/kg	03/03/07	07:06
3) 2,4,6-Trinitrotoluene	BQL	U	0.040	1	mg/kg	03/03/07	07:06
4) 2,4-Dinitrotoluene	BQL	U	0.040	1	mg/kg	03/03/07	07:06
5) 2,6-Dinitrotoluene	BQL	U	0.040	1	mg/kg	03/03/07	07:06
6) 2-Amino-4,6-Dinitrotoluene	BQL	U	0.040	1	mg/kg	03/03/07	07:06
7) 4-Amino-2,6-Dinitrotoluene	BQL	U	0.040	1	mg/kg	03/03/07	07:06
8) HMX	BQL	U	0.080	1	mg/kg	03/03/07	07:06
9) Nitrobenzene	BQL	U	0.040	1	mg/kg	03/03/07	07:06
10) RDX	BQL	U	0.080	1	mg/kg	03/03/07	07:06
11) Tetryl	BQL	U	0.080	1	mg/kg	03/03/07	07:06
12) m-Nitrotoluene	BQL	U	0.080	1	mg/kg	03/03/07	07:06
13) o-Nitrotoluene	BQL	U	0.080	1	mg/kg	03/03/07	07:06
14) p-Nitrotoluene	BQL	U	0.080	1	mg/kg	03/03/07	07:06

# Surrogate Parameter	Percent Recovery	Control Limits	Dil Fact	Analysis Date/Time	
15) 4-Nitroaniline	111 %	31 - 129	1	03/03/07	07:06

Qualifier Definitions

Shaw E&I, Inc

Work Order: 702113

All Departments

U	Indicates that the compound was analyzed for but not detected
BQL	Below Quantitation Limit

Organics

B	Indicates that the analyte was found in the associated blank as well as in the sample
D	Indicates that the analyte was reported from a diluted analysis
E	Indicates that the concentration detected exceeded the calibration range of the instrument
J	Value is less than the reporting limit but greater than the MDL
P	Indicates that there is greater than 25% difference for detected pesticide/Arochlor results between the two GC columns

Metals

J	Indicates that the reported value was less than the reporting limit but greater than or equal to the IDL/MDL
E	Indicates that the reported value is estimated because of the possible presence of interference (i.e. the serial dilution not within control limits)
H	Indicates that the element was found in the associated blank as well as in the sample and the value is greater than or equal to the reporting limit
D	Indicates that the analyte was reported from a diluted analysis
N	Spiked sample recovery not within control limits
*	Duplicate analysis not within control limits

GPL Laboratories

CHAIN OF CUSTODY

CoC Number: NWO039-001

PAGE: 1 OF 1

GPL Project Manager: Tim Bilodeau
Project Name: 7-039 MMRP NWO
Project Number: 117014
Client Name: Shaw Environmental Inc. (Tim Ram)
Address: 312 Directors Drive
City, State: Knoxville, TN
Phone: 865-220-0072
Cell:
Zip Code: 37923
Special Instructions:
Shipment Method: FedEx
Waybill Number:

Comments:

Key: Analysis Request X=Analysis

Shaw MMRP FUDS Site - 039 Flagler Military Reservation

Preservatives and Containers: 8 oz GWM-4 °C; 8 oz GWM-4 °C

Sample Information / Methods for Analysis

No.	FIELD Sample ID	Date Sampled	Time Sampled	Matrix	Sampler's Initials	Al, Cr, Cu, Fe, Pb, Mn, Mo, and Ni by SW-846 6020A	Explosives by SW-846 8330A	Nitroglycerin by SW-846 8330A (Modified)	PETN by SW-846 8330A (Modified)	Filter	TOTAL BOTTLES
1	~~NWO-039-0001~~			~~SD~~		~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~2~~
2	~~NWO-039-0001-MS~~			~~SD~~		~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~2~~
3	~~NWO-039-0001-MSD~~			~~SD~~		~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~2~~
4	~~NWO-039-0005~~			~~SD~~		~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~2~~
5	NWO-039-0008	02/21/07	14:02	SD	SP	X	X	X	X	N	2
6	NWO-039-0007	02/21/07	13:40	SD	SP	X	X	X	X	N	2
7	NWO-039-0008	02/21/07	13:15	SD	SP	X	X	X	X	N	2
8	NWO-039-0009	02/21/07	13:15	SD	SP	X	X	X	X	N	2
9	NWO-039-0005	02/21/07	14:05	SD	SP	X	X	X	X	N	2
10	NWO-039-0010	02/21/07	10:05	SD	SP	X	X	X	X	N	2
11	NWO-039-0013	02/21/07	10:25	SD	SP		X	X	X	N	2
										N	1

Sample Matrix: SD= Soil, SD= Sediment

TAT Requirement: 21 Days

Total number of samples

Relinquished By: [signature] Date: 02/21/07 Time: 12:35
Received By: Date: Time:

Relinquished By: Date: Time:
Received By: [signature] Date: 2/23/07 Time: [illegible]
Relinquished By: Date: Time:

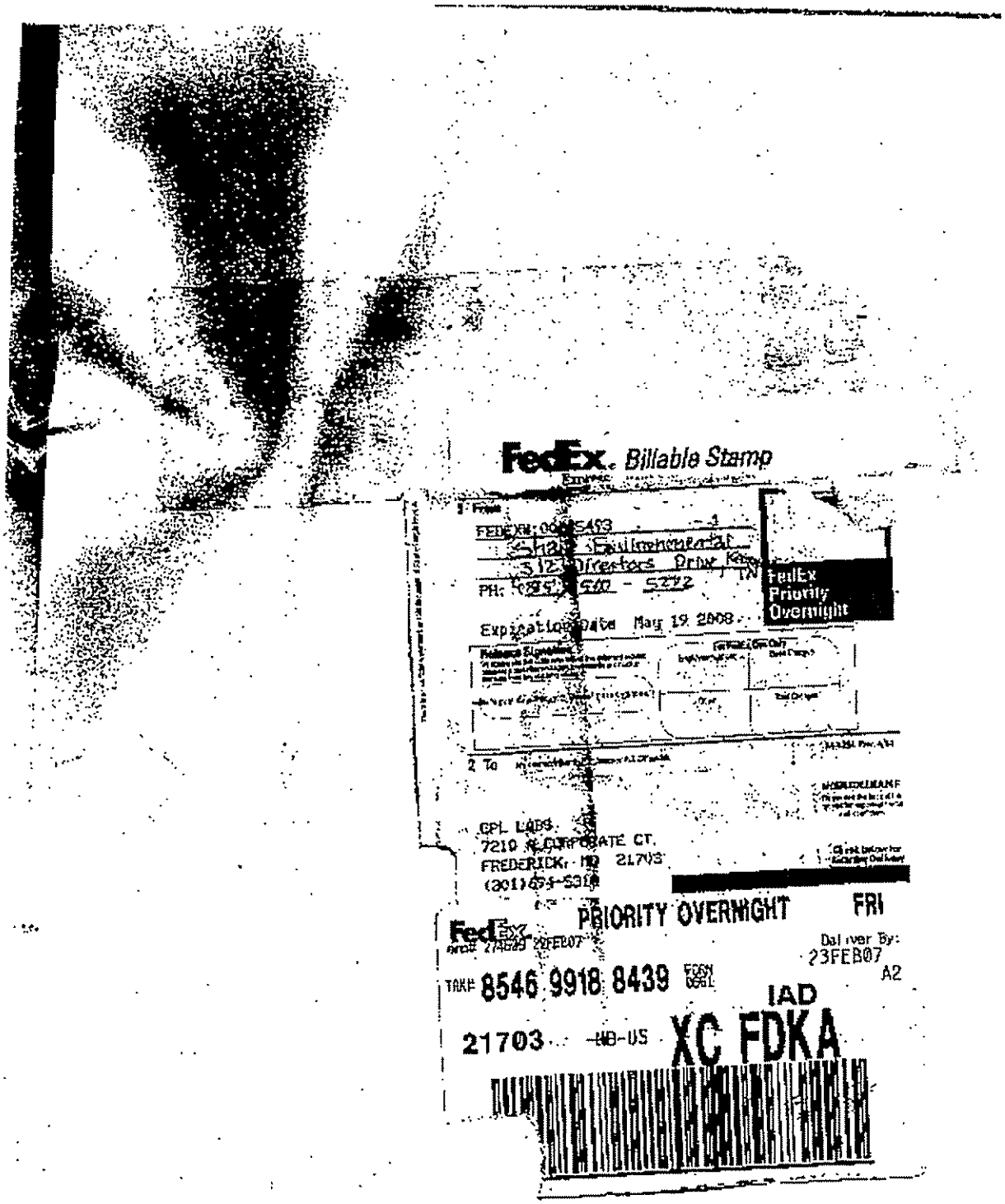
For Lab Use

GPL WORK ORDER #: 702113

PURCHASE ORDER #:

COOLER RECEIPT CONDITION

GPL Laboratories, LLLP
7210A Corporate CT, Frederick, MD 21703
Tel. (301)694-5310 Fax (301)620-0731


FedEx. Billable Stamp
FedEx Priority Overnight
Expiration Date May 19 2008
GPL LABS
7210 A CORPORATE CT.
FREDERICK, MD 21703
PRIORITY OVERNIGHT
FRI
Deliver By:
23FEB07
A2
TRK# 8546 9918 8439
IAD
21703 MD-US
XC FDKA

Chain of Custody

Shaw E&I, Inc

SDG: 702113

FedEx Express Billable Stamp

1 From

FEDEX#: 00685493 - 1

Shaw E&I

512 Directors Drive Knoxville TN

PH: (865) 546 - 5272

Expiration Date May 19 2008

FedEx Priority Overnight

2 To

GPL LABS
7210 A CORPORATE CT.
FREDERICK, MD 21703
(301)694-5310

FedEx PRIORITY OVERNIGHT FRI

Deliver By: 23FEB07

TRK# 8546 9918 8440 FORM 0561

A2

21703 -MD-US IAD XC FDKA

GPL Laboratories, LLLP

Figure 1
SAMPLE RECEIPT CHECKLIST

W.O. No: 702113
Client Name: SHAW
Date Received: 2/23/07
Time Received: 10 AM
Received By: MD

Carrier Name: FEDEX
Prepared (Logged in) By: MD, 2/23/07 (Initials Date)
Project:
Site:
VOA Holding Block I.D. No:

	YES	NO
Airbill/Manifest Present?	✓	
No.		
Shipping Container in Good Condition?	✓	
Custody Seals Present on Shipping Container? Condition: Broken ___ Intact-not dated or signed ___ Intact-dated and signed ✓	✓	
Usage of Tamper Evident Type	✓	
Chain-of-Custody Present?	✓	
Chain-of-Custody Agrees with Sample Labels?	✓	
Chain-of-Custody Signed?	✓	
Packing Present in Shipping Container? Type of Packing: Bubble Wrap	✓	
Custody seals on Sample Bottles? Condition: Good ✓ Broken ___		
Total Number of Sample Bottles 13		
Total Number of Samples 7		
Samples Intact?	✓	
Sufficient Sample Volume for Indicated Test?	✓	

	YES	NO
Trip Blanks: No. of Sets ___		
Field Blanks: No. of Sets ___		
Equip. Blank: No. of Sets ___		
Field Duplicate: No. of Sets ___		
MS/MSD: No. of Sets ___		
VOA Vials Have Zero Headspace? If no, smaller or greater than a Green Pea (see comments)		
Preservatives Added to Sample?		
pH Check Required?		
Performed By? ___		
Ice Present in Shipping Container?	✓	

Container #	Temp.	Container #	Temp.
1	2.0	2	2.0

Project Manager Contacted? Time
Name:
Date Contacted: 2/23/07

Any NO response must be detailed in the comments section below. If items are not applicable to particular samples or contracts, they should be marked N/A

COMMENTS:

Check st Completed By: MD
Date: 2/23/07

SOP No: F.2V18

LOW IMPACT EXPLOSIVES AND PROPELLANTS

GPL Laboratories

A. QC Summary

1. Surrogate Percent Recovery Summary
2. Matrix Spike/Matrix Spike Duplicate Summary
3. Laboratory Control Standard Summary (where applicable)
4. Method Blank Summary

GPL Laboratories

Surrogate Recovery Summary

Matrix : SOIL **Analytical Method : SW8330A_SHAW** **SDG No : 702113**

Surrogate	NO2ANIL4
Lower QC Limits	**31**
Upper QC Limits	**129**
Sample ID	
BKS96629	115
BLK96629	117
NWO-039-0006	119
NWO-039-0006MS	125
NWO-039-0006MSD	121
NWO-039-0007	106
NWO-039-0008	233 *
NWO-039-0009	162 *
NWO-039-0010	117
NWO-039-0013	111
NWO-039-1005	126

* Value outside of QC Limts

NO2ANIL4 = 4-Nitroaniline

GPL Laboratories

MS/MSD RECOVERY

SAMPLE NO
NWO-039-0006MSD

Lab Name : GPL Laboratories SDG NO : 702113 Method : SW8330A_SHAW

Lab Code : GPL Lab Sample ID : 702113-001-001-1/1MSD Matrix : SOIL Analysis Date : 03/02/2007

Compound	Spike Added (mg/kg)		CONCENTRATION (mg/kg)			%RECOVERY		% RPD	RPD Limit	QC Limits
	MS	MSD	Sample	MS	MSD	MS	MSD			
1,3,5-Trinitrobenzene	.5	.5	0.0	0.50	0.51	100	102	2	25	75-125
1,3-Dinitrobenzene	.5	.5	0.0	0.57	0.58	114	116	2	25	80-125
2,4,6-Trinitrotoluene	.5	.5	0.0	0.52	0.53	104	106	2	25	55-140
2,4-Dinitrotoluene	.5	.5	0.0	0.48	0.48	96	96	0	25	80-125
2,6-Dinitrotoluene	.5	.5	0.0	0.52	0.53	104	106	2	25	80-120
2-Amino-4,6-Dinitrotoluene	.5	.5	0.0	0.51	0.51	102	102	0	25	80-125
4-Amino-2,6-Dinitrotoluene	.5	.5	0.0	0.48	0.49	96	98	2	25	80-125
HMX	.5	.5	0.0	0.53	0.53	106	106	0	25	75-125
Nitrobenzene	.5	.5	0.0	0.50	0.51	100	102	2	25	75-125
RDX	.5	.5	0.0	0.54	0.55	108	110	2	25	70-135
Tetryl	.5	.5	0.0	0.50	0.51	100	102	2	25	20-175
m-Nitrotoluene	.5	.5	0.0	0.49	0.51	98	102	4	25	75-120
o-Nitrotoluene	.5	.5	0.0	0.52	0.54	104	108	4	25	80-125
p-Nitrotoluene	.5	.5	0.0	0.49	0.50	98	100	2	25	75-125

Column to be used to flag recovery and RPD Values with an asterisk.

* Values Outside of QC Limits.

RPD 0 Out of 14 Outside Limit
Spike Recovery : 0 Out of 28 outside limit

GPL Laboratories

MS/MSD RECOVERY

SAMPLE NO
NWO-039-0006MSD

Lab Name : GPL Laboratories SDG NO : 702113 Method : SW8330

Lab Code : GPL Lab Sample ID : 702113-001-001-1/1MSD Matrix : SOIL Analysis Date : 03/02/2007

Compound	Spike Added (mg/kg)		CONCENTRATION (mg/kg)			%RECOVERY		% RPD	RPD Limit	QC Limits
	MS	MSD	Sample	MS	MSD	MS	MSD			
Nitroglycerine	10	10	0.0	9.2	9.7	92	97	5	25	60-120

Column to be used to flag recovery and RPD Values with an asterisk.

* Values Outside of QC Limits.

RPD 0 Out of 1 Outside Limit
Spike Recovery : 0 Out of 2 outside limit

GPL Laboratories

LCS SUMMARY

SAMPLE NO
BKS96629

Lab Name : GPL Laboratories
Lab Code : GPL
Matrix : SOIL
Method : SW8330A_SHAW

Contract. : Fort Flagler Military Reservation - 039
SDG NO : 702113
Lab Sample ID : BKS96629
Analysis Date : 03/02/2007

COMPOUND	SPIKE ADDED (mg/kg)	BLANK CONCENTRATION (mg/kg)	LCS CONCENTRATION (mg/kg)	LCS % REC	QC LIMTS
1,3,5-Trinitrobenzene	.5	0	0.52	104	75-125
1,3-Dinitrobenzene	.5	0	0.54	108	80-125
2,4,6-Trinitrotoluene	.5	0	0.56	112	55-140
2,4-Dinitrotoluene	.5	0	0.51	102	80-125
2,6-Dinitrotoluene	.5	0	0.56	112	80-120
2-Amino-4,6-Dinitrotoluene	.5	0	0.54	108	80-125
4-Amino-2,6-Dinitrotoluene	.5	0	0.54	108	80-125
HMX	.5	0	0.58	116	75-125
Nitrobenzene	.5	0	0.53	106	75-125
RDX	.5	0	0.57	114	70-135
Tetryl	.5	0	0.50	100	20-175
m-Nitrotoluene	.5	0	0.54	108	75-120
o-Nitrotoluene	.5	0	0.54	108	80-125
p-Nitrotoluene	.5	0	0.50	100	75-125

* Values Outside of QC Limits.

SW8330A_SHAW

Spike Recovery Outside limits

GPL Laboratories

LCS SUMMARY

SAMPLE NO
BKS96632

Lab Name : GPL Laboratories
Lab Code : GPL
Matrix : SOIL
Method : SW8330

Contract. : Fort Flagler Military Reservation - 039
SDG NO : 702113
Lab Sample ID : BKS96632
Analysis Date : 03/02/2007

COMPOUND	SPIKE ADDED (mg/kg)	BLANK CONCENTRATION (mg/kg)	LCS CONCENTRATION (mg/kg)	LCS % REC	QC LIMTS
Nitroglycerine	10	0	9.8	98	60-120

* Values Outside of QC Limits.

SW8330

Spike recovery outside limits

GPL Laboratories

GPL
FORM 4
EXPLOSIVE METHOD BLANK SUMMARY

SAMPLE NO
BLK96629

Lab Name :	GPL Laboratories	Client. :	Shaw E&I, Inc
Lab Code :	GPL	SAS NO. :	96629
Lab File ID :	LCD35579.D	SDG NO :	702113
Date Analyzed	03/02/2007	Lab Sample ID :	BLK96629
Date Extracted :	02/27/2007	Time Analyzed :	15:23
Matrix :(Soil/Water).	SOIL	Level :(Low/Med)	

"HIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES,MS AND MSD :

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed
BKS96629	BKS96629	LCD35580.D	03/02/2007
NWO-039-0006MS	702113-001-001-1/1MS	LCD35581.D	03/02/2007
NWO-039-0006MSD	702113-001-001-1/1MSD	LCD35582.D	03/02/2007
NWO-039-0006	702113-001-001-1/1	LCD35586.D	03/02/2007
NWO-039-0007	702113-002-002-1/1	LCD35587.D	03/02/2007
NWO-039-0008	702113-003-003-1/1	LCD35588.D	03/03/2007
NWO-039-0009	702113-004-004-1/1	LCD35592.D	03/03/2007
NWO-039-1005	702113-005-005-1/1	LCD35593.D	03/03/2007
NWO-039-0010	702113-006-006-1/1	LCD35594.D	03/03/2007
NWO-039-0013	702113-007-013-1/1	LCD35595.D	03/03/2007

FORM IV SW8330A_SHAW

GPL Laboratories

GPL
FORM 4
EXPLOSIVE METHOD BLANK SUMMARY

SAMPLE NO
BLK96632

Lab Name :	GPL Laboratories	Client. :	Shaw E&I, Inc
Lab Code :	GPL	SAS NO. :	96632
Lab File ID :	LCD35579.D	SDG NO :	702113
Date Analyzed	03/02/2007	Lab Sample ID :	BLK96632
Date Extracted :	02/27/2007	Time Analyzed :	15:23
Matrix :(Soil/Water).	SOIL	Level :(Low/Med)	

"HIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES,MS AND MSD :

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed
BKS96632	BKS96632	LCD35583.D	03/02/2007
NWO-039-0006MS	702113-001-001-1/1MS	LCD35584.D	03/02/2007
NWO-039-0006MSD	702113-001-001-1/1MSD	LCD35585.D	03/02/2007
NWO-039-0006	702113-001-001-1/1	LCD35586.D	03/02/2007
NWO-039-0007	702113-002-002-1/1	LCD35587.D	03/02/2007
NWO-039-0008	702113-003-003-1/1	LCD35588.D	03/03/2007
NWO-039-0009	702113-004-004-1/1	LCD35592.D	03/03/2007
NWO-039-1005	702113-005-005-1/1	LCD35593.D	03/03/2007
NWO-039-0010	702113-006-006-1/1	LCD35594.D	03/03/2007
NWO-039-0013	702113-007-013-1/1	LCD35595.D	03/03/2007

FORM IV SW8330

B. Sample Data

1. TCL Results
2. Chromatographs from Primary and Confirmatory Analyses
3. Integration Report for Primary and Confirmatory Analyses

GPL Laboratories

GPL Laboratories

GPL
FORM I
ANALYSIS DATA SHEET

SAMPLE NO
NWO-039-0006

Lab Name :	GPL Laboratories	Client. :	Shaw E&I, Inc
Lab Code :	GPL	SAS NO. :	
Case No. :		SDG NO :	702113
Matrix : (Soil / Water)	SOIL	Lab Sample ID :	702113-001-001-1/1
Sample Volume :	10	Lab File ID :	LCD35586.D
% Moisture:		Date Received	02/23/2007
Extraction:	EXT_SW8330	Date Extracted:	02/27/2007
Extract Volume:	40 mL	Date Analyzed	03/02/2007
Injection Volume :	µ L	Dilution Factor :	1
GPC Clean up (Y/N):	pH:		

Concentration Units (ug/L or ug/kg dry weight) : mg/kg

CAS NO	COMPOUND		Q
99-35-4	1,3,5-Trinitrobenzene	0.040	U
99-65-0	1,3-Dinitrobenzene	0.040	U
118-96-7	2,4,6-Trinitrotoluene	0.040	U
121-14-2	2,4-Dinitrotoluene	0.040	U
606-20-2	2,6-Dinitrotoluene	0.040	U
35572-78-2	2-Amino-4,6-Dinitrotoluene	0.040	U
19406-51-0	4-Amino-2,6-Dinitrotoluene	0.040	U
2691-41-0	HMX	0.080	U
98-95-3	Nitrobenzene	0.040	U
121-82-4	RDX	0.080	U
479-45-8	Tetryl	0.080	U
99-08-1	m-Nitrotoluene	0.080	U
88-72-2	o-Nitrotoluene	0.080	U
99-99-0	p-Nitrotoluene	0.080	U

FORM I SW8330A_SHAW

GPL Laboratories

GPL
FORM 1
ANALYSIS DATA SHEET

SAMPLE NO
NWO-039-0006

Lab Name :	GPL Laboratories	Client. :	Shaw E&I, Inc
Lab Code :	GPL	SAS NO. :	
Case No. :		SDG NO :	702113
Matrix : (Soil / Water)	SOIL	Lab Sample ID :	702113-001-001-1/1
Sample Volume :	10	Lab File ID :	LCD35586.D
% Moisture:		Date Received	02/23/2007
Extraction:	EXT_SW8330	Date Extracted:	02/27/2007
Extract Volume:	40 mL	Date Analyzed	03/02/2007
Injection Volume :	100 µ L	Dilution Factor :	1
GPC Clean up (Y/N):	pH:		

Concentration Units (ug/L or ug/kg dry weight) : mg/kg

CAS NO	COMPOUND		Q
55-63-0	Nitroglycerine	4.0	U

FORM I SW8330

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\030207\LCD35586.D Vial: 10
Acq On : 2 Mar 2007 22:30 Operator: SS
Sample : 702113-001-001-1/1 Inst : LCD
Misc : SOIL.SHAW Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 5 12:51 2007 Quant Results File: 71248330.RES

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Mon Mar 05 09:17:54 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

Compound			R.T.	Response	Conc	Units
System Monitoring Compounds						
2)	S	4-Nitroaniline	6.99	23407561	179.239	ng/mlm
Spiked Amount 150.000 Range 52 - 154 Recovery = 119.49%						
Target Compounds						
1)	T	HMX	0.00	0	N.D.	ng/ml
3)	T	1,3,5-Trinitrobenzene	0.00	0	N.D.	ng/ml
4)	T	Tetryl	0.00	0	N.D.	ng/ml
5)	T	2,4,6-Trinitrotoluene	0.00	0	N.D.	ng/ml
6)	T	4-Amino-2,6-Dinitrotoluene	0.00	0	N.D.	ng/ml
7)	T	2,6-Dinitrotoluene	0.00	0	N.D.	ng/ml
8)	T	4-Nitrotoluene	0.00	0	N.D.	ng/ml
9)	M	RDX	0.00	0	N.D.	ng/mld
10)	M	1,3-Dinitrobenzene	0.00	0	N.D.	ng/mld
11)	M	Nitrobenzene	0.00	0	N.D.	ng/ml
12)	M	2-Amino-4,6-Dinitrotoluene	0.00	0	N.D.	ng/ml
13)	M	2,4-Dinitrotoluene	0.00	0	N.D.	ng/ml
14)	M	2-Nitrotoluene	0.00	0	N.D.	ng/ml
15)	M	3-Nitrotoluene	0.00	0	N.D.	ng/ml

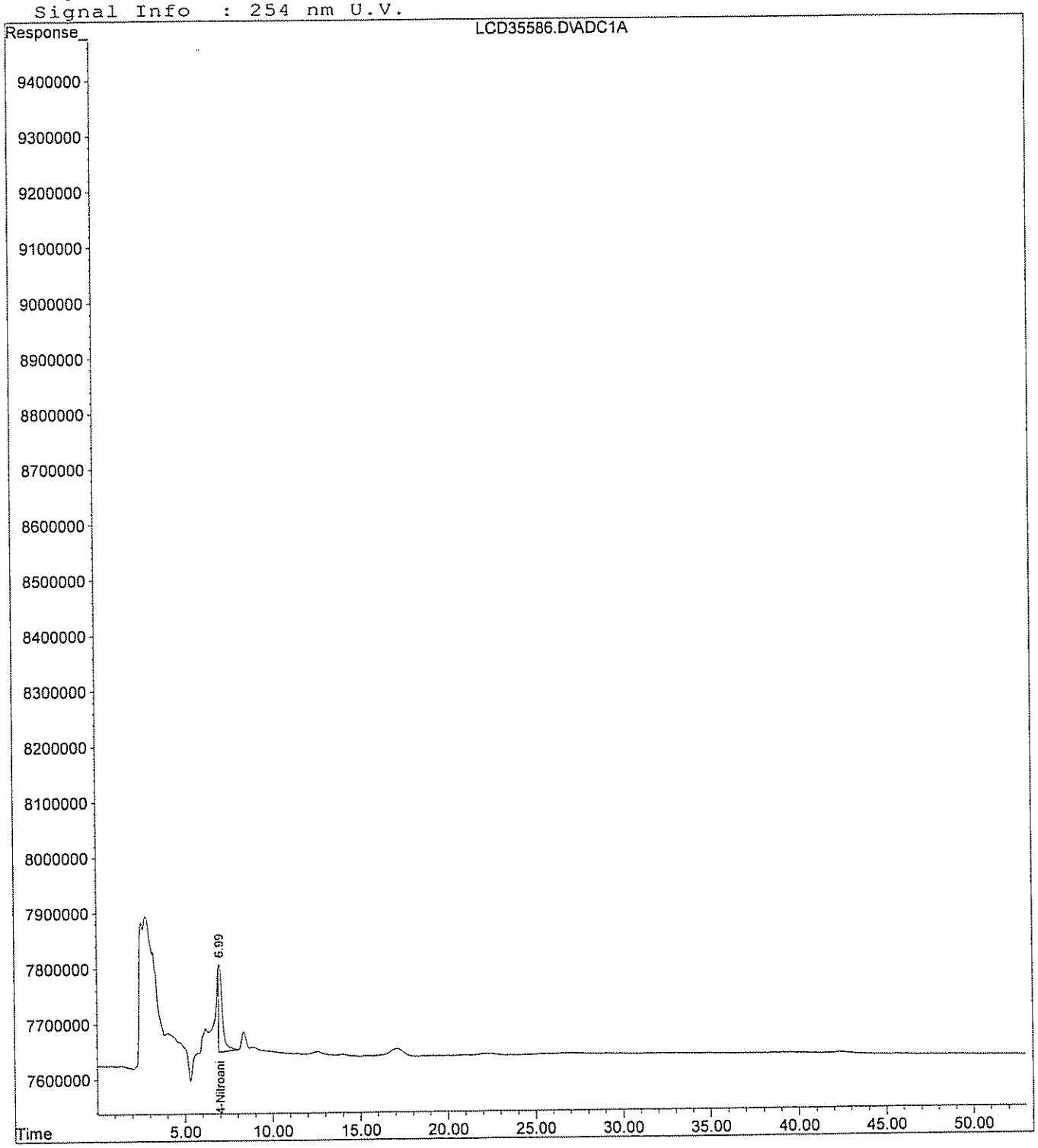
Quantitation Report

Data File : H:\LCDATA\LCD\030207\LCD35586.D
Acq On : 2 Mar 2007 22:30
Sample : 702113-001-001-1/1
Misc : SOIL.SHAW
IntFile : events.e
Quant Time: Mar 5 12:51 2007 Quant Results File: 71248330.RES

Vial: 10
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Mon Mar 05 09:17:54 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\030507\LCD35614.D
Acq On : 5 Mar 2007 10:40
Sample : 702113-001
Misc : SOIL.SHAW
IntFile : events.e
Quant Time: Mar 5 12:50 2007 Quant Results File: 7125CON.RES

Vial: 2
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Fri Feb 16 08:55:47 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : POLAR RP
Signal Info : 254 nm U.V.

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
2) S 4-Nitroaniline	8.53	18554999	162.207 ng/mlm
Spiked Amount 300.000	Range 52 - 154	Recovery =	54.07%

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

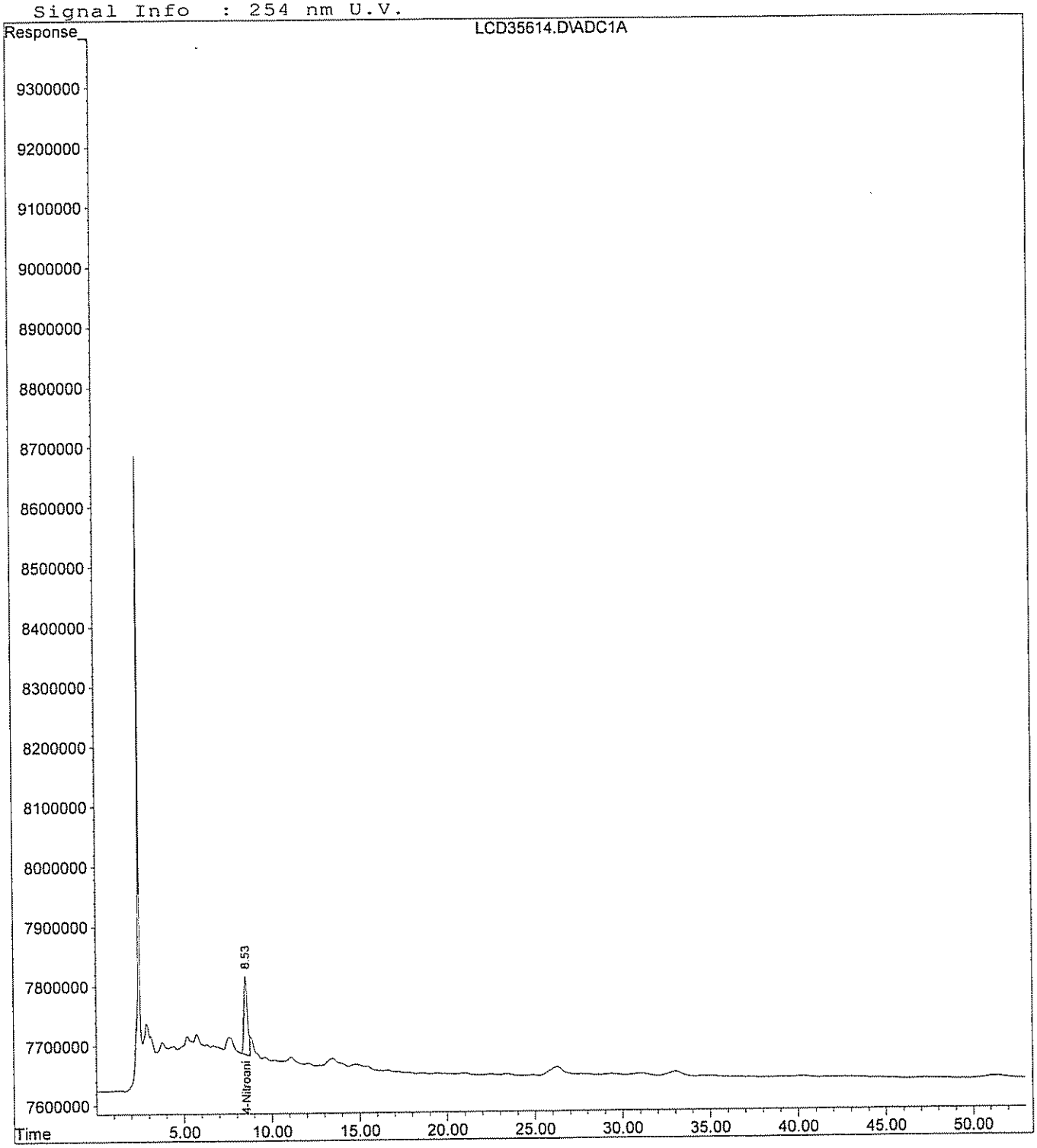
Quantitation Report

Data File : H:\LCDATA\LCD\030507\LCD35614.D
Acq On : 5 Mar 2007 10:40
Sample : 702113-001
Misc : SOIL.SHAW
IntFile : events.e
Quant Time: Mar 5 12:50 2007 Quant Results File: 7125CON.RES

Vial: 2
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Fri Feb 16 08:55:47 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : POLAR RP
Signal Info : 254 nm U.V.



Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\030207\0302NG\LCD35586.D Vial: 10
Acq On : 2 Mar 2007 22:30 Operator: SS
Sample : 702113-001-001-1/1 Inst : LCD
Misc : SOIL.SHAW Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 5 10:12 2007 Quant Results File: 010907NG.RES

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1) S 4-NITROANILINE	6.99	22706955	174.234	PPB	m
Spiked Amount 300.000		Recovery =	58.08%		
Target Compounds					
2) M NITROGLYCERINE	0.00	0	N.D.	PPM	

(f)=RT Delta > 1/2 Window (m)=manual int.
LCD35586.D 010907NG.M Mon Mar 05 10:18:18 2007 NP1 Page 1

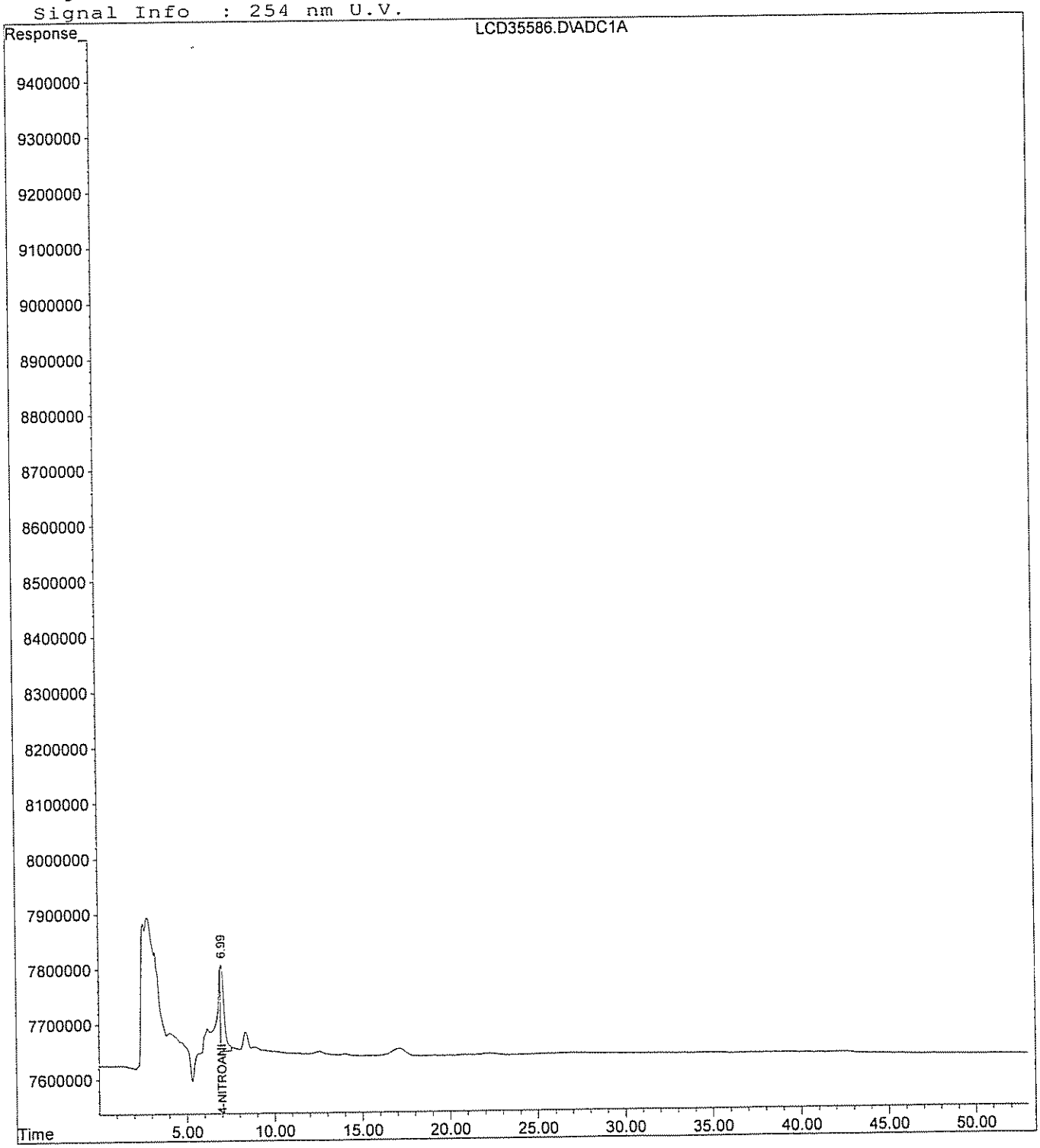
Quantitation Report

Data File : H:\LCDATA\LCD\030207\0302NG\LCD35586.D
Acq On : 2 Mar 2007 22:30
Sample : 702113-001-001-1/1
Misc : SOIL.SHAW
IntFile : events.e
Quant Time: Mar 5 10:12 2007 Quant Results File: 010907NG.RES

Vial: 10
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



GPL Laboratories

GPL
FORM I
ANALYSIS DATA SHEET

SAMPLE NO
NWO-039-0007

Lab Name :	GPL Laboratories	Client. :	Shaw E&I, Inc
Lab Code :	GPL	SAS NO. :	
Case No. :		SDG NO :	702113
Matrix : (Soil / Water)	SOIL	Lab Sample ID :	702113-002-002-1/1
Sample Volume :	10.02	Lab File ID :	LCD35587.D
% Moisture:		Date Received	02/23/2007
Extraction:	EXT_SW8330	Date Extracted:	02/27/2007
Extract Volume:	40 mL	Date Analyzed	03/02/2007
Injection Volume :	µL	Dilution Factor :	1
GPC Clean up (Y/N):	pH:		

Concentration Units (ug/L or ug/kg dry weight) : mg/kg

CAS NO	COMPOUND		Q
99-35-4	1,3,5-Trinitrobenzene	0.040	U
99-65-0	1,3-Dinitrobenzene	0.040	U
118-96-7	2,4,6-Trinitrotoluene	0.040	U
121-14-2	2,4-Dinitrotoluene	0.040	U
606-20-2	2,6-Dinitrotoluene	0.040	U
35572-78-2	2-Amino-4,6-Dinitrotoluene	0.040	U
19406-51-0	4-Amino-2,6-Dinitrotoluene	0.040	U
2691-41-0	HMX	0.080	U
98-95-3	Nitrobenzene	0.040	U
121-82-4	RDX	0.080	U
479-45-8	Tetryl	0.080	U
99-08-1	m-Nitrotoluene	0.080	U
88-72-2	o-Nitrotoluene	0.080	U
99-99-0	p-Nitrotoluene	0.080	U

FORM I SW8330A_SHAW

GPL Laboratories

GPL
FORM 1
ANALYSIS DATA SHEET

SAMPLE NO
NWO-039-0007

Lab Name :	GPL Laboratories	Client. :	Shaw E&I, Inc
Lab Code :	GPL	SAS NO. :	
Case No. :		SDG NO :	702113
Matrix : (Soil / Water)	SOIL	Lab Sample ID :	702113-002-002-1/1
Sample Volume :	10.02	Lab File ID :	LCD35587.D
% Moisture:		Date Received	02/23/2007
Extraction:	EXT_SW8330	Date Extracted:	02/27/2007
Extract Volume:	40 mL	Date Analyzed	03/02/2007
Injection Volume :	100 µ L	Dilution Factor :	1
GPC Clean up (Y/N):	pH:		

Concentration Units (ug/L or ug/kg dry weight) : mg/kg

CAS NO	COMPOUND		Q
55-63-0	Nitroglycerine	4.0	U

FORM I SW8330

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\030207\LCD35587.D Vial: 11
Acq On : 2 Mar 2007 23:27 Operator: SS
Sample : 702113-002-002-1/1 Inst : LCD
Misc : SOIL.SHAW Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 9:45 2007 Quant Results File: 71248330.RES

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Mon Mar 05 09:17:54 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

		Compound	R.T.	Response	Conc	Units
System Monitoring Compounds						
2)	S	4-Nitroaniline	7.01	20701459	158.517	ng/mlm
Spiked Amount 150.000 Range 52 - 154 Recovery = 105.68%						
Target Compounds						
1)	T	HMX	0.00	0	N.D.	ng/ml
3)	T	1,3,5-Trinitrobenzene	0.00	0	N.D.	ng/ml
4)	T	Tetryl	0.00	0	N.D.	ng/ml
5)	T	2,4,6-Trinitrotoluene	0.00	0	N.D.	ng/ml
6)	T	4-Amino-2,6-Dinitrotoluene	0.00	0	N.D.	ng/ml
7)	T	2,6-Dinitrotoluene	0.00	0	N.D.	ng/ml
8)	T	4-Nitrotoluene	0.00	0	N.D.	ng/ml
9)	M	RDX	0.00	0	N.D.	ng/mld
10)	M	1,3-Dinitrobenzene	0.00	0	N.D.	ng/mld
11)	M	Nitrobenzene	0.00	0	N.D.	ng/ml
12)	M	2-Amino-4,6-Dinitrotoluene	0.00	0	N.D.	ng/ml
13)	M	2,4-Dinitrotoluene	0.00	0	N.D.	ng/ml
14)	M	2-Nitrotoluene	0.00	0	N.D.	ng/ml
15)	M	3-Nitrotoluene	0.00	0	N.D.	ng/ml

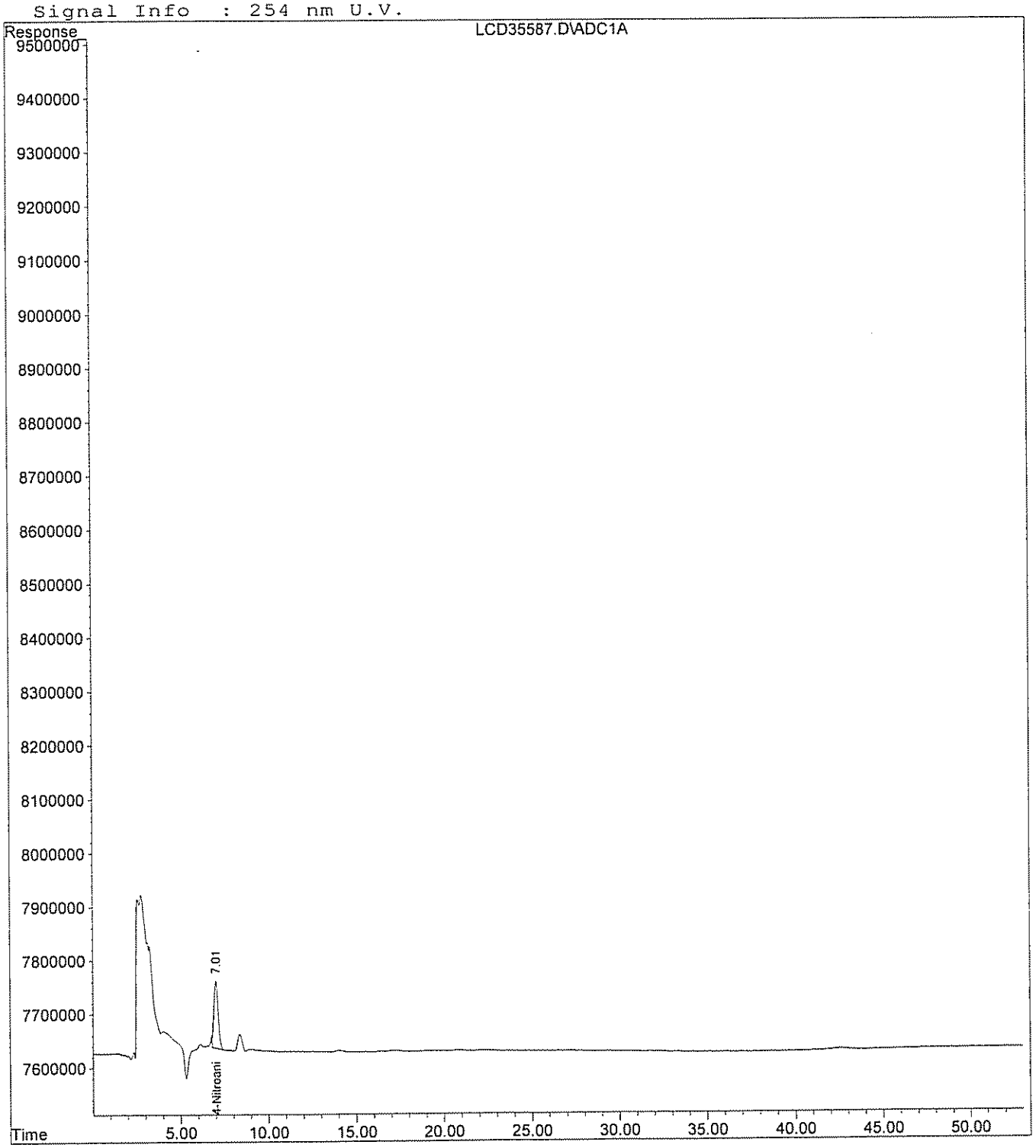
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCD\030207\LCD35587.D Vial: 11
Acq On : 2 Mar 2007 23:27 Operator: SS
Sample : 702113-002-002-1/1 Inst : LCD
Misc : SOIL.SHAW Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 9:45 2007 Quant Results File: 71248330.RES

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Mon Mar 05 09:17:54 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\030507\LCD35627.D
Acq On : 5 Mar 2007 23:07
Sample : 702113-002
Misc : SOIL.SHAW
IntFile : events.e
Quant Time: Mar 6 9:40 2007 Quant Results File: 7125CON.RES

Vial: 15
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Fri Feb 16 08:55:47 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : POLAR RP
Signal Info : 254 nm U.V.

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
2) S 4-Nitroaniline	8.53	18851124	164.796 ng/ml
Spiked Amount 300.000 Range 52 - 154 Recovery = 54.93%			
Target Compounds			

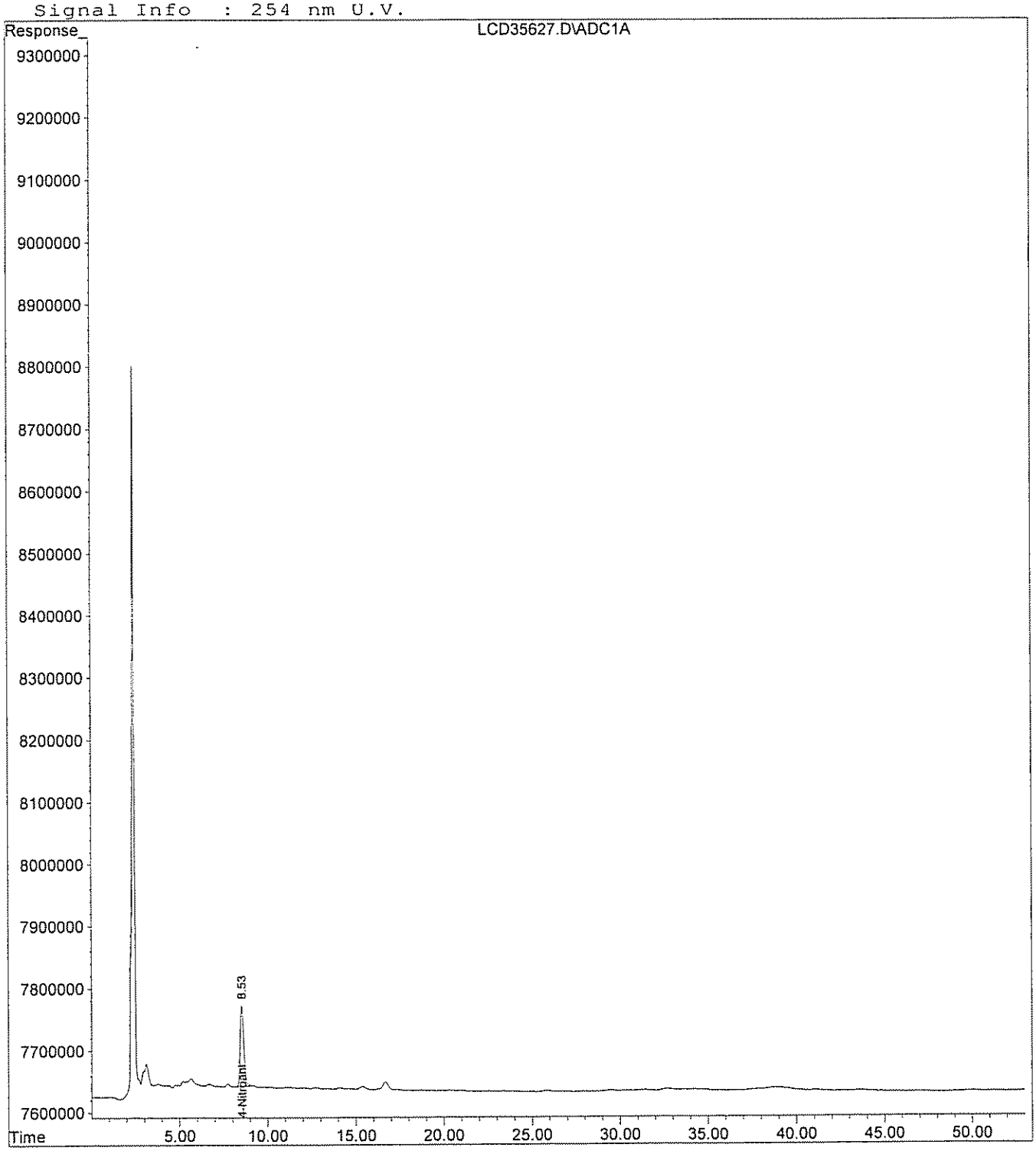
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCD\030507\LCD35627.D Vial: 15
Acq On : 5 Mar 2007 23:07 Operator: SS
Sample : 702113-002 Inst : LCD
Misc : SOIL.SHAW Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 9:40 2007 Quant Results File: 7125CON.RES

Quant Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Fri Feb 16 08:55:47 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : POLAR RP
Signal Info : 254 nm U.V.



Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\030207\0302NG\LCD35587.D Vial: 11
Acq On : 2 Mar 2007 23:27 Operator: SS
Sample : 702113-002-002-1/1 Inst : LCD
Misc : SOIL.SHAW Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 5 10:12 2007 Quant Results File: 010907NG.RES

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1) S 4-NITROANILINE	7.01	22508789	172.714	PPB	m
Spiked Amount 300.000		Recovery =	57.57%		
Target Compounds					
2) M NITROGLYCERINE	0.00	0	N.D.	PPM	

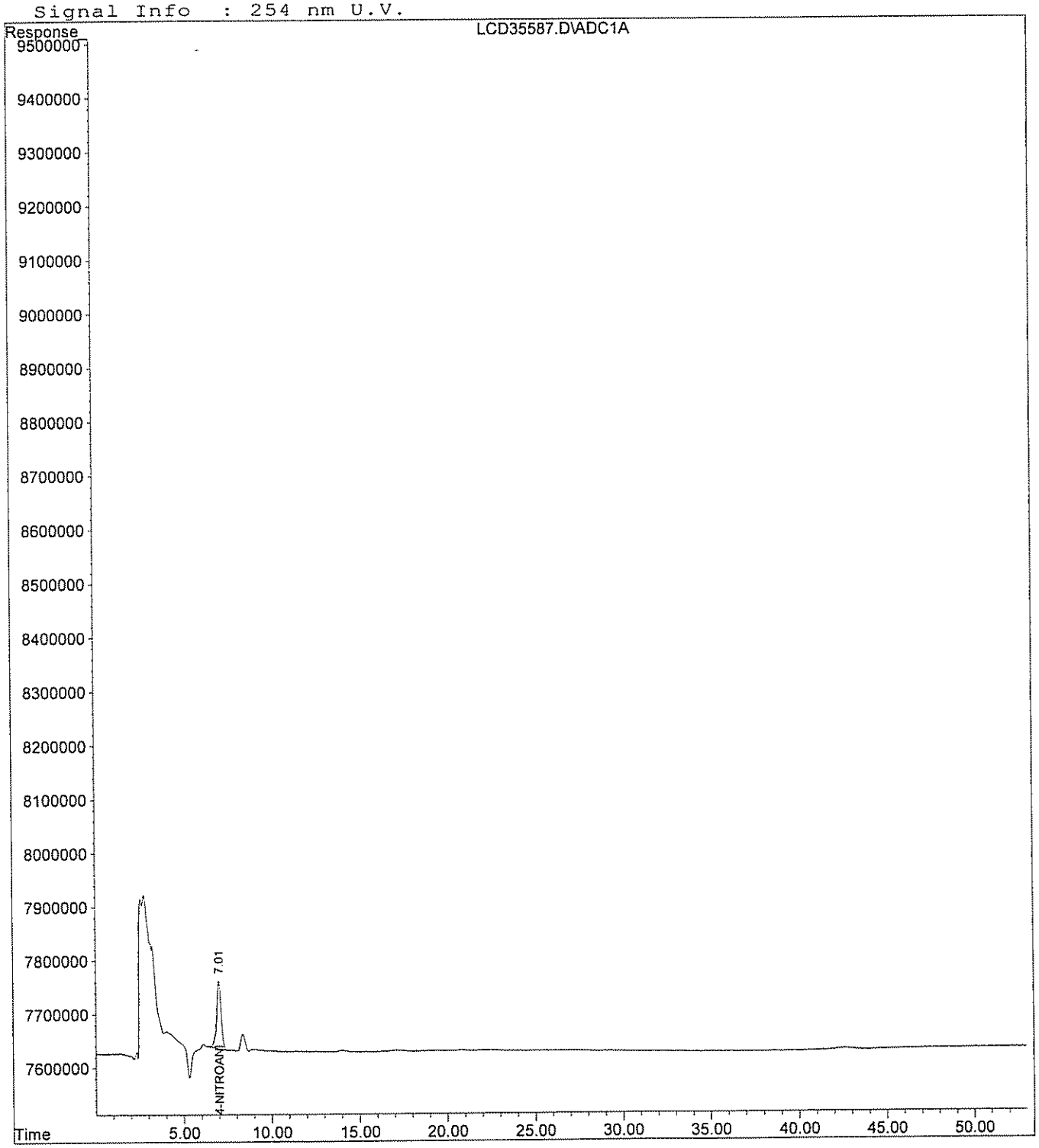
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCD\030207\0302NG\LCD35587.D Vial: 11
Acq On : 2 Mar 2007 23:27 Operator: SS
Sample : 702113-002-002-1/1 Inst : LCD
Misc : SOIL.SHAW Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 5 10:12 2007 Quant Results File: 010907NG.RES

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



GPL Laboratories

GPL
FORM 1
ANALYSIS DATA SHEET

SAMPLE NO
NWO-039-0008

Lab Name :	GPL Laboratories	Client. :	Shaw E&I, Inc
Lab Code :	GPL	SAS NO. :	
Case No. :		SDG NO :	702113
Matrix : (Soil / Water)	SOIL	Lab Sample ID :	702113-003-003-1/1
Sample Volume :	10.02	Lab File ID :	LCD35588.D
% Moisture:		Date Received	02/23/2007
Extraction:	EXT_SW8330	Date Extracted:	02/27/2007
Extract Volume:	40 mL	Date Analyzed	03/03/2007
Injection Volume :	µL	Dilution Factor :	1
GPC Clean up (Y/N):	pH:		

Concentration Units (ug/L or ug/kg dry weight) : mg/kg

CAS NO	COMPOUND		Q
99-35-4	1,3,5-Trinitrobenzene	0.040	U
99-65-0	1,3-Dinitrobenzene	0.040	U
118-96-7	2,4,6-Trinitrotoluene	0.040	U
121-14-2	2,4-Dinitrotoluene	0.040	U
606-20-2	2,6-Dinitrotoluene	0.040	U
35572-78-2	2-Amino-4,6-Dinitrotoluene	0.040	U
19406-51-0	4-Amino-2,6-Dinitrotoluene	0.040	U
2691-41-0	HMX	0.080	U
98-95-3	Nitrobenzene	0.040	U
121-82-4	RDX	0.080	U
479-45-8	Tetryl	0.080	U
99-08-1	m-Nitrotoluene	0.080	U
88-72-2	o-Nitrotoluene	0.080	U
99-99-0	p-Nitrotoluene	0.080	U

FORM I SW8330A_SHAW

GPL Laboratories

GPL
FORM 1
ANALYSIS DATA SHEET

SAMPLE NO
NWO-039-0008

Lab Name :	GPL Laboratories	Client. :	Shaw E&I, Inc
Lab Code :	GPL	SAS NO. :	
Case No. :		SDG NO :	702113
Matrix : (Soil / Water)	SOIL	Lab Sample ID :	702113-003-003-1/1
Sample Volume :	10.02	Lab File ID :	LCD35588.D
% Moisture:		Date Received	02/23/2007
Extraction:	EXT_SW8330	Date Extracted:	02/27/2007
Extract Volume:	40 mL	Date Analyzed	03/03/2007
Injection Volume :	100 µL	Dilution Factor :	1
GPC Clean up (Y/N):	pH:		

Concentration Units (ug/L or ug/kg dry weight) : mg/kg

CAS NO	COMPOUND		Q
55-63-0	Nitroglycerine	4.0	U

FORM I SW8330

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\030207\LCD35588.D
Acq On : 3 Mar 2007 00:25
Sample : 702113-003-003-1/1
Misc : SOIL.SHAW
IntFile : events.e
Quant Time: Mar 6 9:46 2007 Quant Results File: 71248330.RES

Vial: 12
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Mon Mar 05 09:17:54 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
2) S 4-Nitroaniline	6.97	45554205	348.822	ng/mlm
Spiked Amount 150.000 Range 52 - 154		Recovery =	232.55%#	
Target Compounds				
1) T HMX	0.00	0	N.D.	ng/ml
3) T 1,3,5-Trinitrobenzene	0.00	0	N.D.	ng/ml
4) T Tetryl	0.00	0	N.D.	ng/ml
5) T 2,4,6-Trinitrotoluene	0.00	0	N.D.	ng/ml
6) T 4-Amino-2,6-Dinitrotoluene	0.00	0	N.D.	ng/ml
7) T 2,6-Dinitrotoluene	0.00	0	N.D.	ng/ml
8) T 4-Nitrotoluene	0.00	0	N.D.	ng/ml
9) M RDX	0.00	0	N.D.	ng/mld
10) M 1,3-Dinitrobenzene	0.00	0	N.D.	ng/mld
11) M Nitrobenzene	0.00	0	N.D.	ng/ml
12) M 2-Amino-4,6-Dinitrotoluene	0.00	0	N.D.	ng/ml
13) M 2,4-Dinitrotoluene	0.00	0	N.D.	ng/ml
14) M 2-Nitrotoluene	0.00	0	N.D.	ng/ml
15) M 3-Nitrotoluene	0.00	0	N.D.	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

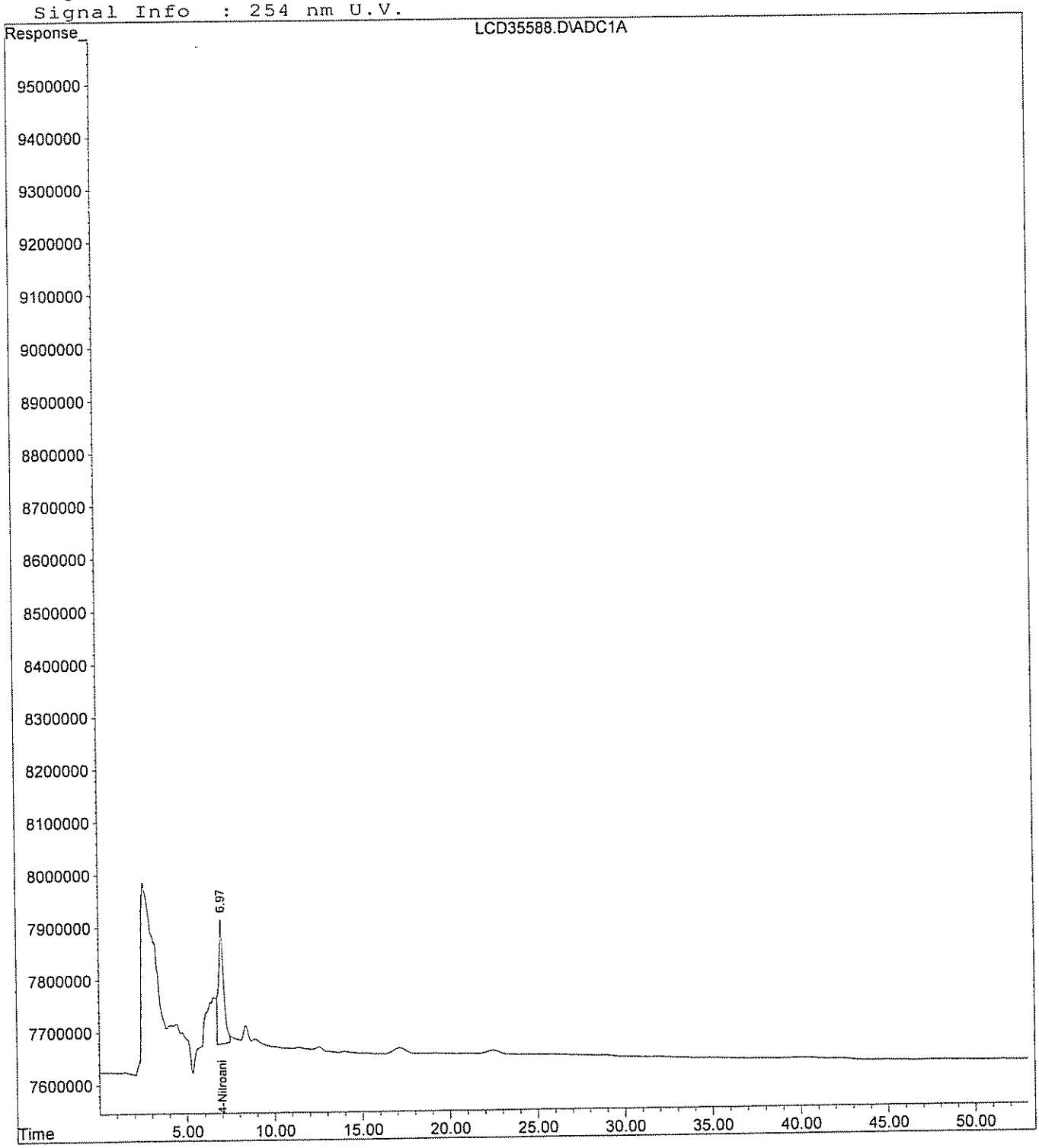
Quantitation Report

Data File : H:\LCDATA\LCD\030207\LCD35588.D
Acq On : 3 Mar 2007 00:25
Sample : 702113-003-003-1/1
Misc : SOIL.SHAW
IntFile : events.e
Quant Time: Mar 6 9:46 2007 Quant Results File: 71248330.RES

Vial: 12
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Mon Mar 05 09:17:54 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\030507\LCD35628.D
Acq On : 6 Mar 2007 00:04
Sample : 702113-003
Misc : SOIL.SHAW
IntFile : events.e
Quant Time: Mar 6 9:41 2007 Quant Results File: 7125CON.RES

Vial: 16
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Fri Feb 16 08:55:47 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : POLAR RP
Signal Info : 254 nm U.V.

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
2) S 4-Nitroaniline	8.54	19293545	168.663 ng/mlm
Spiked Amount 300.000 Range 52 - 154 Recovery = 56.22%			

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

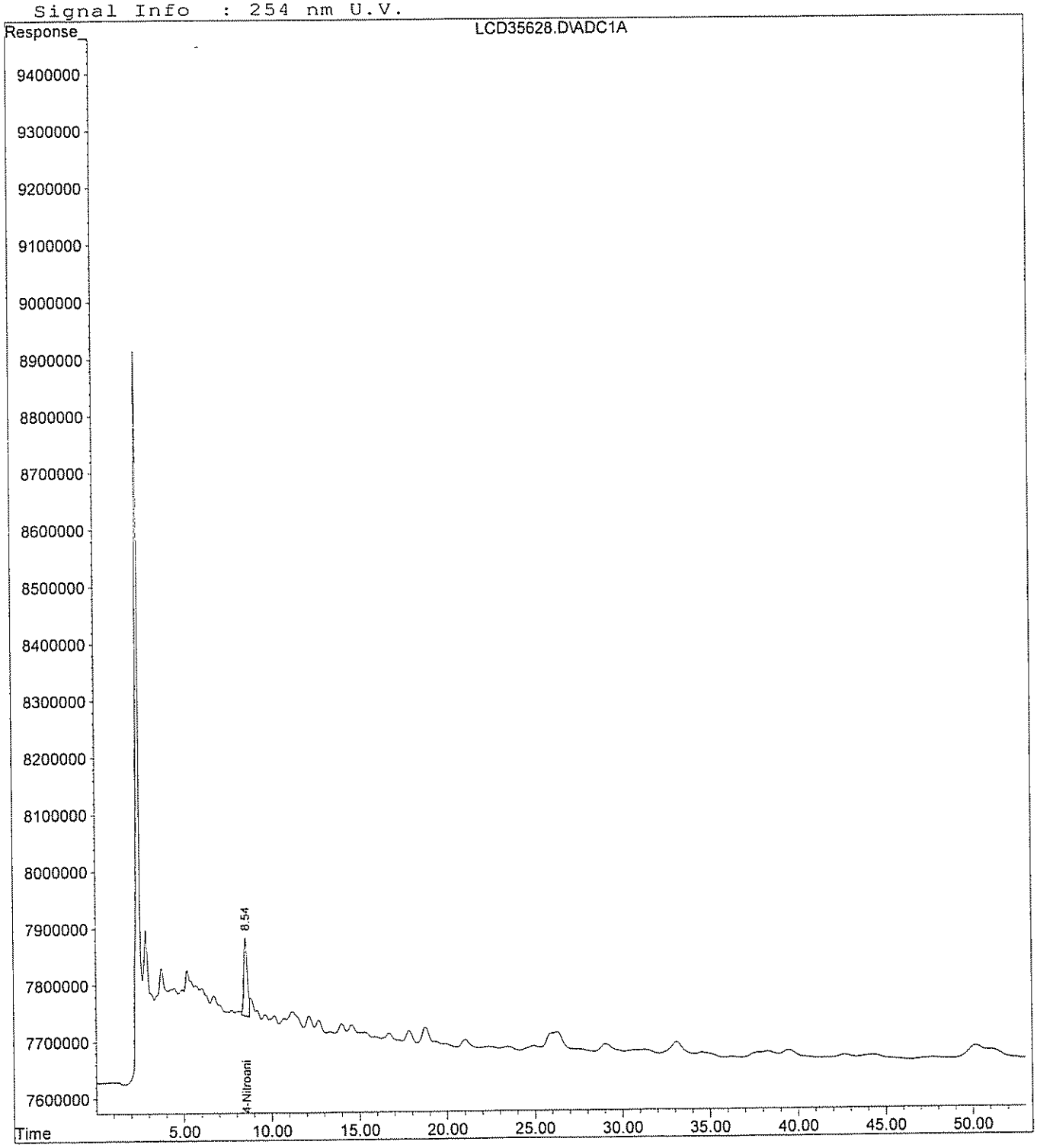
Quantitation Report

Data File : H:\LCDATA\LCD\030507\LCD35628.D
Acq On : 6 Mar 2007 00:04
Sample : 702113-003
Misc : SOIL.SHAW
IntFile : events.e
Quant Time: Mar 6 9:41 2007 Quant Results File: 7125CON.RES

Vial: 16
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Fri Feb 16 08:55:47 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : POLAR RP
Signal Info : 254 nm U.V.



Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\030207\0302NG\LCD35588.D Vial: 12
Acq On : 3 Mar 2007 00:25 Operator: SS
Sample : 702113-003-003-1/1 Inst : LCD
Misc : SOIL.SHAW Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 5 10:13 2007 Quant Results File: 010907NG.RES

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1) S 4-NITROANILINE	6.97	49483829	379.698	PPB	m
Spiked Amount 300.000		Recovery =	126.57%		
Target Compounds					
2) M NITROGLYCERINE	0.00	0	N.D.	PPM	

(f)=RT Delta > 1/2 Window (m)=manual int.
LCD35588.D 010907NG.M Mon Mar 05 10:18:27 2007 NP1 Page 1

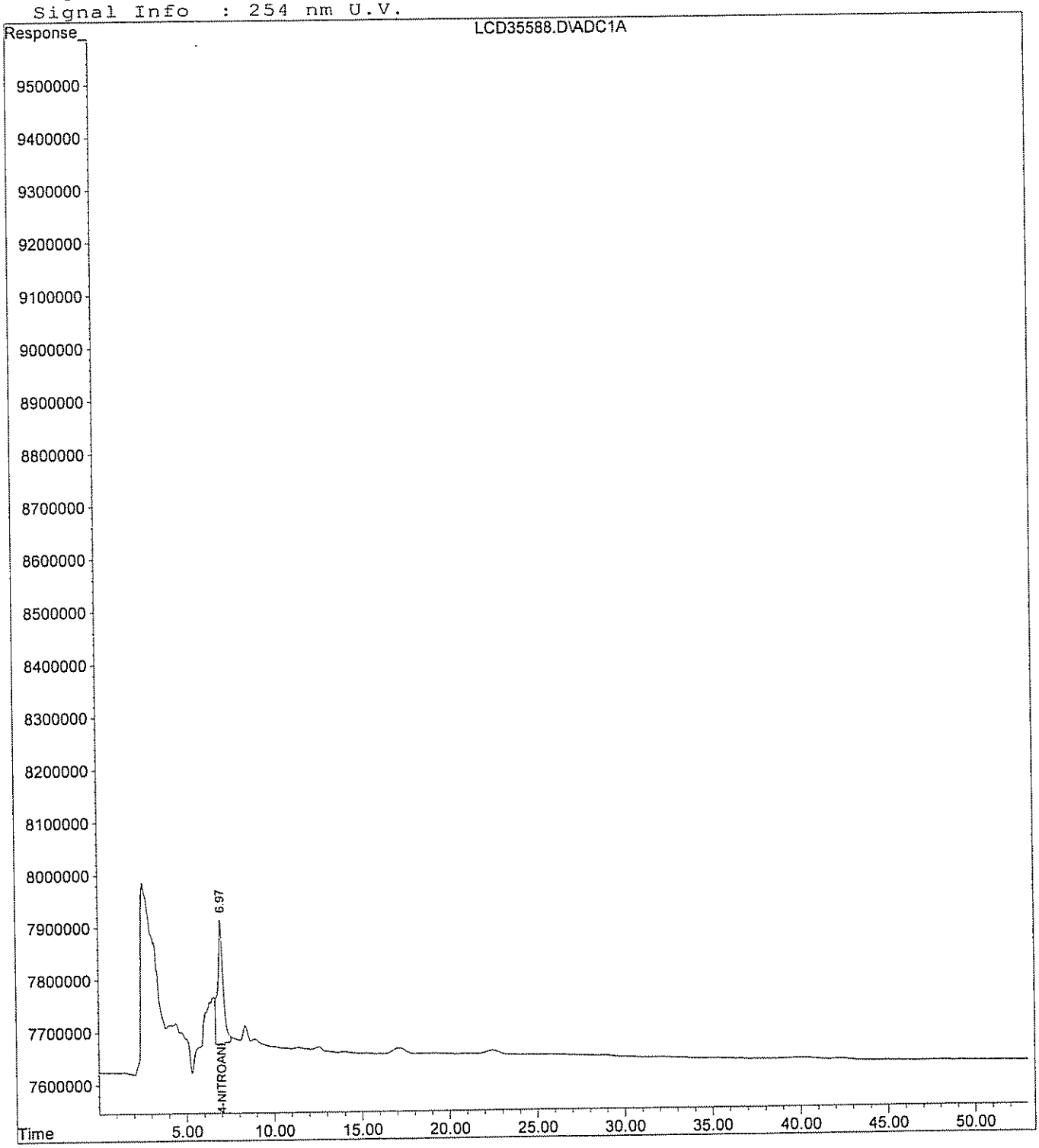
Quantitation Report

Data File : H:\LCDATA\LCD\030207\0302NG\LCD35588.D
Acq On : 3 Mar 2007 00:25
Sample : 702113-003-003-1/1
Misc : SOIL.SHAW
IntFile : events.e
Quant Time: Mar 5 10:13 2007 Quant Results File: 010907NG.RES

Vial: 12
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



GPL Laboratories

GPL
FORM 1
ANALYSIS DATA SHEET

SAMPLE NO
NWO-039-0009

Lab Name :	GPL Laboratories	Client. :	Shaw E&I, Inc
Lab Code :	GPL	SAS NO. :	
Case No. :		SDG NO :	702113
Matrix : (Soil / Water)	SOIL	Lab Sample ID :	702113-004-004-1/1
Sample Volume :	10.03	Lab File ID :	LCD35592.D
% Moisture:		Date Received	02/23/2007
Extraction:	EXT_SW8330	Date Extracted:	02/27/2007
Extract Volume:	40 mL	Date Analyzed	03/03/2007
Injection Volume :	µL	Dilution Factor :	1
GPC Clean up (Y/N):	pH:		

Concentration Units (ug/L or ug/kg dry weight) : mg/kg

CAS NO	COMPOUND		Q
99-35-4	1,3,5-Trinitrobenzene	0.040	U
99-65-0	1,3-Dinitrobenzene	0.040	U
118-96-7	2,4,6-Trinitrotoluene	0.040	U
121-14-2	2,4-Dinitrotoluene	0.040	U
606-20-2	2,6-Dinitrotoluene	0.040	U
35572-78-2	2-Amino-4,6-Dinitrotoluene	0.040	U
19406-51-0	4-Amino-2,6-Dinitrotoluene	0.040	U
2691-41-0	HMX	0.080	U
98-95-3	Nitrobenzene	0.040	U
121-82-4	RDX	0.080	U
479-45-8	Tetryl	0.080	U
99-08-1	m-Nitrotoluene	0.080	U
88-72-2	o-Nitrotoluene	0.080	U
99-99-0	p-Nitrotoluene	0.080	U

FORM I SW8330A_SHAW

GPL Laboratories

GPL
FORM 1
ANALYSIS DATA SHEET

SAMPLE NO
NWO-039-0009

Lab Name :	GPL Laboratories	Client. :	Shaw E&I, Inc
Lab Code :	GPL	SAS NO. :	
Case No. :		SDG NO :	702113
Matrix : (Soil / Water)	SOIL	Lab Sample ID :	702113-004-004-1/1
Sample Volume :	10.03	Lab File ID :	LCD35592.D
% Moisture:		Date Received	02/23/2007
Extraction:	EXT_SW8330	Date Extracted:	02/27/2007
Extract Volume:	40 mL	Date Analyzed	03/03/2007
Injection Volume :	100 µL	Dilution Factor :	1
GPC Clean up (Y/N):	pH:		

Concentration Units (ug/L or ug/kg dry weight) : mg/kg

CAS NO	COMPOUND		Q
55-63-0	Nitroglycerine	4.0	U

FORM I SW8330

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\030207\LCD35592.D
Acq On : 3 Mar 2007 4:14
Sample : 702113-004-004-1/1
Misc : SOIL.SHAW
IntFile : events.e
Quant Time: Mar 6 9:46 2007 Quant Results File: 71248330.RES

Vial: 16
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Mon Mar 05 09:17:54 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
2) S 4-Nitroaniline	6.97	31667836	242.490	ng/mlm
Spiked Amount 150.000 Range 52 - 154 Recovery = 161.66%#				
Target Compounds				
1) T HMX	0.00	0	N.D.	ng/ml
3) T 1,3,5-Trinitrobenzene	0.00	0	N.D.	ng/ml
4) T Tetryl	0.00	0	N.D.	ng/ml
5) T 2,4,6-Trinitrotoluene	0.00	0	N.D.	ng/ml
6) T 4-Amino-2,6-Dinitrotoluene	0.00	0	N.D.	ng/ml
7) T 2,6-Dinitrotoluene	0.00	0	N.D.	ng/ml
8) T 4-Nitrotoluene	0.00	0	N.D.	ng/ml
9) M RDX	0.00	0	N.D.	ng/mld
10) M 1,3-Dinitrobenzene	0.00	0	N.D.	ng/mld
11) M Nitrobenzene	0.00	0	N.D.	ng/ml
12) M 2-Amino-4,6-Dinitrotoluene	0.00	0	N.D.	ng/ml
13) M 2,4-Dinitrotoluene	0.00	0	N.D.	ng/ml
14) M 2-Nitrotoluene	0.00	0	N.D.	ng/ml
15) M 3-Nitrotoluene	0.00	0	N.D.	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

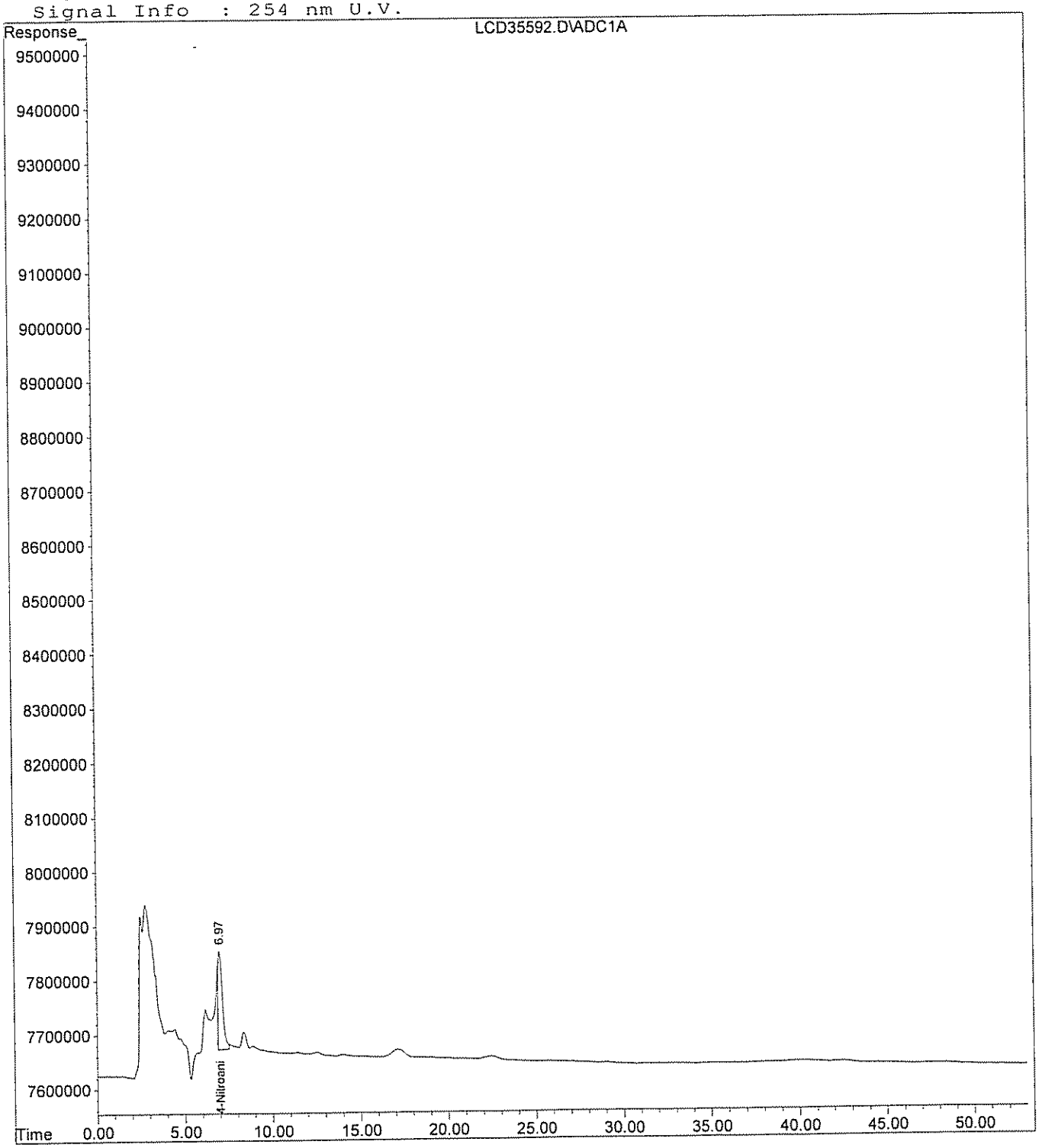
Quantitation Report

Data File : H:\LCDATA\LCD\030207\LCD35592.D
Acq On : 3 Mar 2007 4:14
Sample : 702113-004-004-1/1
Misc : SOIL.SHAW
IntFile : events.e
Quant Time: Mar 6 9:46 2007 Quant Results File: 71248330.RES

Vial: 16
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Mon Mar 05 09:17:54 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\030507\LCD35629.D
Acq On : 6 Mar 2007 1:01
Sample : 702113-004
Misc : SOIL.SHAW
IntFile : events.e
Quant Time: Mar 6 9:42 2007 Quant Results File: 7125CON.RES

Vial: 17
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Fri Feb 16 08:55:47 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : POLAR RP
Signal Info : 254 nm U.V.

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
2) S 4-Nitroaniline	8.55	20872614	182.467 ng/mlm
Spiked Amount 300.000 Range 52 - 154 Recovery = 60.82%			
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

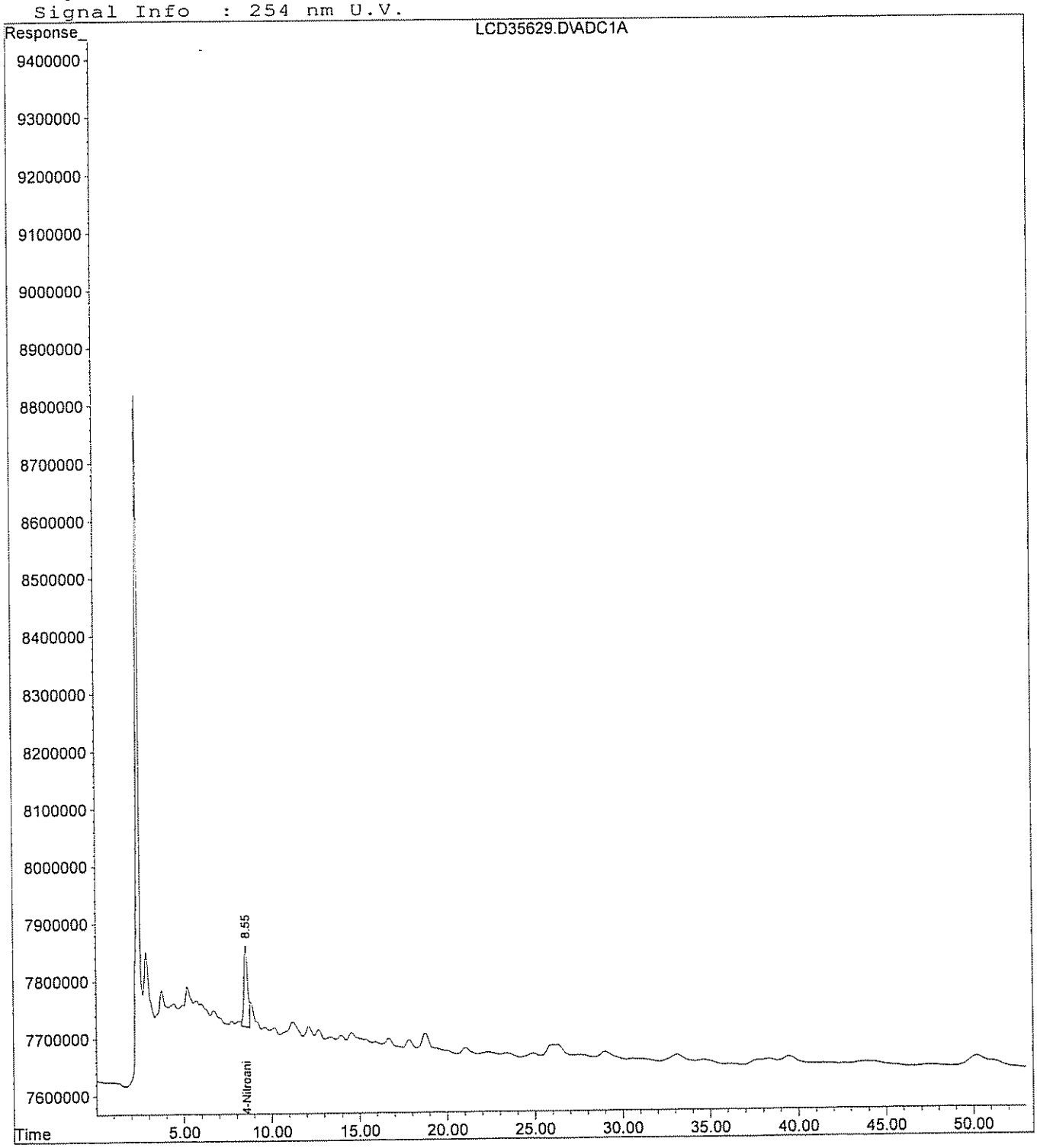
Quantitation Report

Data File : H:\LCDATA\LCD\030507\LCD35629.D
Acq On : 6 Mar 2007 1:01
Sample : 702113-004
Misc : SOIL.SHAW
IntFile : events.e
Quant Time: Mar 6 9:42 2007 Quant Results File: 7125CON.RES

Vial: 17
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Fri Feb 16 08:55:47 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : POLAR RP
Signal Info : 254 nm U.V.



Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\030207\0302NG\LCD35592.D Vial: 16
Acq On : 3 Mar 2007 4:14 Operator: SS
Sample : 702113-004-004-1/1 Inst : LCD
Misc : SOIL.SHAW Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 5 10:14 2007 Quant Results File: 010907NG.RES

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
1) S 4-NITROANILINE	6.98	25592721	196.377	PPB
Spiked Amount 300.000		Recovery =	65.46%	
Target Compounds				
2) M NITROGLYCERINE	0.00	0	N.D.	PPM

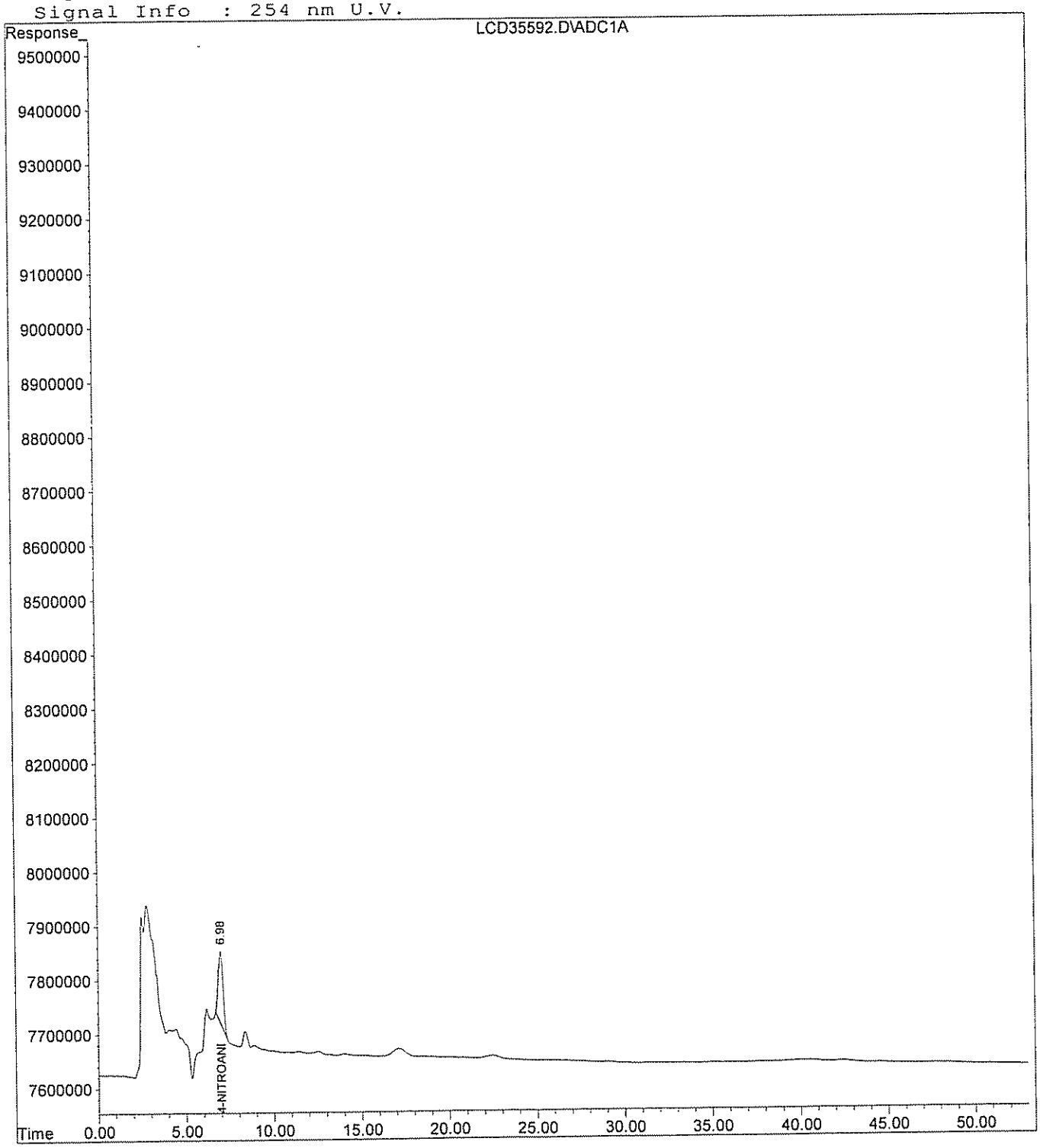
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCD\030207\0302NG\LCD35592.D Vial: 16
Acq On : 3 Mar 2007 4:14 Operator: SS
Sample : 702113-004-004-1/1 Inst : LCD
Misc : SOIL.SHAW Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 5 10:14 2007 Quant Results File: 010907NG.RES

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



GPL Laboratories

GPL
FORM 1
ANALYSIS DATA SHEET

SAMPLE NO
NWO-039-1005

Lab Name :	GPL Laboratories	Client. :	Shaw E&I, Inc
Lab Code :	GPL	SAS NO. :	
Case No. :		SDG NO :	702113
Matrix : (Soil / Water)	SOIL	Lab Sample ID :	702113-005-005-1/1
Sample Volume :	10	Lab File ID :	LCD35593.D
% Moisture:		Date Received	02/23/2007
Extraction:	EXT_SW8330	Date Extracted:	02/27/2007
Extract Volume:	40 mL	Date Analyzed	03/03/2007
Injection Volume :	µ L	Dilution Factor :	1
GPC Clean up (Y/N):	pH:		

Concentration Units (ug/L or ug/kg dry weight) : mg/kg

CAS NO	COMPOUND		Q
99-35-4	1,3,5-Trinitrobenzene	0.040	U
99-65-0	1,3-Dinitrobenzene	0.040	U
118-96-7	2,4,6-Trinitrotoluene	0.040	U
121-14-2	2,4-Dinitrotoluene	0.040	U
606-20-2	2,6-Dinitrotoluene	0.040	U
35572-78-2	2-Amino-4,6-Dinitrotoluene	0.040	U
19406-51-0	4-Amino-2,6-Dinitrotoluene	0.040	U
2691-41-0	HMX	0.080	U
98-95-3	Nitrobenzene	0.040	U
121-82-4	RDX	0.080	U
479-45-8	Tetryl	0.080	U
99-08-1	m-Nitrotoluene	0.080	U
88-72-2	o-Nitrotoluene	0.080	U
99-99-0	p-Nitrotoluene	0.080	U

FORM I SW8330A_SHAW

GPL Laboratories

GPL
FORM I
ANALYSIS DATA SHEET

SAMPLE NO
NWO-039-1005

Lab Name :	GPL Laboratories	Client. :	Shaw E&I, Inc
Lab Code :	GPL	SAS NO. :	
Case No. :		SDG NO :	702113
Matrix : (Soil / Water)	SOIL	Lab Sample ID :	702113-005-005-1/1
Sample Volume :	10	Lab File ID :	LCD35593.D
% Moisture:		Date Received	02/23/2007
Extraction:	EXT_SW8330	Date Extracted:	02/27/2007
Extract Volume:	40 mL	Date Analyzed	03/03/2007
Injection Volume :	100 µ L	Dilution Factor :	1
GPC Clean up (Y/N):	pH:		

Concentration Units (ug/L or ug/kg dry weight) : mg/kg

CAS NO	COMPOUND		Q
55-63-0	Nitroglycerine	4.0	U

FORM I SW8330

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\030207\LCD35593.D
Acq On : 3 Mar 2007 5:12
Sample : 702113-005-005-1/1
Misc : SOIL.SHAW
IntFile : events.e
Quant Time: Mar 6 9:46 2007 Quant Results File: 71248330.RES

Vial: 17
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Mon Mar 05 09:17:54 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
2) S 4-Nitroaniline	7.00	24685835	189.027	ng/ml
Spiked Amount 150.000 Range 52 - 154 Recovery = 126.02%				
Target Compounds				
1) T HMX	0.00	0	N.D.	ng/ml
3) T 1,3,5-Trinitrobenzene	0.00	0	N.D.	ng/ml
4) T Tetryl	0.00	0	N.D.	ng/ml
5) T 2,4,6-Trinitrotoluene	0.00	0	N.D.	ng/ml
6) T 4-Amino-2,6-Dinitrotoluene	0.00	0	N.D.	ng/ml
7) T 2,6-Dinitrotoluene	0.00	0	N.D.	ng/ml
8) T 4-Nitrotoluene	0.00	0	N.D.	ng/ml
9) M RDX	0.00	0	N.D.	ng/ml
10) M 1,3-Dinitrobenzene	0.00	0	N.D.	ng/mld
11) M Nitrobenzene	0.00	0	N.D.	ng/ml
12) M 2-Amino-4,6-Dinitrotoluene	0.00	0	N.D.	ng/ml
13) M 2,4-Dinitrotoluene	0.00	0	N.D.	ng/ml
14) M 2-Nitrotoluene	0.00	0	N.D.	ng/ml
15) M 3-Nitrotoluene	0.00	0	N.D.	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

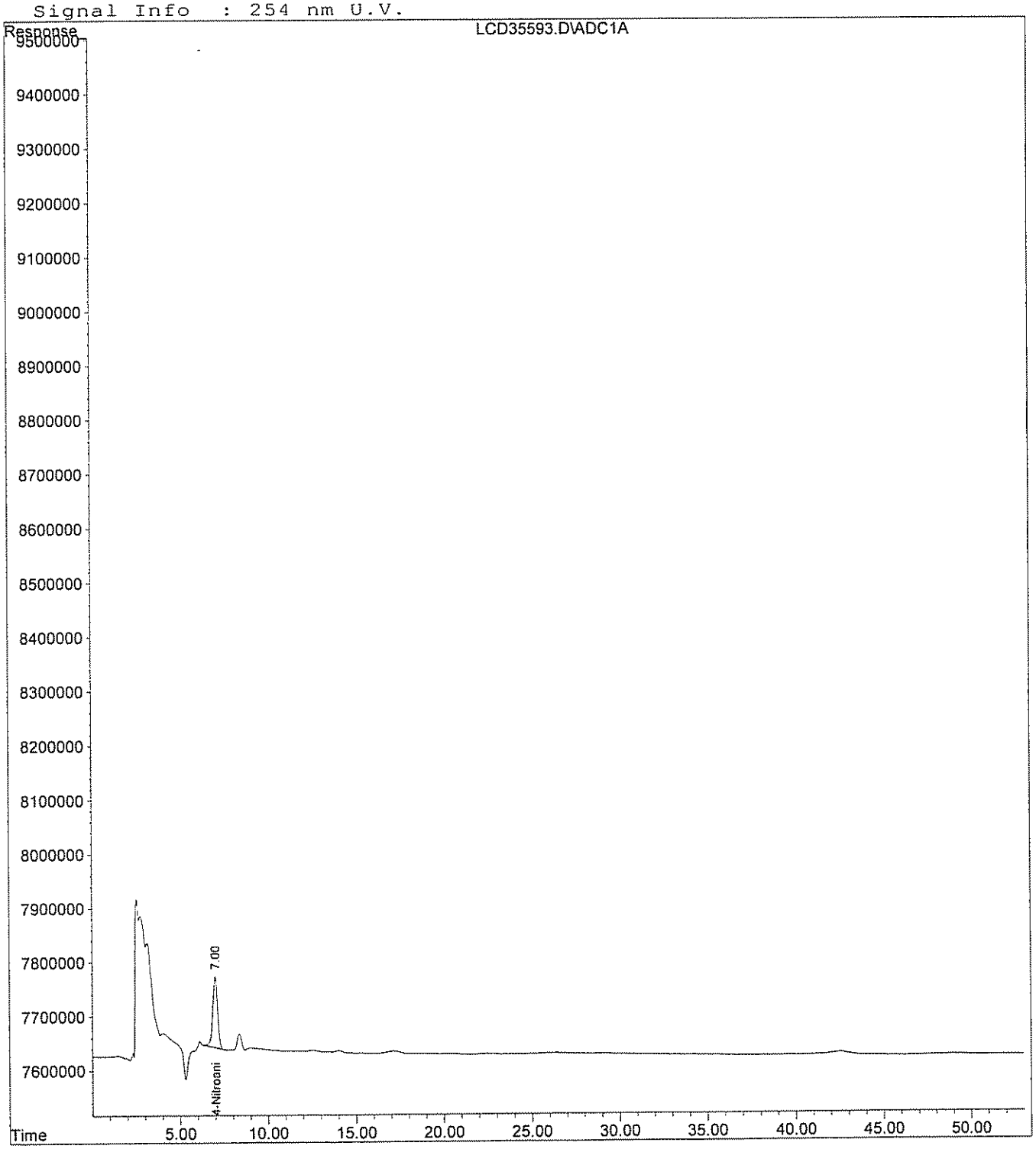
Quantitation Report

Data File : H:\LCDATA\LCD\030207\LCD35593.D
Acq On : 3 Mar 2007 5:12
Sample : 702113-005-005-1/1
Misc : SOIL.SHAW
IntFile : events.e
Quant Time: Mar 6 9:46 2007 Quant Results File: 71248330.RES

Vial: 17
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Mon Mar 05 09:17:54 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\030507\LCD35630.D
Acq On : 6 Mar 2007 1:59
Sample : 702113-005
Misc : SOIL.SHAW
IntFile : events.e
Quant Time: Mar 6 9:43 2007 Quant Results File: 7125CON.RES

Vial: 18
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Fri Feb 16 08:55:47 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : POLAR RP
Signal Info : 254 nm U.V.

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
2) S 4-Nitroaniline	8.54	21754691	190.178 ng/mlm
Spiked Amount 300.000 Range 52 - 154 Recovery = 63.39%			
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.
LCD35630.D 7125CON.M Tue Mar 06 09:44:33 2007 NP1 Page 1

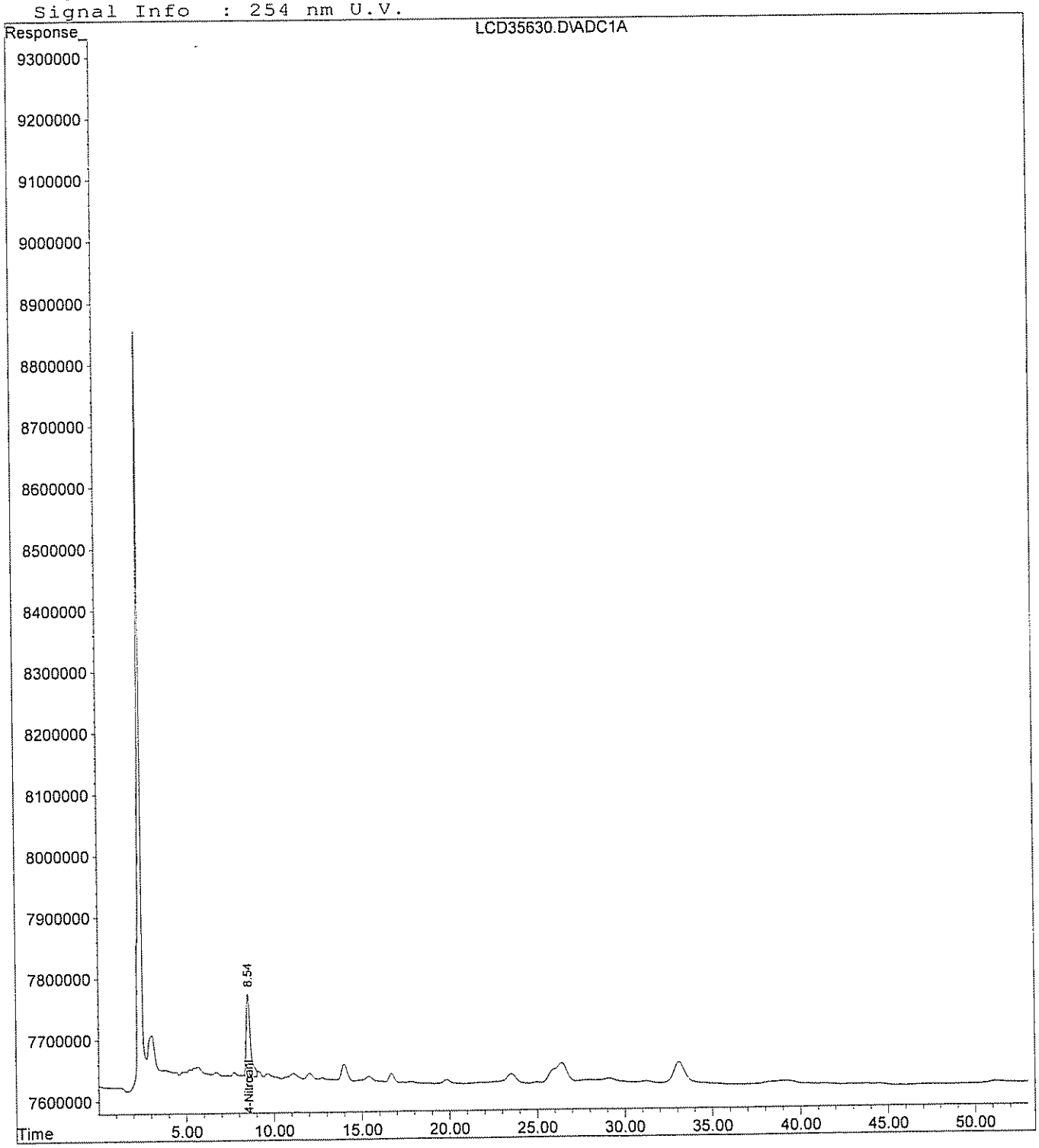
Quantitation Report

Data File : H:\LCDATA\LCD\030507\LCD35630.D
Acq On : 6 Mar 2007 1:59
Sample : 702113-005
Misc : SOIL.SHAW
IntFile : events.e
Quant Time: Mar 6 9:43 2007 Quant Results File: 7125CON.RES

Vial: 18
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Fri Feb 16 08:55:47 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : POLAR RP
Signal Info : 254 nm U.V.



Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\030207\0302NG\LCD35593.D Vial: 17
Acq On : 3 Mar 2007 5:12 Operator: SS
Sample : 702113-005-005-1/1 Inst : LCD
Misc : SOIL.SHAW Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 5 10:15 2007 Quant Results File: 010907NG.RES

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S 4-NITROANILINE	7.00	20164891	154.729 PPB
Spiked Amount 300.000		Recovery =	51.58%
Target Compounds			
2) M NITROGLYCERINE	0.00	0	N.D. PPM

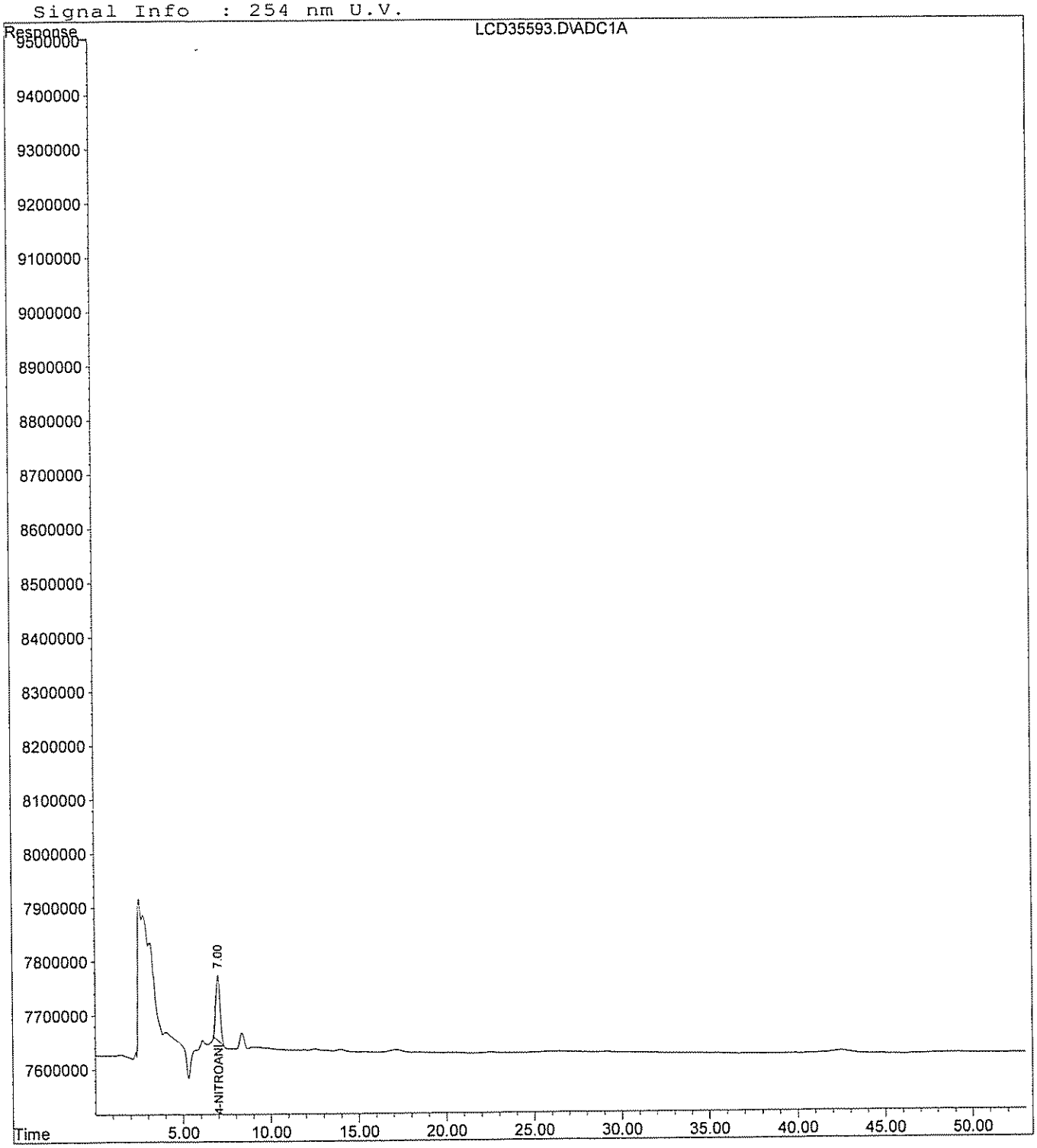
(f)=RT Delta > 1/2 Window (m)=manual int.
LCD35593.D 010907NG.M Mon Mar 05 10:18:37 2007 NP1 Page 1

Quantitation Report

Data File : H:\LCDATA\LCD\030207\0302NG\LCD35593.D Vial: 17
Acq On : 3 Mar 2007 5:12 Operator: SS
Sample : 702113-005-005-1/1 Inst : LCD
Misc : SOIL.SHAW Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 5 10:15 2007 Quant Results File: 010907NG.RES

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



GPL Laboratories

GPL
FORM 1
ANALYSIS DATA SHEET

SAMPLE NO
NWO-039-0010

Lab Name :	GPL Laboratories	Client. :	Shaw E&I, Inc
Lab Code :	GPL	SAS NO. :	
Case No. :		SDG NO :	702113
Matrix : (Soil / Water)	SOIL	Lab Sample ID :	702113-006-006-1/1
Sample Volume :	10.01	Lab File ID :	LCD35594.D
% Moisture:		Date Received	02/23/2007
Extraction:	EXT_SW8330	Date Extracted:	02/27/2007
Extract Volume:	40 mL	Date Analyzed	03/03/2007
Injection Volume :	µ L	Dilution Factor :	1
GPC Clean up (Y/N):	pH:		

Concentration Units (ug/L or ug/kg dry weight) : mg/kg

CAS NO	COMPOUND		Q
99-35-4	1,3,5-Trinitrobenzene	0.040	U
99-65-0	1,3-Dinitrobenzene	0.040	U
118-96-7	2,4,6-Trinitrotoluene	0.040	U
121-14-2	2,4-Dinitrotoluene	0.040	U
606-20-2	2,6-Dinitrotoluene	0.040	U
35572-78-2	2-Amino-4,6-Dinitrotoluene	0.040	U
19406-51-0	4-Amino-2,6-Dinitrotoluene	0.040	U
2691-41-0	HMX	0.080	U
98-95-3	Nitrobenzene	0.040	U
121-82-4	RDX	0.080	U
479-45-8	Tetryl	0.080	U
99-08-1	m-Nitrotoluene	0.080	U
88-72-2	o-Nitrotoluene	0.080	U
99-99-0	p-Nitrotoluene	0.080	U

FORM I SW8330A_SHAW

GPL Laboratories

GPL
FORM I
ANALYSIS DATA SHEET

SAMPLE NO
NWO-039-0010

Lab Name :	GPL Laboratories	Client. :	Shaw E&I, Inc
Lab Code :	GPL	SAS NO. :	
Case No. :		SDG NO :	702113
Matrix : (Soil / Water)	SOIL	Lab Sample ID :	702113-006-006-1/1
Sample Volume :	10.01	Lab File ID :	LCD35594.D
% Moisture:		Date Received	02/23/2007
Extraction:	EXT_SW8330	Date Extracted:	02/27/2007
Extract Volume:	40 mL	Date Analyzed	03/03/2007
Injection Volume :	100 µ L	Dilution Factor :	1
GPC Clean up (Y/N):	pH:		

Concentration Units (ug/L or ug/kg dry weight) : mg/kg

CAS NO	COMPOUND		Q
55-63-0	Nitroglycerine	4.0	U

FORM I SW8330

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\030207\LCD35594.D
Acq On : 3 Mar 2007 6:09
Sample : 702113-006-006-1/1
Misc : SOIL.SHAW
IntFile : events.e
Quant Time: Mar 6 9:47 2007 Quant Results File: 71248330.RES

Vial: 18
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Mon Mar 05 09:17:54 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
2) S 4-Nitroaniline	7.01	23007203	176.173	ng/ml
Spiked Amount 150.000 Range 52 - 154 Recovery = 117.45%				
Target Compounds				
1) T HMX	0.00	0	N.D.	ng/ml
3) T 1,3,5-Trinitrobenzene	0.00	0	N.D.	ng/ml
4) T Tetryl	0.00	0	N.D.	ng/ml
5) T 2,4,6-Trinitrotoluene	0.00	0	N.D.	ng/ml
6) T 4-Amino-2,6-Dinitrotoluene	0.00	0	N.D.	ng/ml
7) T 2,6-Dinitrotoluene	0.00	0	N.D.	ng/ml
8) T 4-Nitrotoluene	0.00	0	N.D.	ng/ml
9) M RDX	0.00	0	N.D.	ng/ml
10) M 1,3-Dinitrobenzene	0.00	0	N.D.	ng/mld
11) M Nitrobenzene	0.00	0	N.D.	ng/ml
12) M 2-Amino-4,6-Dinitrotoluene	0.00	0	N.D.	ng/ml
13) M 2,4-Dinitrotoluene	0.00	0	N.D.	ng/ml
14) M 2-Nitrotoluene	0.00	0	N.D.	ng/ml
15) M 3-Nitrotoluene	0.00	0	N.D.	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

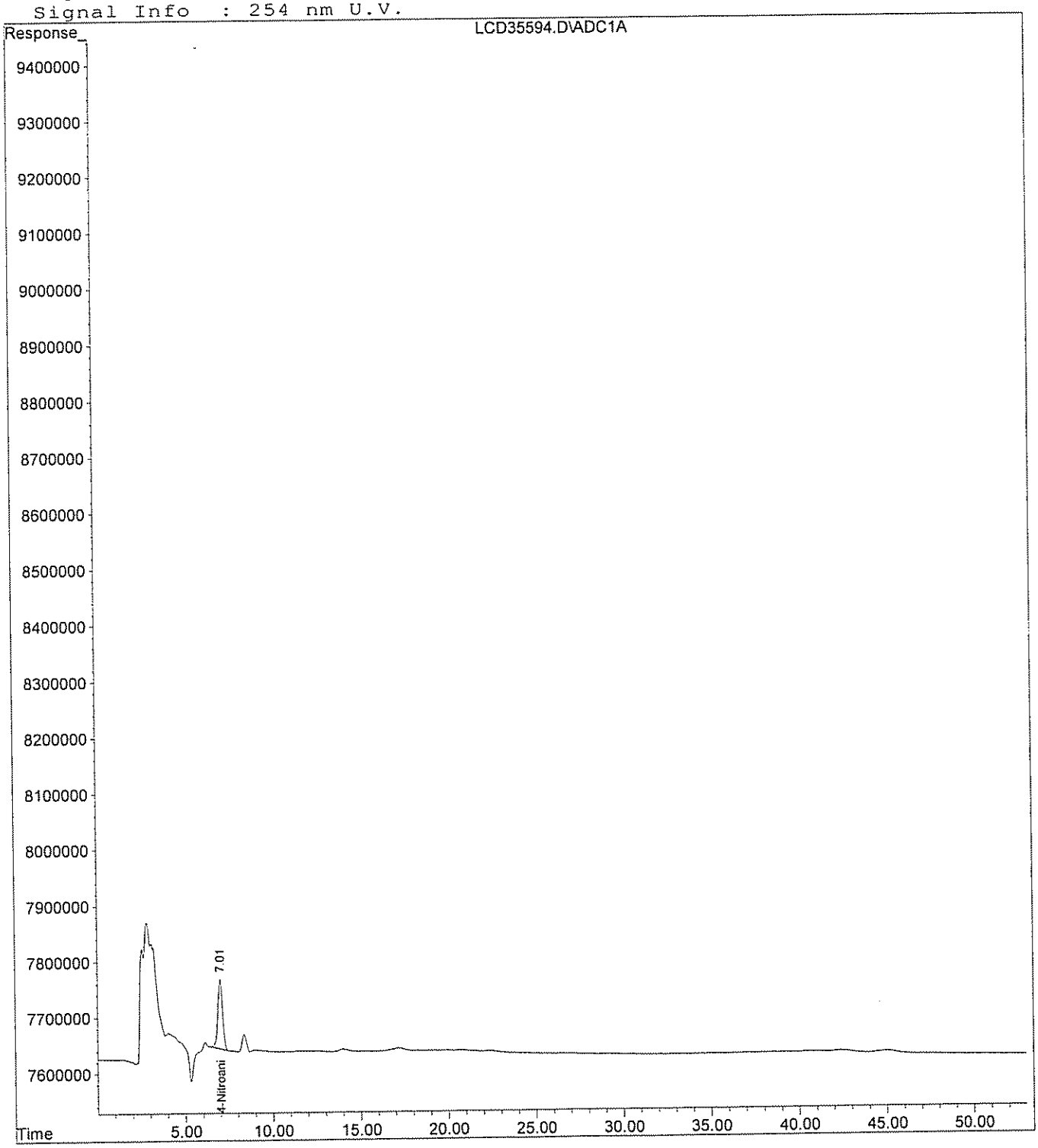
Quantitation Report

Data File : H:\LCDATA\LCD\030207\LCD35594.D
Acq On : 3 Mar 2007 6:09
Sample : 702113-006-006-1/1
Misc : SOIL.SHAW
IntFile : events.e
Quant Time: Mar 6 9:47 2007 Quant Results File: 71248330.RES

Vial: 18
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Mon Mar 05 09:17:54 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\030507\LCD35631.D
Acq On : 6 Mar 2007 2:56
Sample : 702113-006
Misc : SOIL.SHAW
IntFile : events.e
Quant Time: Mar 6 9:43 2007 Quant Results File: 7125CON.RES

Vial: 19
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Fri Feb 16 08:55:47 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : POLAR RP
Signal Info : 254 nm U.V.

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
2) S 4-Nitroaniline	8.55	20315906	177.601 ng/ml
Spiked Amount 300.000	Range 52 - 154	Recovery =	59.20%

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

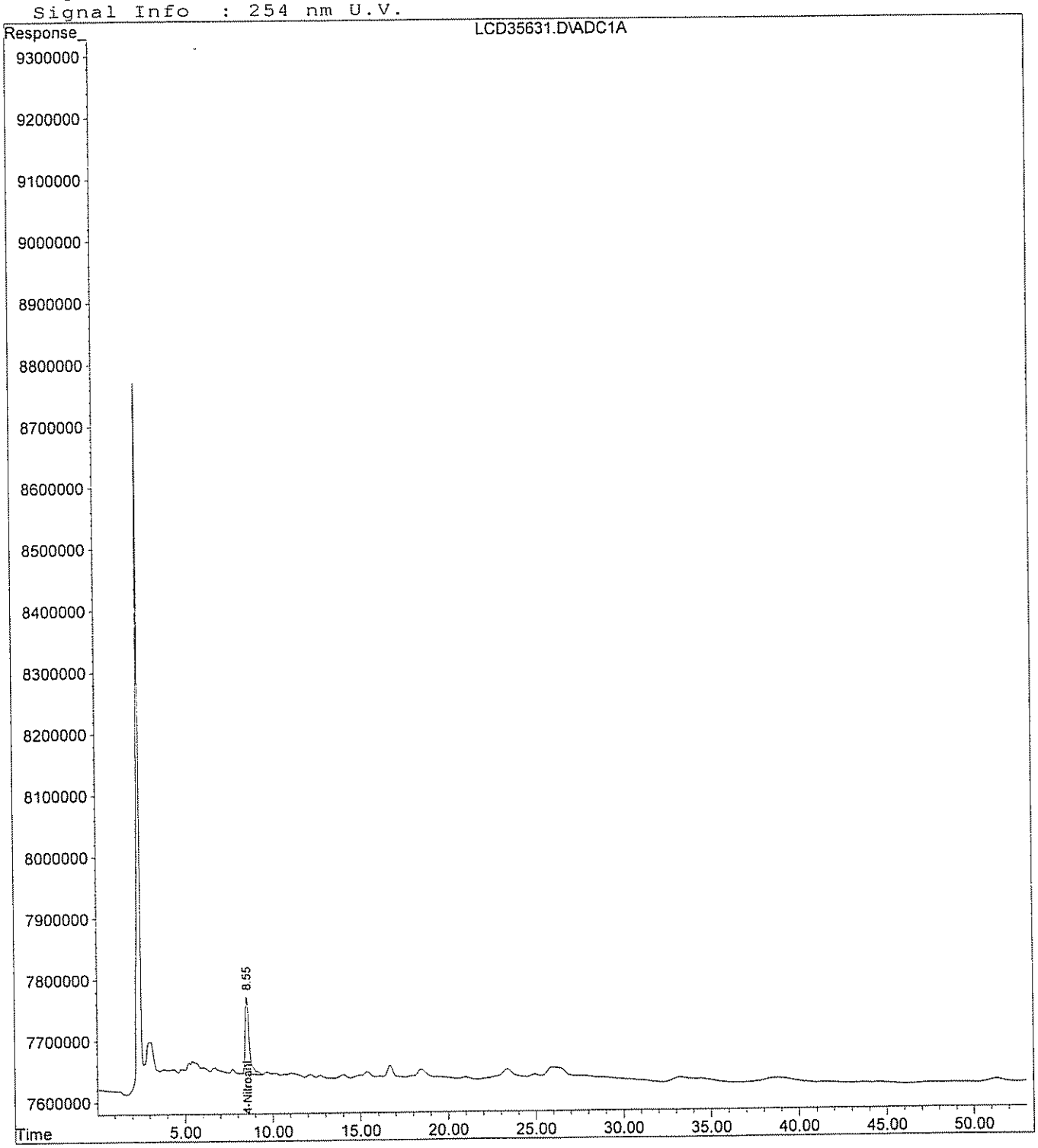
Quantitation Report

Data File : H:\LCDATA\LCD\030507\LCD35631.D
Acq On : 6 Mar 2007 2:56
Sample : 702113-006
Misc : SOIL.SHAW
IntFile : events.e
Quant Time: Mar 6 9:43 2007 Quant Results File: 7125CON.RES

Vial: 19
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Fri Feb 16 08:55:47 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : POLAR RP
Signal Info : 254 nm U.V.



Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\030207\0302NG\LCD35594.D Vial: 18
Acq On : 3 Mar 2007 6:09 Operator: SS
Sample : 702113-006-006-1/1 Inst : LCD
Misc : SOIL.SHAW Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 5 10:15 2007 Quant Results File: 010907NG.RES

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S 4-NITROANILINE	7.01	21163994	162.395 PPB
Spiked Amount 300.000		Recovery =	54.13%
Target Compounds			
2) M NITROGLYCERINE	0.00	0	N.D. PPM

(f)=RT Delta > 1/2 Window (m)=manual int.
LCD35594.D 010907NG.M Mon Mar 05 10:18:42 2007 NP1 Page 1

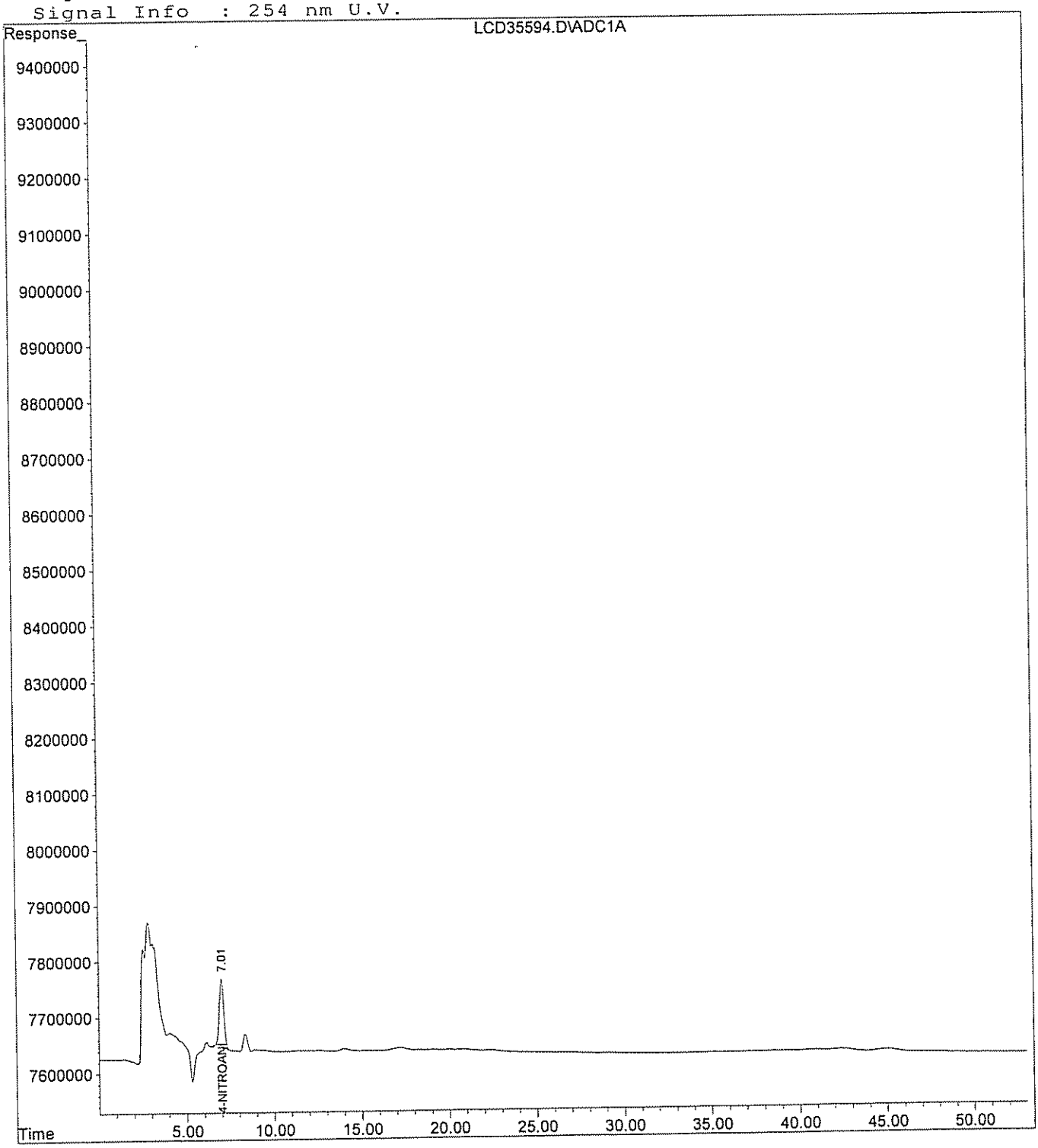
Quantitation Report

Data File : H:\LCDATA\LCD\030207\0302NG\LCD35594.D
Acq On : 3 Mar 2007 6:09
Sample : 702113-006-006-1/1
Misc : SOIL.SHAW
IntFile : events.e
Quant Time: Mar 5 10:15 2007 Quant Results File: 010907NG.RES

Vial: 18
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



GPL Laboratories

GPL
FORM I
ANALYSIS DATA SHEET

SAMPLE NO
NWO-039-0013

Lab Name :	GPL Laboratories	Client. :	Shaw E&I, Inc
Lab Code :	GPL	SAS NO. :	
Case No. :		SDG NO :	702113
Matrix : (Soil / Water)	SOIL	Lab Sample ID :	702113-007-013-1/1
Sample Volume :	10	Lab File ID :	LCD35595.D
% Moisture:		Date Received	02/23/2007
Extraction:	EXT_SW8330	Date Extracted:	02/27/2007
Extract Volume:	40 mL	Date Analyzed	03/03/2007
Injection Volume :	µ L	Dilution Factor :	1
GPC Clean up (Y/N):	pH:		

Concentration Units (ug/L or ug/kg dry weight) : mg/kg

CAS NO	COMPOUND		Q
99-35-4	1,3,5-Trinitrobenzene	0.040	U
99-65-0	1,3-Dinitrobenzene	0.040	U
118-96-7	2,4,6-Trinitrotoluene	0.040	U
121-14-2	2,4-Dinitrotoluene	0.040	U
606-20-2	2,6-Dinitrotoluene	0.040	U
35572-78-2	2-Amino-4,6-Dinitrotoluene	0.040	U
19406-51-0	4-Amino-2,6-Dinitrotoluene	0.040	U
2691-41-0	HMX	0.080	U
98-95-3	Nitrobenzene	0.040	U
121-82-4	RDX	0.080	U
479-45-8	Tetryl	0.080	U
99-08-1	m-Nitrotoluene	0.080	U
88-72-2	o-Nitrotoluene	0.080	U
99-99-0	p-Nitrotoluene	0.080	U

FORM I SW8330A_SHAW

GPL Laboratories

GPL
FORM 1
ANALYSIS DATA SHEET

SAMPLE NO
NWO-039-0013

Lab Name :	GPL Laboratories	Client. :	Shaw E&I, Inc
Lab Code :	GPL	SAS NO. :	
Case No. :		SDG NO :	702113
Matrix : (Soil / Water)	SOIL	Lab Sample ID :	702113-007-013-1/1
Sample Volume :	10	Lab File ID :	LCD35595.D
% Moisture:		Date Received	02/23/2007
Extraction:	EXT_SW8330	Date Extracted:	02/27/2007
Extract Volume:	40 mL	Date Analyzed	03/03/2007
Injection Volume :	100 µ L	Dilution Factor :	1
GPC Clean up (Y/N):	pH:		

Concentration Units (ug/L or ug/kg dry weight) : mg/kg

CAS NO	COMPOUND		Q
55-63-0	Nitroglycerine	4.0	U

FORM I SW8330

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\030207\LCD35595.D
Acq On : 3 Mar 2007 7:06
Sample : 702113-007-013-1/1
Misc : SOIL.SHAW
IntFile : events.e
Quant Time: Mar 5 9:34 2007 Quant Results File: 71248330.RES

Vial: 19
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Mon Mar 05 09:17:54 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
2)	S	4-Nitroaniline	7.01	21800117	166.930	ng/ml
Spiked Amount		150.000	Range 52 - 154	Recovery	= 111.29%	
		Target Compounds				
1)	T	HMX	0.00	0	N.D.	ng/ml
3)	T	1,3,5-Trinitrobenzene	0.00	0	N.D.	ng/ml
4)	T	Tetryl	0.00	0	N.D.	ng/ml
5)	T	2,4,6-Trinitrotoluene	0.00	0	N.D.	ng/ml
6)	T	4-Amino-2,6-Dinitrotoluene	0.00	0	N.D.	ng/ml
7)	T	2,6-Dinitrotoluene	0.00	0	N.D.	ng/ml
8)	T	4-Nitrotoluene	0.00	0	N.D.	ng/ml
9)	M	RDX	0.00	0	N.D.	ng/mld
10)	M	1,3-Dinitrobenzene	0.00	0	N.D.	ng/ml
11)	M	Nitrobenzene	0.00	0	N.D.	ng/mld
12)	M	2-Amino-4,6-Dinitrotoluene	0.00	0	N.D.	ng/ml
13)	M	2,4-Dinitrotoluene	0.00	0	N.D.	ng/ml
14)	M	2-Nitrotoluene	0.00	0	N.D.	ng/ml
15)	M	3-Nitrotoluene	0.00	0	N.D.	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

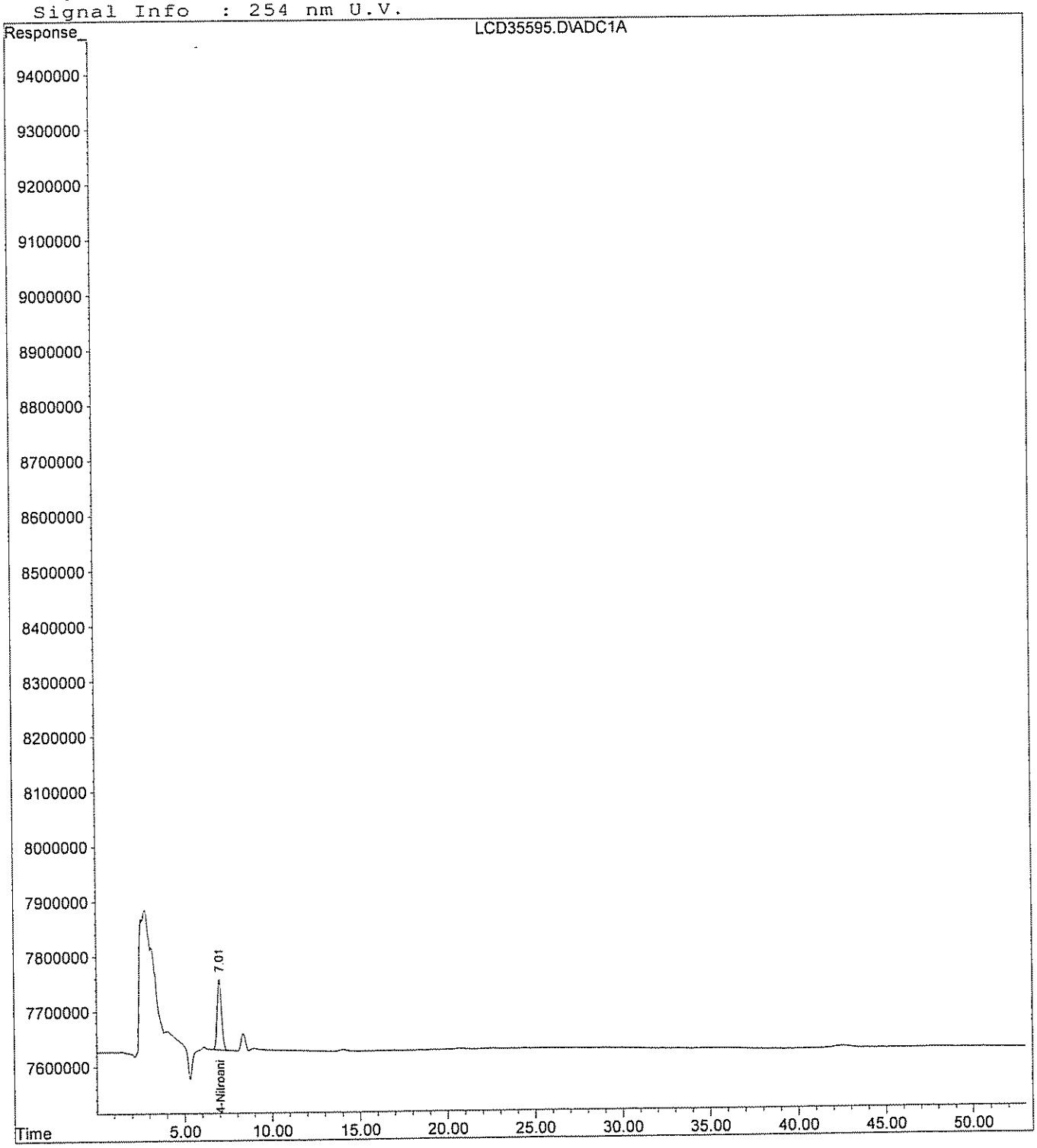
Quantitation Report

Data File : H:\LCDATA\LCD\030207\LCD35595.D
Acq On : 3 Mar 2007 7:06
Sample : 702113-007-013-1/1
Misc : SOIL.SHAW
IntFile : events.e
Quant Time: Mar 5 9:34 2007 Quant Results File: 71248330.RES

Vial: 19
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Mon Mar 05 09:17:54 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\030207\0302NG\LCD35595.D Vial: 19
Acq On : 3 Mar 2007 7:06 Operator: SS
Sample : 702113-007-013-1/1 Inst : LCD
Misc : SOIL.SHAW Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 5 10:16 2007 Quant Results File: 010907NG.RES

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
1) S 4-NITROANILINE	7.01	21152311	162.305	PPB
Spiked Amount 300.000		Recovery =	54.10%	
Target Compounds				
2) M NITROGLYCERINE	0.00	0	N.D.	PPM

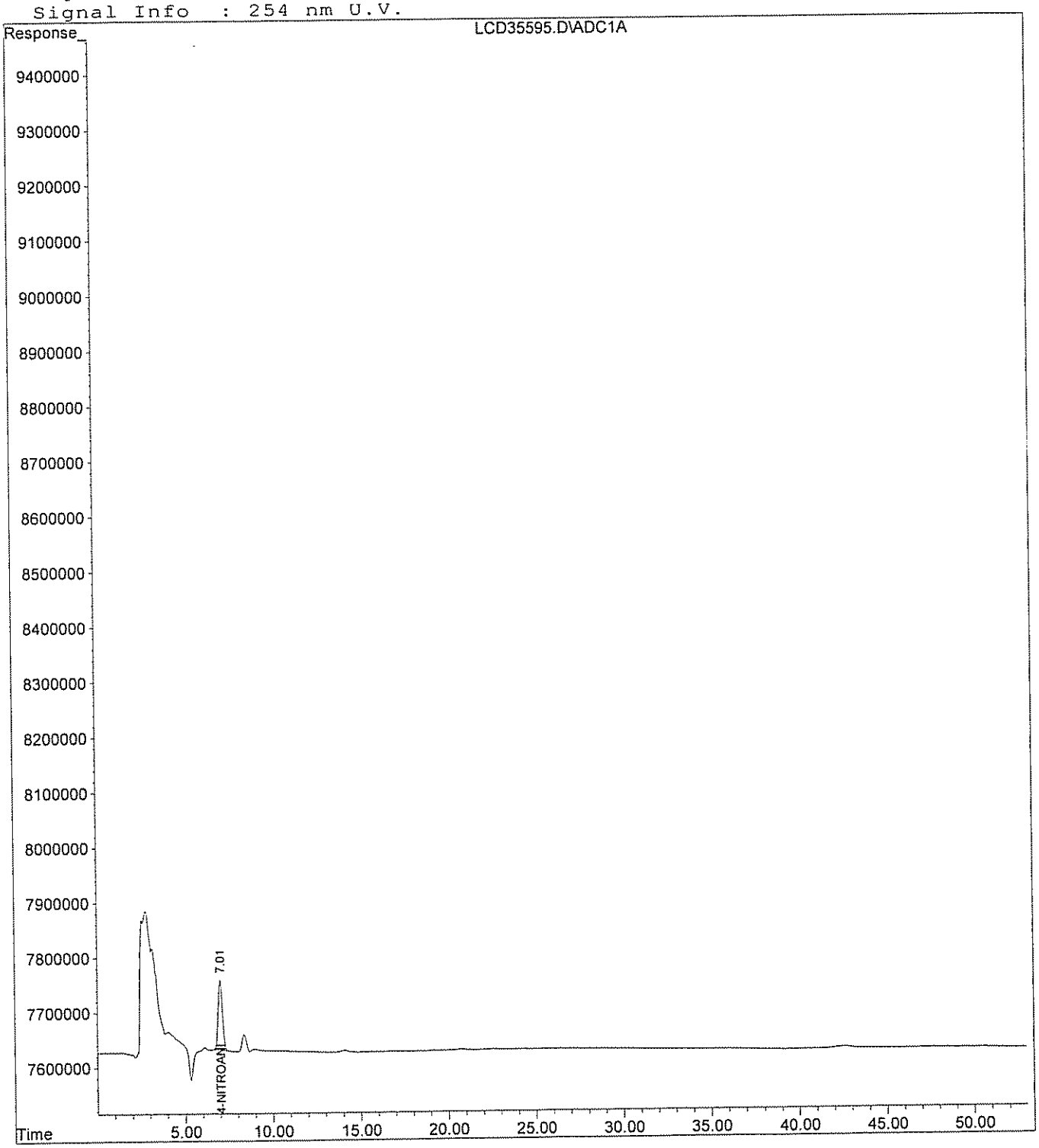
(f)=RT Delta > 1/2 Window (m)=manual int.
LCD35595.D 010907NG.M Mon Mar 05 10:18:48 2007 NP1 Page 1

Quantitation Report

Data File : H:\LCDATA\LCD\030207\0302NG\LCD35595.D Vial: 19
Acq On : 3 Mar 2007 7:06 Operator: SS
Sample : 702113-007-013-1/1 Inst : LCD
Misc : SOIL.SHAW Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 5 10:16 2007 Quant Results File: 010907NG.RES

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



C. Standards Data

1. Initial Calibration Data

2. Continuing Calibration Data

GPL Laboratories

Response Factor Report LCD

Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Thu Jan 25 08:09:40 2007

Calibration Files
LEV1 =LCD35032.D LEV2 =LCD35033.D LEV3 =LCD35034.D
LEV4 =LCD35035.D LEV5 =LCD35036.D LEV6 =LCD35037.D

		Compound	LEV1	LEV2	LEV3	LEV4	LEV5	LEV6	Avg		%RSD
1)	T	HMX	1.210	1.255	1.302	1.381	1.407	1.418	1.329	E5	6.48
2)	S	4-Nitroaniline	1.298	1.200	1.266	1.330	1.359	1.382	1.306	E5	5.09
3)	T	1,3,5-Trinitrobenze	3.484	3.462	3.602	3.840	3.912	3.939	3.706	E5	5.84
4)	T	Tetryl	2.363	2.636	2.718	2.875	2.928	2.940	2.743	E5	8.10
5)	T	2,4,6-Trinitrotolue	3.276	3.222	3.382	3.530	3.668	3.644	3.454	E5	5.47
6)	T	4-Amino-2,6-Dinitro	2.241	2.308	2.418	2.505	2.643	2.603	2.453	E5	6.53
7)	T	2,6-Dinitrotoluene	2.198	2.213	2.241	2.357	2.447	2.421	2.313	E5	4.75
8)	T	4-Nitrotoluene	2.066	1.615	1.717	1.820	1.823	1.844	1.814	E5	8.30
9)	M	RDX	1.628	1.720	1.603	1.784	1.786	1.771	1.715	E5	4.74
10)	M	1,3-Dinitrobenzene	4.688	4.735	4.920	5.227	5.304	5.334	5.035	E5	5.77
11)	M	Nitrobenzene	2.956	3.137	3.186	3.372	3.498	3.469	3.270	E5	6.49
12)	M	2-Amino-4,6-Dinitro	3.357	3.351	3.408	3.576	3.738	3.694	3.521	E5	4.89
13)	M	2,4-Dinitrotoluene	4.547	4.619	4.776	5.089	5.242	5.219	4.915	E5	6.25
14)	M	2-Nitrotoluene	2.039	1.995	2.036	2.168	2.177	2.197	2.102	E5	4.19
15)	M	3-Nitrotoluene	2.054	2.081	2.165	2.298	2.324	2.343	2.211	E5	5.77

(#) = Out of Range

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\012407\LCD35031.D
Acq On : 24 Jan 2007 14:24
Sample : 8330MIX-BLK
Misc : CCAL
IntFile : events.e
Quant Time: Jan 25 8:03 2007 Quant Results File: 71248330.RES

Vial: 1
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Thu Jan 11 09:05:46 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
2)	S	4-Nitroaniline	0.00	0	N.D.	ng/ml
Spiked Amount		300.000	Range 49 - 133	Recovery =	0.00%#	
		Target Compounds				
1)	T	HMX	0.00	0	N.D.	ng/ml
3)	T	1,3,5-Trinitrobenzene	0.00	0	N.D.	ng/ml
4)	T	Tetryl	0.00	0	N.D.	ng/ml
5)	T	2,4,6-Trinitrotoluene	0.00	0	N.D.	ng/ml
6)	T	4-Amino-2,6-Dinitrotoluene	0.00	0	N.D.	ng/ml
7)	T	2,6-Dinitrotoluene	0.00	0	N.D.	ng/ml
8)	T	4-Nitrotoluene	0.00	0	N.D.	ng/ml
9)	M	RDX	0.00	0	N.D.	ng/ml
10)	M	1,3-Dinitrobenzene	0.00	0	N.D.	ng/ml
11)	M	Nitrobenzene	0.00	0	N.D.	ng/ml
12)	M	2-Amino-4,6-Dinitrotoluene	0.00	0	N.D.	ng/ml
13)	M	2,4-Dinitrotoluene	0.00	0	N.D.	ng/ml
14)	M	2-Nitrotoluene	0.00	0	N.D.	ng/ml
15)	M	3-Nitrotoluene	0.00	0	N.D.	ng/ml

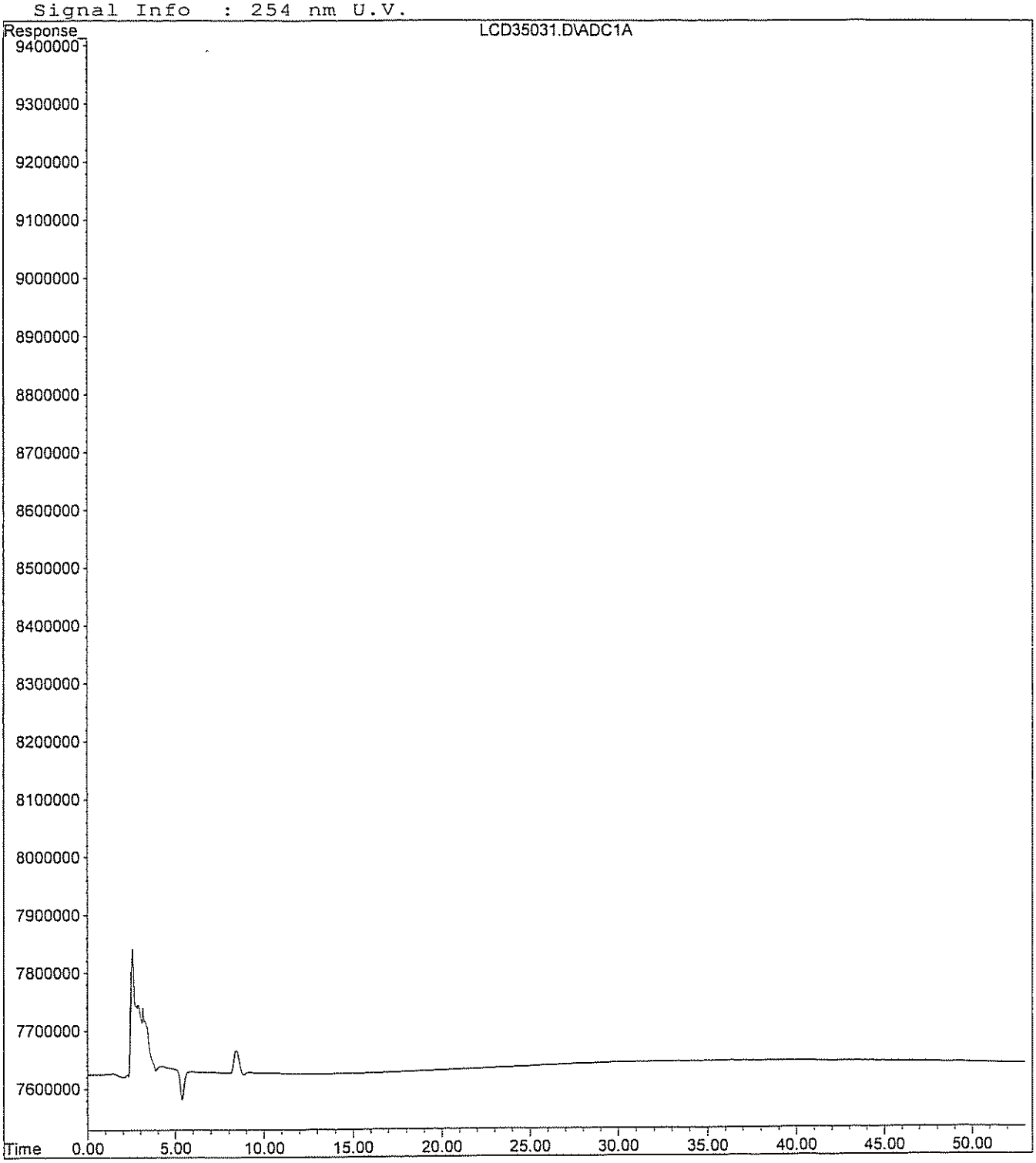
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCD\012407\LCD35031.D Vial: 1
Acq On : 24 Jan 2007 14:24 Operator: SS
Sample : 8330MIX-BLK Inst : LCD
Misc : CCAL Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 25 8:03 2007 Quant Results File: 71248330.RES

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Thu Jan 11 09:05:46 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\012407\LCD35032.D
Acq On : 24 Jan 2007 15:22
Sample : 8330MIX-LEV1
Misc : CCAL
IntFile : events.e
Quant Time: Jan 25 8:05 2007 Quant Results File: 71248330.RES

Vial: 2
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Thu Jan 11 09:05:46 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
2) S 4-Nitroaniline	7.18	2596791	18.031 ng/ml
Spiked Amount 300.000 Range 49 - 133		Recovery =	6.01%#
Target Compounds			
1) T HMX	4.67	2419335	17.476 ng/mlm
3) T 1,3,5-Trinitrobenzene	13.36	3484169	10.010 ng/ml
4) T Tetryl	19.79	4726703	20.451 ng/ml
5) T 2,4,6-Trinitrotoluene	24.12	3276150	9.372 ng/mlm
6) T 4-Amino-2,6-Dinitrotoluene	26.32	2241349	7.945 ng/mlm
7) T 2,6-Dinitrotoluene	30.27	2198036	8.945 ng/mlm
8) T 4-Nitrotoluene	42.33	4131881	22.674 ng/mlm
9) M RDX	9.06	3255702	18.444 ng/ml
10) M 1,3-Dinitrobenzene	17.79	4687696	9.009 ng/ml
11) M Nitrobenzene	21.45	2956001	8.617 ng/mlm
12) M 2-Amino-4,6-Dinitrotoluene	27.90	3357481	9.269 ng/mlm
13) M 2,4-Dinitrotoluene	31.49	4546768	8.942 ng/mlm
14) M 2-Nitrotoluene	39.12	4077163	18.809 ng/mlm
15) M 3-Nitrotoluene	45.79	4108863	18.134 ng/mlm

(f)=RT Delta > 1/2 Window (m)=manual int.

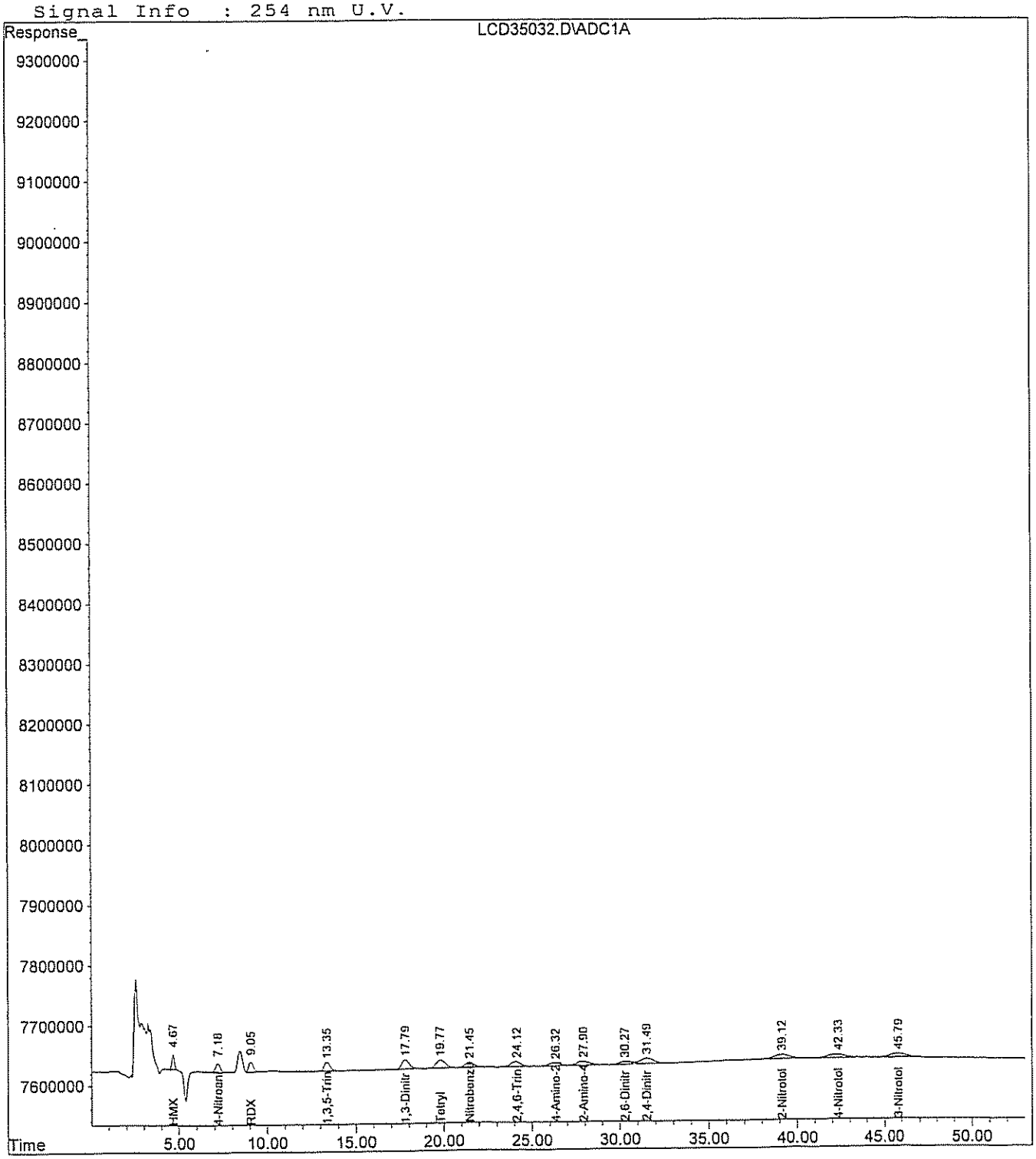
Quantitation Report

Data File : H:\LCDATA\LCD\012407\LCD35032.D
Acq On : 24 Jan 2007 15:22
Sample : 8330MIX-LEV1
Misc : CCAL
IntFile : events.e
Quant Time: Jan 25 8:05 2007 Quant Results File: 71248330.RES

Vial: 2
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Thu Jan 11 09:05:46 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\012407\LCD35033.D Vial: 3
Acq On : 24 Jan 2007 16:19 Operator: SS
Sample : 8330MIX-LEV2 Inst : LCD
Misc : CCAL Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 25 8:06 2007 Quant Results File: 71248330.RES

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Thu Jan 11 09:05:46 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

		Compound	R.T.	Response	Conc Units
System Monitoring Compounds					
2)	S	4-Nitroaniline	7.20	11997144	84.225 ng/mlm
Spiked Amount 300.000 Range 49 - 133 Recovery = 28.08%#					
Target Compounds					
1)	T	HMX	4.68	12546843	91.475 ng/ml
3)	T	1,3,5-Trinitrobenzene	13.40	17307998	47.607 ng/ml
4)	T	Tetryl	19.83	26357564	105.885 ng/ml
5)	T	2,4,6-Trinitrotoluene	24.03	16110336	46.193 ng/ml
6)	T	4-Amino-2,6-Dinitrotoluene	26.18	11540294	44.330 ng/ml
7)	T	2,6-Dinitrotoluene	30.24	11062826	45.955 ng/ml
8)	T	4-Nitrotoluene	42.19	16151286	87.388 ng/ml
9)	M	RDX	9.08	17196754	100.524 ng/mlm
10)	M	1,3-Dinitrobenzene	17.81	23674767	45.978 ng/ml
11)	M	Nitrobenzene	21.44	15684116	47.041 ng/ml
12)	M	2-Amino-4,6-Dinitrotoluene	27.80	16756618	46.643 ng/ml
13)	M	2,4-Dinitrotoluene	31.41	23094873	46.163 ng/ml
14)	M	2-Nitrotoluene	39.07	19953510	93.241 ng/ml
15)	M	3-Nitrotoluene	45.82	20811653	92.316 ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

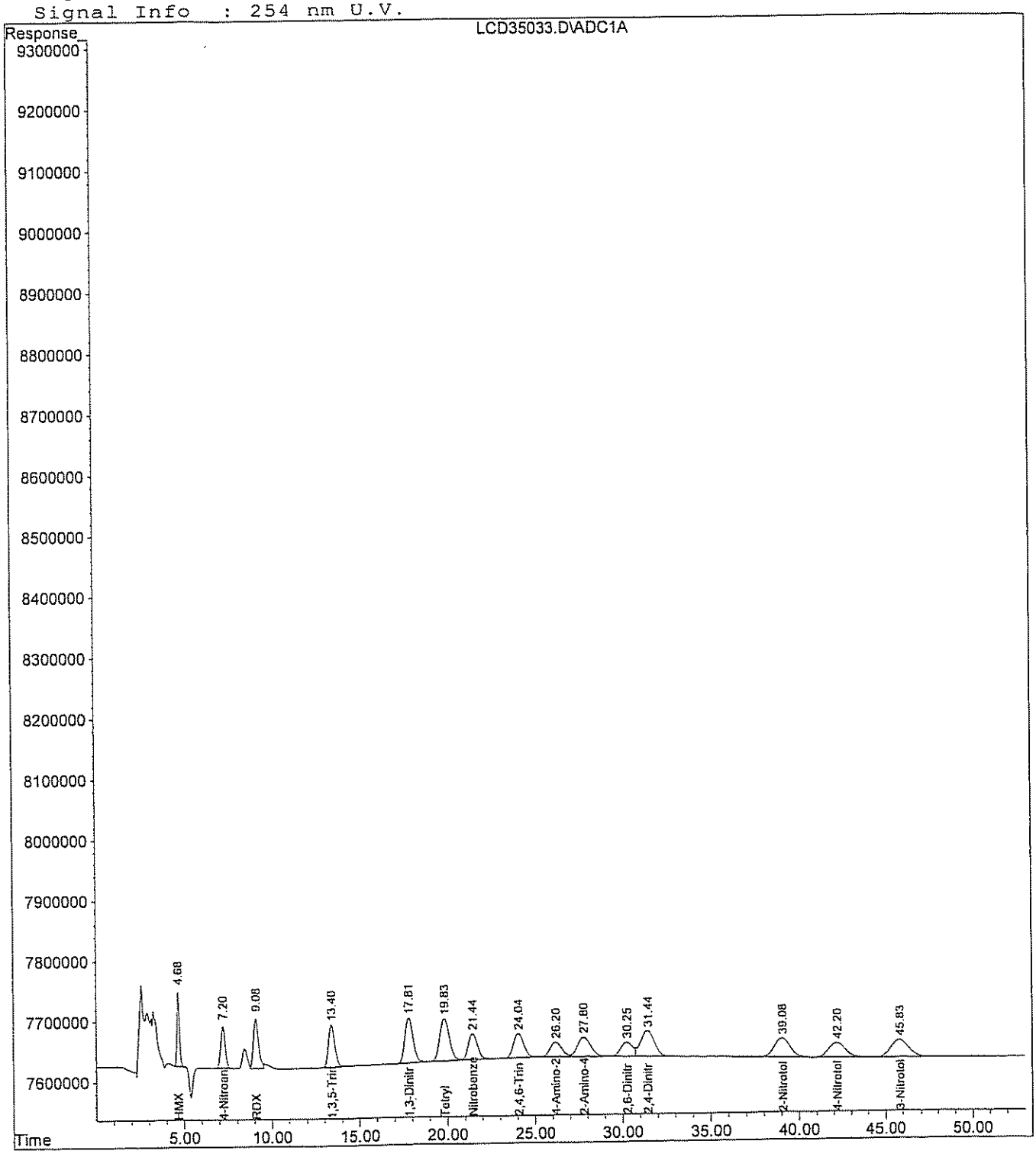
Quantitation Report

Data File : H:\LCDATA\LCD\012407\LCD35033.D
Acq On : 24 Jan 2007 16:19
Sample : 8330MIX-LEV2
Misc : CCAL
IntFile : events.e
Quant Time: Jan 25 8:06 2007 Quant Results File: 71248330.RES

Vial: 3
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Thu Jan 11 09:05:46 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\012407\LCD35034.D
Acq On : 24 Jan 2007 17:16
Sample : 8330MIX-LEV3
Misc : CCAL
IntFile : events.e
Quant Time: Jan 25 8:02 2007 Quant Results File: 71248330.RES

Vial: 4
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Thu Jan 11 09:05:46 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
2) S 4-Nitroaniline	7.20	63316820	435.309 ng/mlm
Spiked Amount 300.000 Range 49 - 133		Recovery = 145.10%#	
Target Compounds			
1) T HMX	4.68	65105651	468.924 ng/mlm
3) T 1,3,5-Trinitrobenzene	13.38	90042209	260.183 ng/ml
4) T Tetryl	19.79	135908862	607.383 ng/ml
5) T 2,4,6-Trinitrotoluene	24.01	84543898	242.079 ng/ml
6) T 4-Amino-2,6-Dinitrotoluene	26.17	60452248	213.105 ng/ml
7) T 2,6-Dinitrotoluene	30.26	56030487	226.018 ng/ml
8) T 4-Nitrotoluene	42.24	85843960	471.960 ng/ml
9) M RDX	9.06	80153077	453.276 ng/ml
10) M 1,3-Dinitrobenzene	17.78	123011106	235.741 ng/ml
11) M Nitrobenzene	21.42	79639391	231.370 ng/ml
12) M 2-Amino-4,6-Dinitrotoluene	27.80	85191451	234.357 ng/ml
13) M 2,4-Dinitrotoluene	31.44	119405375	234.212 ng/ml
14) M 2-Nitrotoluene	39.10	101824316	469.460 ng/ml
15) M 3-Nitrotoluene	45.85	108251580	477.410 ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\012407\LCD35035.D Vial: 5
Acq On : 24 Jan 2007 18:14 Operator: SS
Sample : 8330MIX-LEV4 Inst : LCD
Misc : CCAL Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 25 8:07 2007 Quant Results File: 71248330.RES

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Thu Jan 11 09:05:46 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

		Compound	R.T.	Response	Conc	Units
System Monitoring Compounds						
2)	S	4-Nitroaniline	7.18	133012123	995.796	ng/mlm
Spiked Amount 300.000 Range 49 - 133 Recovery = 331.93%#						
Target Compounds						
1)	T	HMX	4.67	138103844	1024.720	ng/mlm
3)	T	1,3,5-Trinitrobenzene	13.35	191997179	521.669	ng/ml
4)	T	Tetryl	19.77	287452163	1084.799	ng/ml
5)	T	2,4,6-Trinitrotoluene	24.02	176511944	510.980	ng/ml
6)	T	4-Amino-2,6-Dinitrotoluene	26.19	125265284	506.505	ng/ml
7)	T	2,6-Dinitrotoluene	30.28	117868253	499.840	ng/ml
8)	T	4-Nitrotoluene	42.17	182011173	1002.484	ng/ml
9)	M	RDX	9.03	178358936	1051.422	ng/ml
10)	M	1,3-Dinitrobenzene	17.76	261353042	516.521	ng/ml
11)	M	Nitrobenzene	21.41	168594875	512.471	ng/ml
12)	M	2-Amino-4,6-Dinitrotoluene	27.83	178789865	505.946	ng/ml
13)	M	2,4-Dinitrotoluene	31.45	254470408	517.589	ng/ml
14)	M	2-Nitrotoluene	39.07	216791097	1028.448	ng/ml
15)	M	3-Nitrotoluene	45.77	229805422	1037.780	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

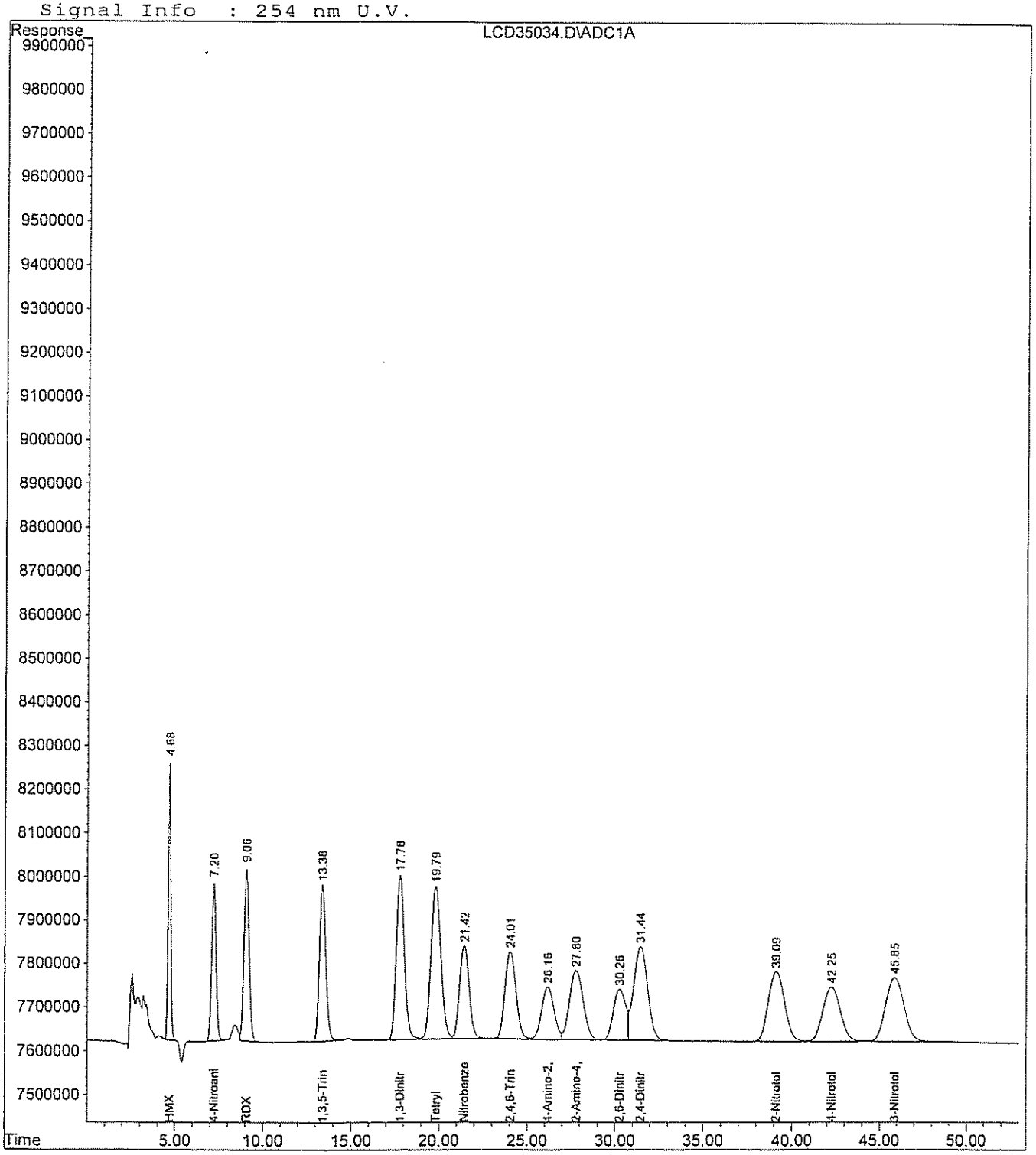
Quantitation Report

Data File : H:\LCDATA\LCD\012407\LCD35034.D
Acq On : 24 Jan 2007 17:16
Sample : 8330MIX-LEV3
Misc : CCAL
IntFile : events.e
Quant Time: Jan 25 8:02 2007 Quant Results File: 71248330.RES

Vial: 4
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Thu Jan 11 09:05:46 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

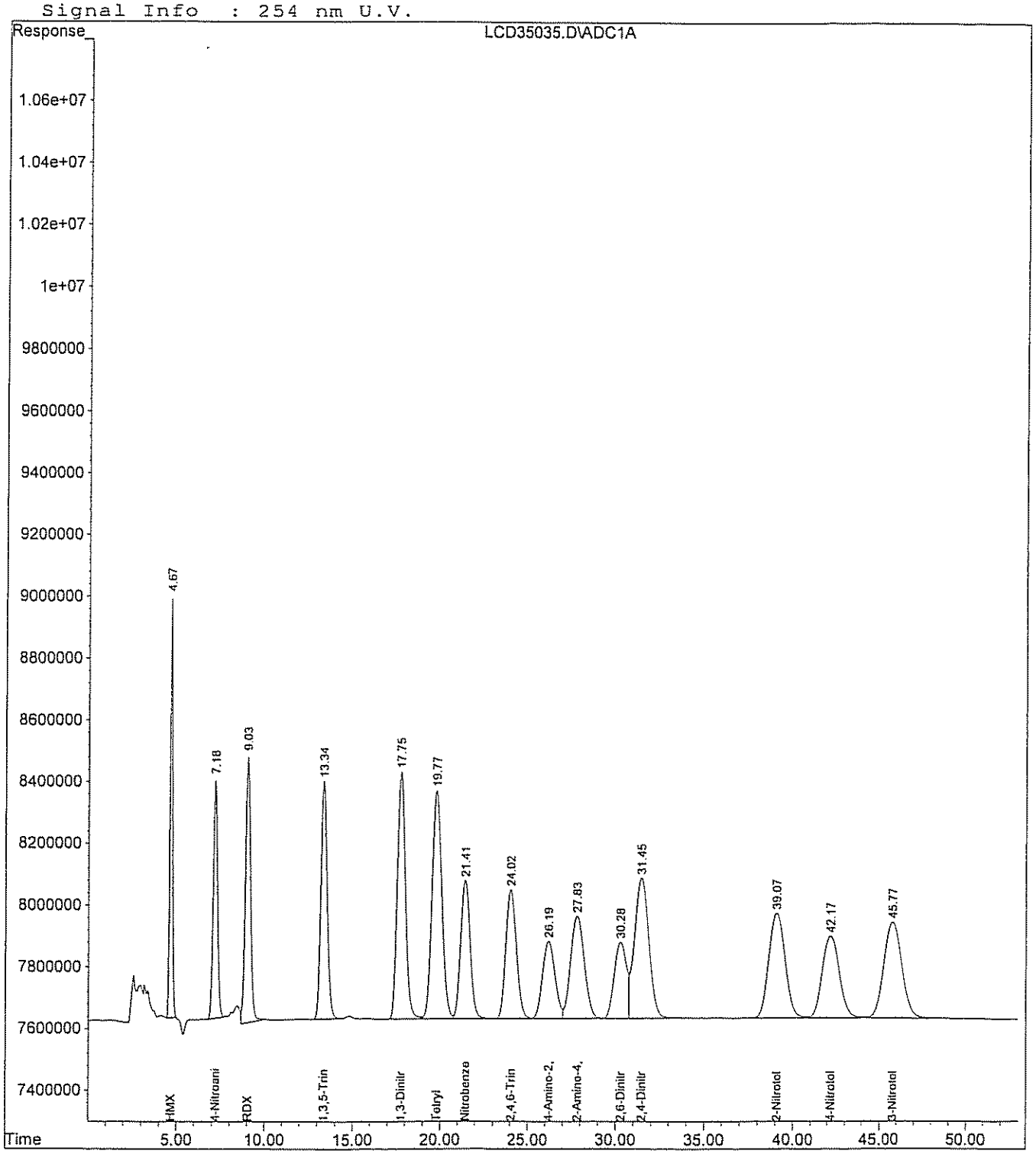


Quantitation Report

Data File : H:\LCDATA\LCD\012407\LCD35035.D Vial: 5
Acq On : 24 Jan 2007 18:14 Operator: SS
Sample : 8330MIX-LEV4 Inst : LCD
Misc : CCAL Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 25 8:07 2007 Quant Results File: 71248330.RES

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Thu Jan 11 09:05:46 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\012407\LCD35036.D
Acq On : 24 Jan 2007 19:11
Sample : 8330MIX-LEV5
Misc : CCAL
IntFile : events.e
Quant Time: Jan 25 8:08 2007 Quant Results File: 71248330.RES

Vial: 6
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Thu Jan 11 09:05:46 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

Compound			R.T.	Response	Conc	Units
System Monitoring Compounds						
2)	S	4-Nitroaniline	7.20	271736950	2049.464	ng/mlm
Spiked Amount 300.000 Range 49 - 133 Recovery = 683.15%#						
Target Compounds						
1)	T	HMX	4.68	281366618	2093.570	ng/mlm
3)	T	1,3,5-Trinitrobenzene	13.39	391159364	1059.103	ng/ml
4)	T	Tetryl	19.84	585659861	2175.817	ng/ml
5)	T	2,4,6-Trinitrotoluene	24.05	366834200	1062.149	ng/ml
6)	T	4-Amino-2,6-Dinitrotoluene	26.23	264297774	1074.120	ng/ml
7)	T	2,6-Dinitrotoluene	30.29	244738356	1046.657	ng/ml
8)	T	4-Nitrotoluene	42.25	364588701	2003.510	ng/ml
9)	M	RDX	9.06	357276421	2088.960	ng/ml
10)	M	1,3-Dinitrobenzene	17.81	530358264	1049.119	ng/ml
11)	M	Nitrobenzene	21.46	349782322	1065.488	ng/ml
12)	M	2-Amino-4,6-Dinitrotoluene	27.86	373822046	1061.553	ng/ml
13)	M	2,4-Dinitrotoluene	31.47	524156522	1067.724	ng/ml
14)	M	2-Nitrotoluene	39.13	435453375	2064.677	ng/ml
15)	M	3-Nitrotoluene	45.87	464804364	2097.032	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

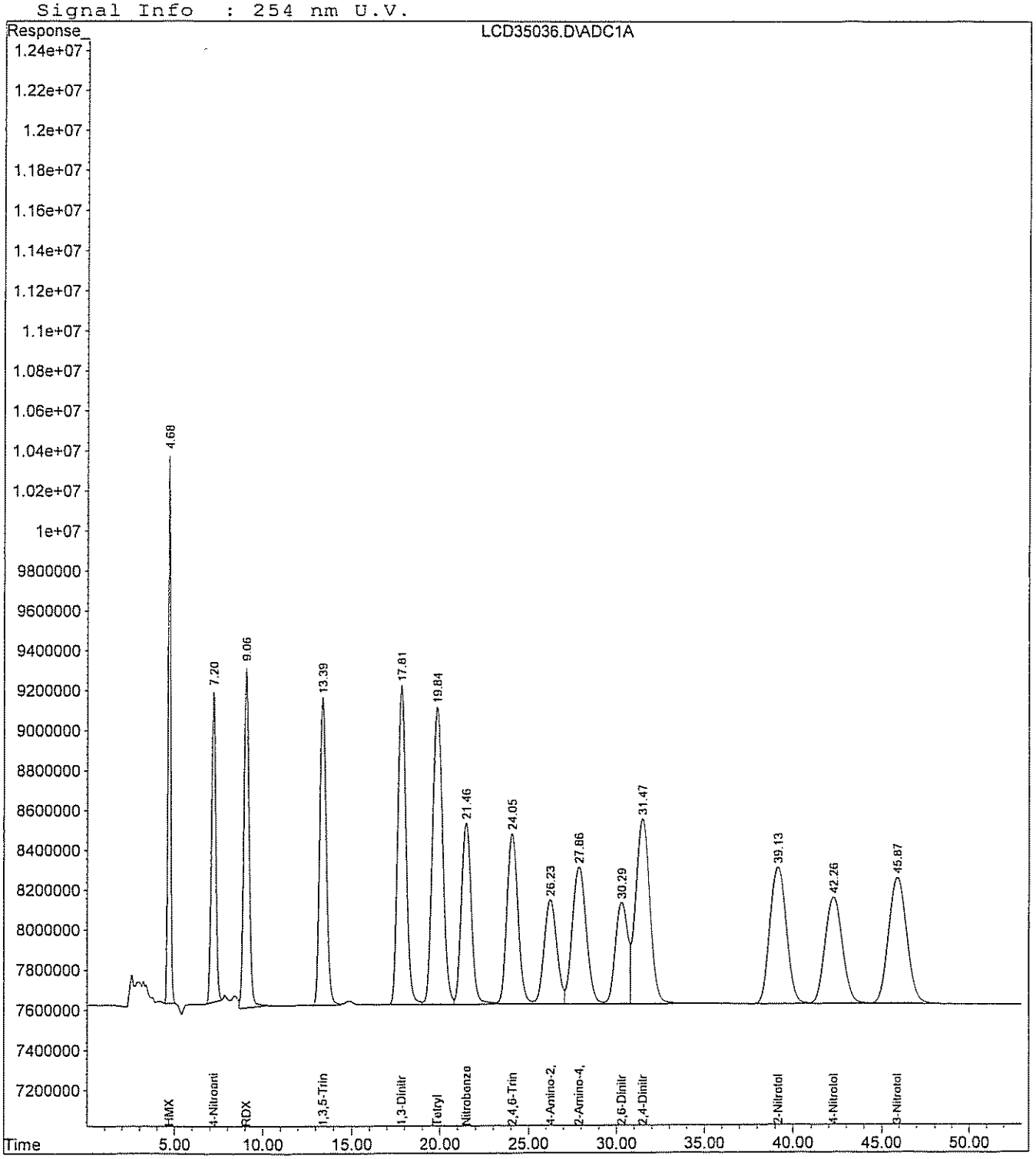
Quantitation Report

Data File : H:\LCDATA\LCD\012407\LCD35036.D
Acq On : 24 Jan 2007 19:11
Sample : 8330MIX-LEV5
Misc : CCAL
IntFile : events.e
Quant Time: Jan 25 8:08 2007 Quant Results File: 71248330.RES

Vial: 6
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Thu Jan 11 09:05:46 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\012407\LCD35037.D Vial: 7
Acq On : 24 Jan 2007 20:08 Operator: SS
Sample : 8330MIX-LEV6 Inst : LCD
Misc : CCAL Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 25 8:09 2007 Quant Results File: 71248330.RES

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Thu Jan 11 09:05:46 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

		Compound	R.T.	Response	Conc	Units
System Monitoring Compounds						
2)	S	4-Nitroaniline	7.19	691208238	5226.190	ng/mlm
Spiked Amount		300.000	Range 49 - 133	Recovery	= 1742.06%#	
Target Compounds						
1)	T	HMX	4.68	708764494	5291.195	ng/mlm
3)	T	1,3,5-Trinitrobenzene	13.35	984627980	2658.827	ng/ml
4)	T	Tetryl	19.77	1469866614	5387.061	ng/ml
5)	T	2,4,6-Trinitrotoluene	24.02	910876845	2631.874	ng/ml
6)	T	4-Amino-2,6-Dinitrotoluene	26.20	650775745	2641.127	ng/ml
7)	T	2,6-Dinitrotoluene	30.29	605358791	2596.832	ng/ml
8)	T	4-Nitrotoluene	42.19	922231221	5083.900	ng/ml
9)	M	RDX	9.04	885667478	5155.878	ng/ml
10)	M	1,3-Dinitrobenzene	17.75	1333398821	2643.177	ng/ml
11)	M	Nitrobenzene	21.41	867334568	2643.793	ng/ml
12)	M	2-Amino-4,6-Dinitrotoluene	27.84	923496453	2616.044	ng/ml
13)	M	2,4-Dinitrotoluene	31.47	1304694241	2652.084	ng/ml
14)	M	2-Nitrotoluene	39.10	1098740524	5221.470	ng/ml
15)	M	3-Nitrotoluene	45.80	1171683450	5299.008	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

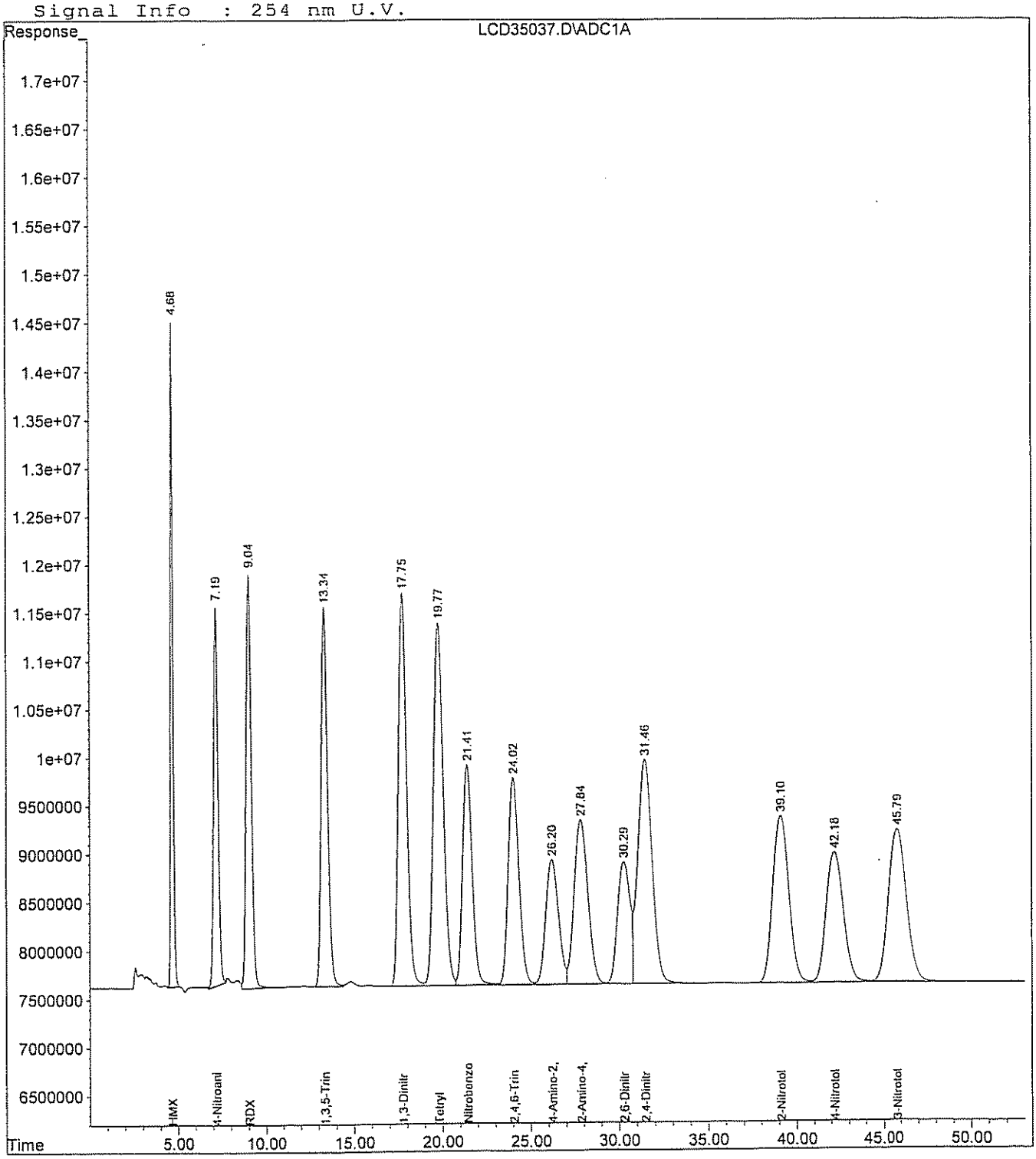
Quantitation Report

Data File : H:\LCDATA\LCD\012407\LCD35037.D
Acq On : 24 Jan 2007 20:08
Sample : 8330MIX-LEV6
Misc : CCAL
IntFile : events.e
Quant Time: Jan 25 8:09 2007 Quant Results File: 71248330.RES

Vial: 7
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Thu Jan 11 09:05:46 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



Continuing Calibration Report LCD

Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Thu Jan 25 08:09:40 2007
Response via : Initial Calibration

Continuing Calibration File: LCD34909.D

Min. RRF : 0.000 Min. Rel. Area : 50%
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF		%Dev	Area%
1	T	HMX	132.864	132.612	E3	0.2	102
2	S	4-Nitroaniline	130.594	135.246	E3	-3.6	107
3	T	1,3,5-Trinitrobenzene	370.625	348.193	E3	6.1	97
4	T	Tetryl	274.331	227.655	E3	17.0#	84
5	T	2,4,6-Trinitrotoluene	345.368	336.272	E3	2.6	99
6	T	4-Amino-2,6-Dinitrotoluene	245.315	251.267	E3	-2.4	104
7	T	2,6-Dinitrotoluene	231.300	237.140	E3	-2.5	106
8	T	4-Nitrotoluene	181.424	169.624	E3	6.5	99
9	M	RDX	171.532	162.197	E3	5.4	101
10	M	1,3-Dinitrobenzene	503.456	500.749	E3	0.5	102
11	M	Nitrobenzene	326.958	325.563	E3	0.4	102
12	M	2-Amino-4,6-Dinitrotoluene	352.074	348.440	E3	1.0	102
13	M	2,4-Dinitrotoluene	491.528	485.732	E3	1.2	102
14	M	2-Nitrotoluene	210.218	204.395	E3	2.8	100
15	M	3-Nitrotoluene	221.101	217.503	E3	1.6	100

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\012407\LCD35038.D Vial: 8
Acq On : 24 Jan 2007 21:06 Operator: SS
Sample : 8330MIX-ICV Inst : LCD
Misc : CCAL Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 25 8:10 2007 Quant Results File: 71248330.RES

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Thu Jan 11 09:05:46 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

		Compound	R.T.	Response	Conc	Units
System Monitoring Compounds						
2)	S	4-Nitroaniline	7.43f	1210536	9.269	ng/mlm
Spiked Amount		300.000	Range 49 - 133	Recovery =	3.09%#	
Target Compounds						
1)	T	HMX	4.68	37788191	284.412	ng/mlm
3)	T	1,3,5-Trinitrobenzene	13.39	102874227	277.570	ng/ml
4)	T	Tetryl	19.85	69794534	254.418	ng/ml
5)	T	2,4,6-Trinitrotoluene	24.06	113728447	329.297	ng/ml
6)	T	4-Amino-2,6-Dinitrotoluene	26.25	73388715	299.161	ng/ml
7)	T	2,6-Dinitrotoluene	30.31	69671480	301.217	ng/ml
8)	T	4-Nitrotoluene	42.28	47291832	260.670	ng/ml
9)	M	RDX	9.06	46689108	272.190	ng/ml
10)	M	1,3-Dinitrobenzene	17.82	139619645	277.323	ng/ml
11)	M	Nitrobenzene	21.47	94999382	290.556	ng/ml
12)	M	2-Amino-4,6-Dinitrotoluene	27.88	102926464	292.343	ng/ml
13)	M	2,4-Dinitrotoluene	31.49	147922641	300.944	ng/mlm
14)	M	2-Nitrotoluene	39.14	56603786	269.262	ng/ml
15)	M	3-Nitrotoluene	45.88	60901298	275.445	ng/ml

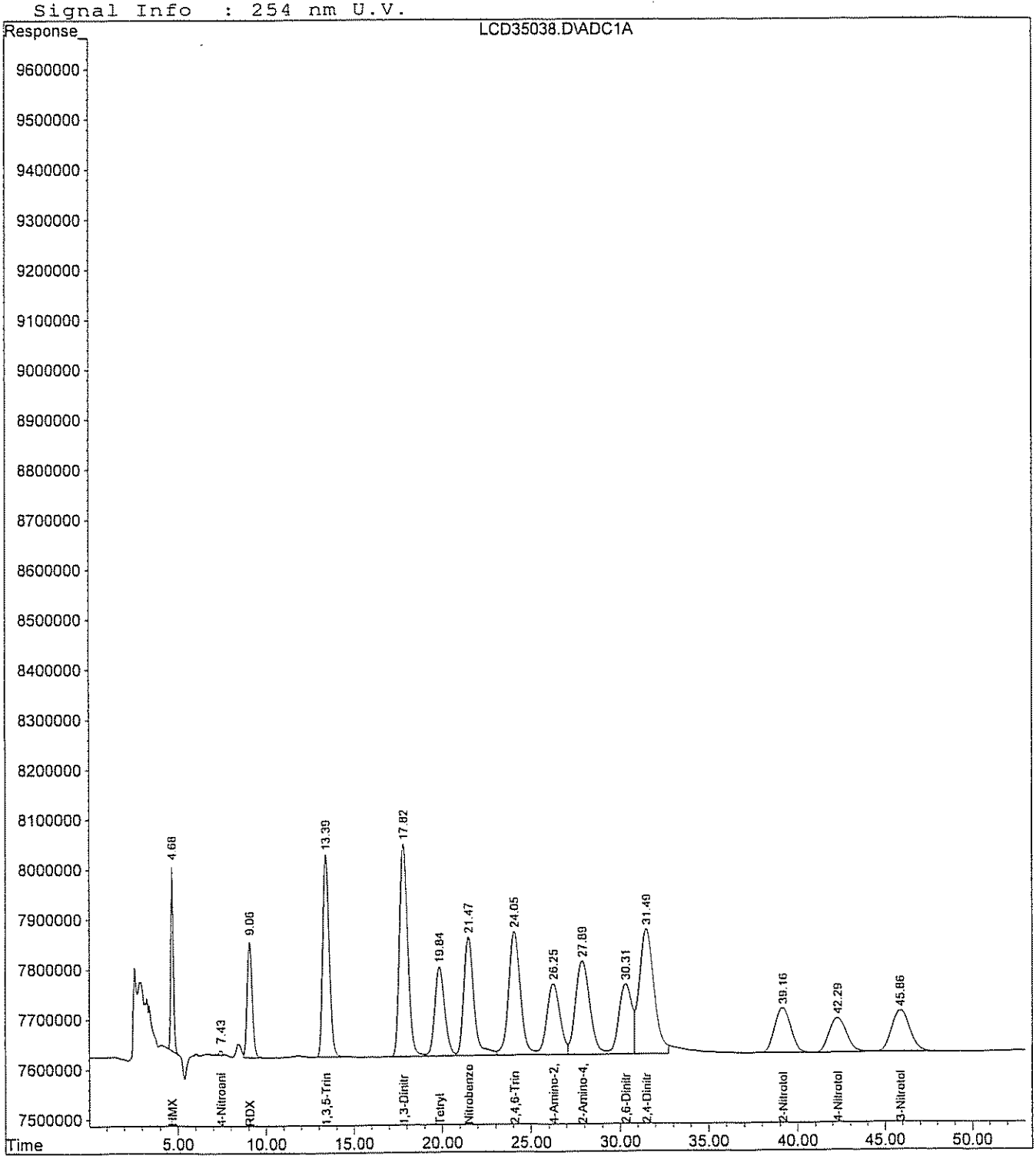
Quantitation Report

Data File : H:\LCDATA\LCD\012407\LCD35038.D
Acq On : 24 Jan 2007 21:06
Sample : 8330MIX-ICV
Misc : CCAL
IntFile : events.e
Quant Time: Jan 25 8:10 2007 Quant Results File: 71248330.RES

Vial: 8
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Thu Jan 11 09:05:46 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



8330 RETENTION TIME WINDOW ESTABLISHMENT

INSTRUMENT: LCD
COLUMN: C8 ANALYST JCSA
DATE: 1/29/07-1/30/07

COMPOUND	RT1	PW1	RT2	PW2	RT3	PW3	Avg RT	3x RT Std Dev	Avg PW	RT Window
4-Nitroaniline(Surr.)	7.08	0.27	7.10	0.28	7.10	0.28	7.093	0.035	0.28	0.14
HMX	4.62	0.22	4.64	0.18	4.64	0.18	4.633	0.035	0.19	0.09
1,3,5-Trinitrobenzene	13.16	0.39	13.16	0.39	13.19	0.39	13.170	0.052	0.39	0.19
Tetryl	19.31	0.59	19.33	0.60	19.37	0.59	19.337	0.092	0.59	0.30
2,4,6-Trinitrotoluene	23.50	0.63	23.54	0.66	23.56	0.65	23.533	0.092	0.65	0.32
4-ADNT	25.47	0.76	25.56	0.79	25.58	0.79	25.537	0.176	0.78	0.39
2,6-Dinitrotoluene	29.53	0.72	29.63	0.74	29.63	0.74	29.597	0.173	0.73	0.37
4-Nitrotoluene	41.17	1.04	41.26	1.09	41.29	1.09	41.240	0.187	1.08	0.54
RDX	8.90	0.31	8.92	0.32	8.93	0.32	8.917	0.046	0.32	0.16
1,3-Dinitrobenzene	17.45	0.51	17.46	0.52	17.50	0.51	17.470	0.079	0.51	0.26
Nitrobenzene	20.99	0.57	21.02	0.58	21.05	0.58	21.020	0.090	0.58	0.29
2-ADNT	27.08	0.82	27.20	0.84	27.20	0.83	27.160	0.208	0.83	0.42
2,4-Dinitrotoluene	30.70	0.82	30.81	0.85	30.81	0.85	30.773	0.191	0.84	0.42
2-Nitrotoluene	38.14	0.96	38.22	1.00	38.25	0.99	38.203	0.171	0.98	0.49
3-Nitrotoluene	44.67	1.13	44.77	1.17	44.80	1.18	44.747	0.204	1.16	0.58

Advisory Retention Time Windows are based on three daily calibration check standards
Run within a 72 hour window

Windows are the greater of 1/2 the average peak width,
or +/- 3 times the retention time standard deviation

Continuing Calibration Report LCD

Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Thu Mar 08 09:27:24 2007
Response via : Initial Calibration

Continuing Calibration File: LCD35577.D

Min. RRF : 0.000 Min. Rel. Area : 50%
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF		%Dev	Area%
1	T	HMX	132.864	145.194	E3	-9.3	112
2	S	4-Nitroaniline	130.594	143.931	E3	-10.2	114
3	T	1,3,5-Trinitrobenzene	370.625	398.166	E3	-7.4	111
4	T	Tetryl	274.331	295.516	E3	-7.7	109
5	T	2,4,6-Trinitrotoluene	345.368	367.823	E3	-6.5	109
6	T	4-Amino-2,6-Dinitrotoluene	245.315	265.050	E3	-8.0	110
7	T	2,6-Dinitrotoluene	231.300	256.041	E3	-10.7	114
8	T	4-Nitrotoluene	181.424	189.261	E3	-4.3	110
9	M	RDX	171.532	180.186	E3	-5.0	112
10	M	1,3-Dinitrobenzene	503.456	545.083	E3	-8.3	111
11	M	Nitrobenzene	326.958	350.562	E3	-7.2	110
12	M	2-Amino-4,6-Dinitrotoluene	352.074	375.045	E3	-6.5	110
13	M	2,4-Dinitrotoluene	491.528	521.419	E3	-6.1	109
14	M	2-Nitrotoluene	210.218	224.749	E3	-6.9	110
15	M	3-Nitrotoluene	221.101	243.910	E3	-10.3	113

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\030207\LCD35577.D Vial: 1
Acq On : 2 Mar 2007 13:23 Operator: SS
Sample : 8330MIX Inst : LCD
Misc : C CAL Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 2 15:15 2007 Quant Results File: 71248330.RES

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Wed Feb 28 11:31:50 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

		Compound	R.T.	Response	Conc Units
System Monitoring Compounds					
2)	S	4-Nitroaniline	6.99	71965486	551.061 ng/mlm
Spiked Amount 300.000 Range 49 - 133 Recovery = 183.69%#					
Target Compounds					
1)	T	HMX	4.59	72596950	546.399 ng/mlm
3)	T	1,3,5-Trinitrobenzene	12.97	99541390	268.577 ng/ml
4)	T	Tetryl	18.92	147757846	538.612 ng/ml
5)	T	2,4,6-Trinitrotoluene	23.08	91955635	266.254 ng/ml
6)	T	4-Amino-2,6-Dinitrotoluene	24.96	66262600	270.113 ng/ml
7)	T	2,6-Dinitrotoluene	28.93	64010280	276.741 ng/ml
8)	T	4-Nitrotoluene	40.24f	94630716	521.599 ng/ml
9)	M	RDX	8.77	90092911	525.226 ng/ml
10)	M	1,3-Dinitrobenzene	17.17	136270858	270.671 ng/ml
11)	M	Nitrobenzene	20.63	87640381	268.048 ng/ml
12)	M	2-Amino-4,6-Dinitrotoluene	26.55	93761245	266.311 ng/ml
13)	M	2,4-Dinitrotoluene	30.09	130354776	265.203 ng/ml
14)	M	2-Nitrotoluene	37.29f	112374458	534.562 ng/ml
15)	M	3-Nitrotoluene	43.67f	121955066	551.580 ng/ml

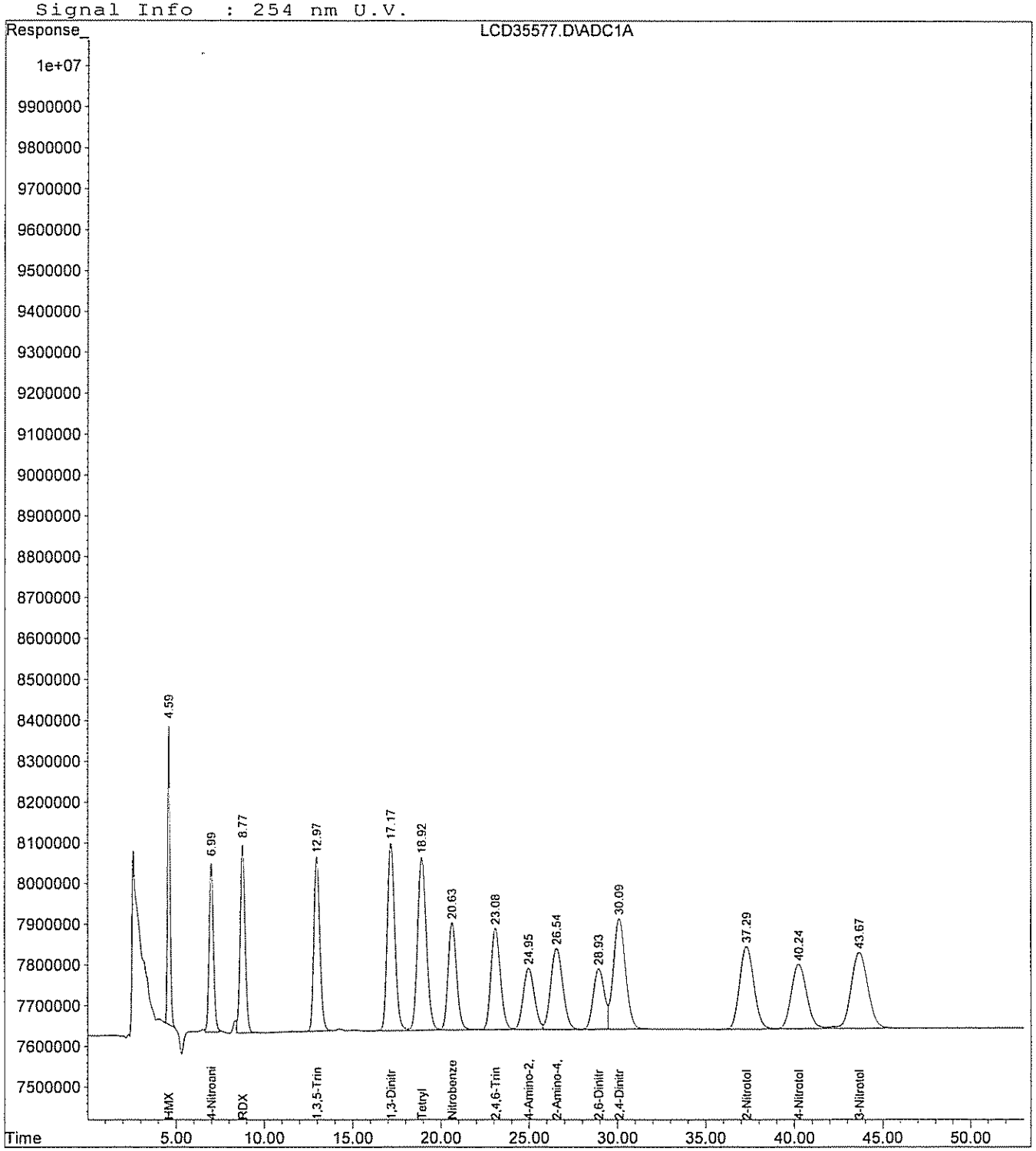
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

```
Data File : H:\LCDATA\LCD\030207\LCD35577.D                Vial: 1
Acq On    :  2 Mar 2007  13:23                          Operator: SS
Sample    : 8330MIX                                     Inst    : LCD
Misc      : C CAL                                       Multiplr: 1.00
IntFile   : events.e
Quant Time: Mar  2 15:15 2007  Quant Results File: 71248330.RES

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title        : 8330 Explosives
Last Update  : Wed Feb 28 11:31:50 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj.  : 100 uL
Signal Phase : C8
Signal Info  : 254 nm U.V.
```



Continuing Calibration Report LCD

Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Thu Mar 08 09:27:43 2007
Response via : Initial Calibration

Continuing Calibration File: LCD35590.D

Min. RRF : 0.000 Min. Rel. Area : 50%
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF		%Dev	Area%
1	T	HMX	132.864	148.834	E3	-12.0	114
2	S	4-Nitroaniline	130.594	140.840	E3	-7.8	111
3	T	1,3,5-Trinitrobenzene	370.625	405.399	E3	-9.4	113
4	T	Tetryl	274.331	297.711	E3	-8.5	110
5	T	2,4,6-Trinitrotoluene	345.368	371.006	E3	-7.4	110
6	T	4-Amino-2,6-Dinitrotoluene	245.315	263.844	E3	-7.6	109
7	T	2,6-Dinitrotoluene	231.300	258.310	E3	-11.7	115
8	T	4-Nitrotoluene	181.424	183.663	E3	-1.2	107
9	M	RDX	171.532	181.889	E3	-6.0	113
10	M	1,3-Dinitrobenzene	503.456	558.681	E3	-11.0	114
11	M	Nitrobenzene	326.958	360.807	E3	-10.4	113
12	M	2-Amino-4,6-Dinitrotoluene	352.074	375.981	E3	-6.8	110
13	M	2,4-Dinitrotoluene	491.528	526.062	E3	-7.0	110
14	M	2-Nitrotoluene	210.218	226.355	E3	-7.7	111
15	M	3-Nitrotoluene	221.101	233.266	E3	-5.5	108

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\030207\LCD35590.D Vial: 14
Acq On : 3 Mar 2007 2:19 Operator: SS
Sample : 8330MIX Inst : LCD
Misc : CCAL Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 5 8:28 2007 Quant Results File: 71248330.RES

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Wed Feb 28 11:31:50 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

		Compound	R.T.	Response	Conc	Units
System Monitoring Compounds						
2)	S	4-Nitroaniline	7.00	70420203	539.228	ng/mlm
Spiked Amount		300.000	Range 49 - 133	Recovery	= 179.74%#	
Target Compounds						
1)	T	HMX	4.60	74416820	560.096	ng/mlm
3)	T	1,3,5-Trinitrobenzene	13.00	101349719	273.456	ng/ml
4)	T	Tetryl	19.01	148855479	542.613	ng/ml
5)	T	2,4,6-Trinitrotoluene	23.18	92751598	268.559	ng/ml
6)	T	4-Amino-2,6-Dinitrotoluene	25.12	65960984	268.883	ng/ml
7)	T	2,6-Dinitrotoluene	29.07	64577397	279.193	ng/ml
8)	T	4-Nitrotoluene	40.40	91831520	506.170	ng/ml
9)	M	RDX	8.79	90944262	530.190	ng/ml
10)	M	1,3-Dinitrobenzene	17.22	139670172	277.423	ng/ml
11)	M	Nitrobenzene	20.71	90201681	275.882	ng/ml
12)	M	2-Amino-4,6-Dinitrotoluene	26.72	93995275	266.976	ng/ml
13)	M	2,4-Dinitrotoluene	30.24	131515423	267.564	ng/ml
14)	M	2-Nitrotoluene	37.44	113177729	538.383	ng/ml
15)	M	3-Nitrotoluene	43.84	116632868	527.509	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

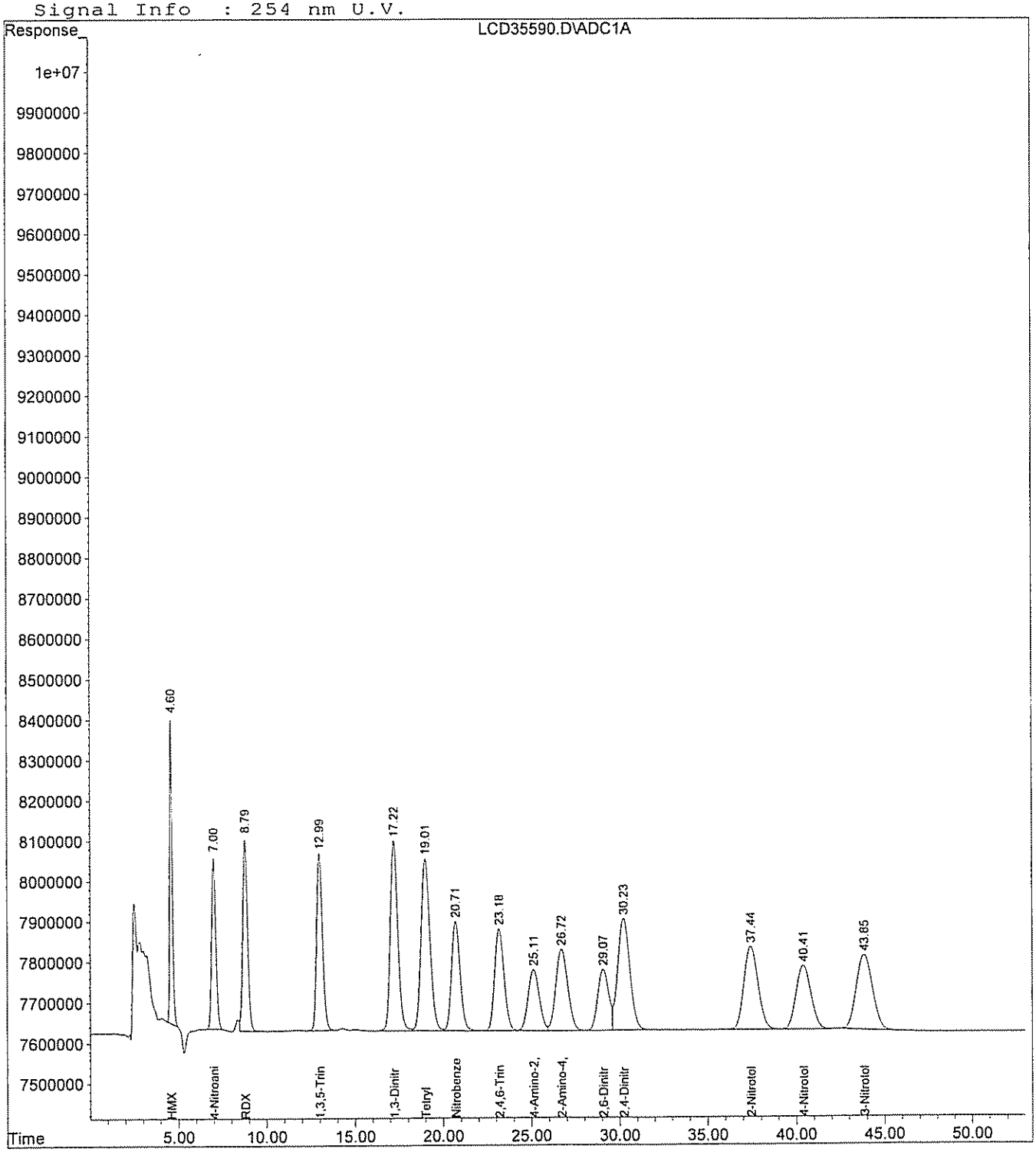
Quantitation Report

Data File : H:\LCDATA\LCD\030207\LCD35590.D
Acq On : 3 Mar 2007 2:19
Sample : 8330MIX
Misc : CCAL
IntFile : events.e
Quant Time: Mar 5 8:28 2007 Quant Results File: 71248330.RES

Vial: 14
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Wed Feb 28 11:31:50 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



Continuing Calibration Report LCD

Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Thu Mar 08 09:28:03 2007
Response via : Initial Calibration

Continuing Calibration File: LCD35603.D

Min. RRF : 0.000 Min. Rel. Area : 50%
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF		%Dev	Area%
1	T	HMX	132.864	146.029	E3	-9.9	112
2	S	4-Nitroaniline	130.594	135.538	E3	-3.8	107
3	T	1,3,5-Trinitrobenzene	370.625	395.937	E3	-6.8	110
4	T	Tetryl	274.331	289.924	E3	-5.7	107
5	T	2,4,6-Trinitrotoluene	345.368	365.976	E3	-6.0	108
6	T	4-Amino-2,6-Dinitrotoluene	245.315	264.672	E3	-7.9	109
7	T	2,6-Dinitrotoluene	231.300	253.964	E3	-9.8	113
8	T	4-Nitrotoluene	181.424	183.529	E3	-1.2	107
9	M	RDX	171.532	178.948	E3	-4.3	112
10	M	1,3-Dinitrobenzene	503.456	546.305	E3	-8.5	111
11	M	Nitrobenzene	326.958	347.281	E3	-6.2	109
12	M	2-Amino-4,6-Dinitrotoluene	352.074	373.105	E3	-6.0	109
13	M	2,4-Dinitrotoluene	491.528	516.108	E3	-5.0	108
14	M	2-Nitrotoluene	210.218	220.191	E3	-4.7	108
15	M	3-Nitrotoluene	221.101	233.383	E3	-5.6	108

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\030207\LCD35603.D
Acq On : 3 Mar 2007 14:45
Sample : 8330MIX
Misc : CCAL
IntFile : events.e
Quant Time: Mar 5 8:28 2007 Quant Results File: 71248330.RES

Vial: 27
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Wed Feb 28 11:31:50 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

		Compound	R.T.	Response	Conc Units
		System Monitoring Compounds			
2)	S	4-Nitroaniline	7.00	67769038	518.927 ng/ml
Spiked Amount		300.000	Range 49 - 133	Recovery	= 172.98%#
		Target Compounds			
1)	T	HMX	4.59	73014325	549.540 ng/mlm
3)	T	1,3,5-Trinitrobenzene	12.98	98984321	267.074 ng/ml
4)	T	Tetryl	18.97	144961921	528.420 ng/ml
5)	T	2,4,6-Trinitrotoluene	23.15	91493923	264.917 ng/ml
6)	T	4-Amino-2,6-Dinitrotoluene	25.07	66168019	269.727 ng/ml
7)	T	2,6-Dinitrotoluene	29.04	63490905	274.496 ng/ml
8)	T	4-Nitrotoluene	40.42	91764512	505.800 ng/ml
9)	M	RDX	8.79	89473889	521.618 ng/ml
10)	M	1,3-Dinitrobenzene	17.20	136576351	271.278 ng/ml
11)	M	Nitrobenzene	20.68	86820189	265.540 ng/ml
12)	M	2-Amino-4,6-Dinitrotoluene	26.67	93276257	264.933 ng/ml
13)	M	2,4-Dinitrotoluene	30.21	129026980	262.502 ng/ml
14)	M	2-Nitrotoluene	37.45	110095740	523.722 ng/ml
15)	M	3-Nitrotoluene	43.85	116691460	527.774 ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

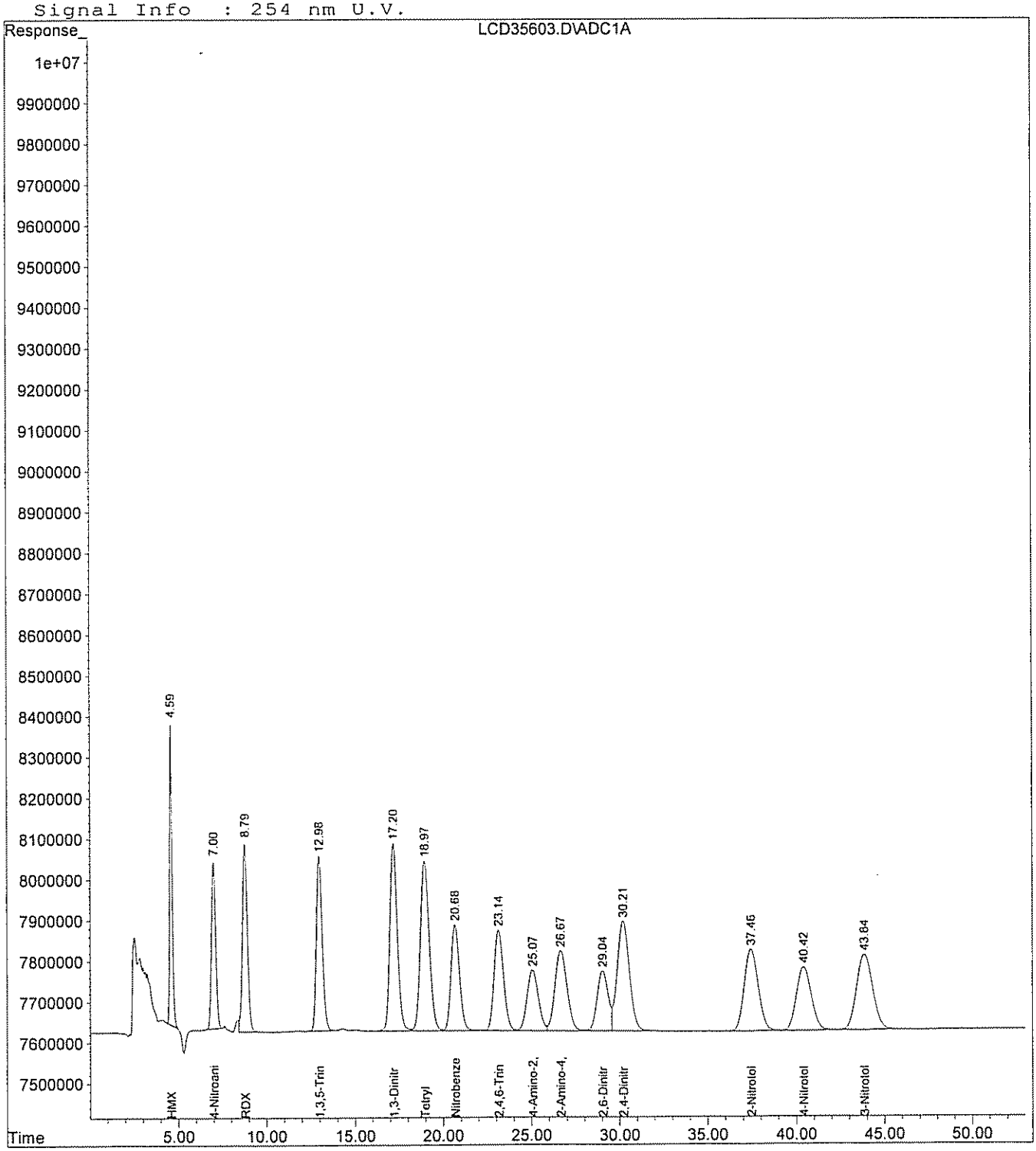
Quantitation Report

Data File : H:\LCDATA\LCD\030207\LCD35603.D
Acq On : 3 Mar 2007 14:45
Sample : 8330MIX
Misc : CCAL
IntFile : events.e
Quant Time: Mar 5 8:28 2007 Quant Results File: 71248330.RES

Vial: 27
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Wed Feb 28 11:31:50 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



Response Factor Report LCD

Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Mon Dec 18 17:38:33 2006

Calibration Files
LEV1 =LCD34915.D LEV2 =LCD34916.D LEV3 =LCD34917.D
LEV4 =LCD34918.D LEV5 =LCD34919.D

		Compound	LEV1	LEV2	LEV3	LEV4	LEV5	Avg	%RSD
1)	S	4-NITROANILINE	1.470	1.397	1.218	1.247	1.184	1.303 E5	9.51
2)	M	NITROGLYCERINE	1.963	1.816	1.968	1.990	2.203	1.988 E6	6.99

(#) = Out of Range

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\010907\LCD34917.D Vial: 12
Acq On : 9 Jan 2007 23:11 Operator: SS
Sample : 8330NG-LEV3 Inst : LCD
Misc : C CAL Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 10 14:21 2007 Quant Results File: 010907NG.RES

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S 4-NITROANILINE	7.20	30440548	247.858 PPB
Spiked Amount 300.000		Recovery =	82.62%
Target Compounds			
2) M NITROGLYCERINE	21.64f	19678669	11.184 PPM m

(f)=RT Delta > 1/2 Window (m)=manual int.

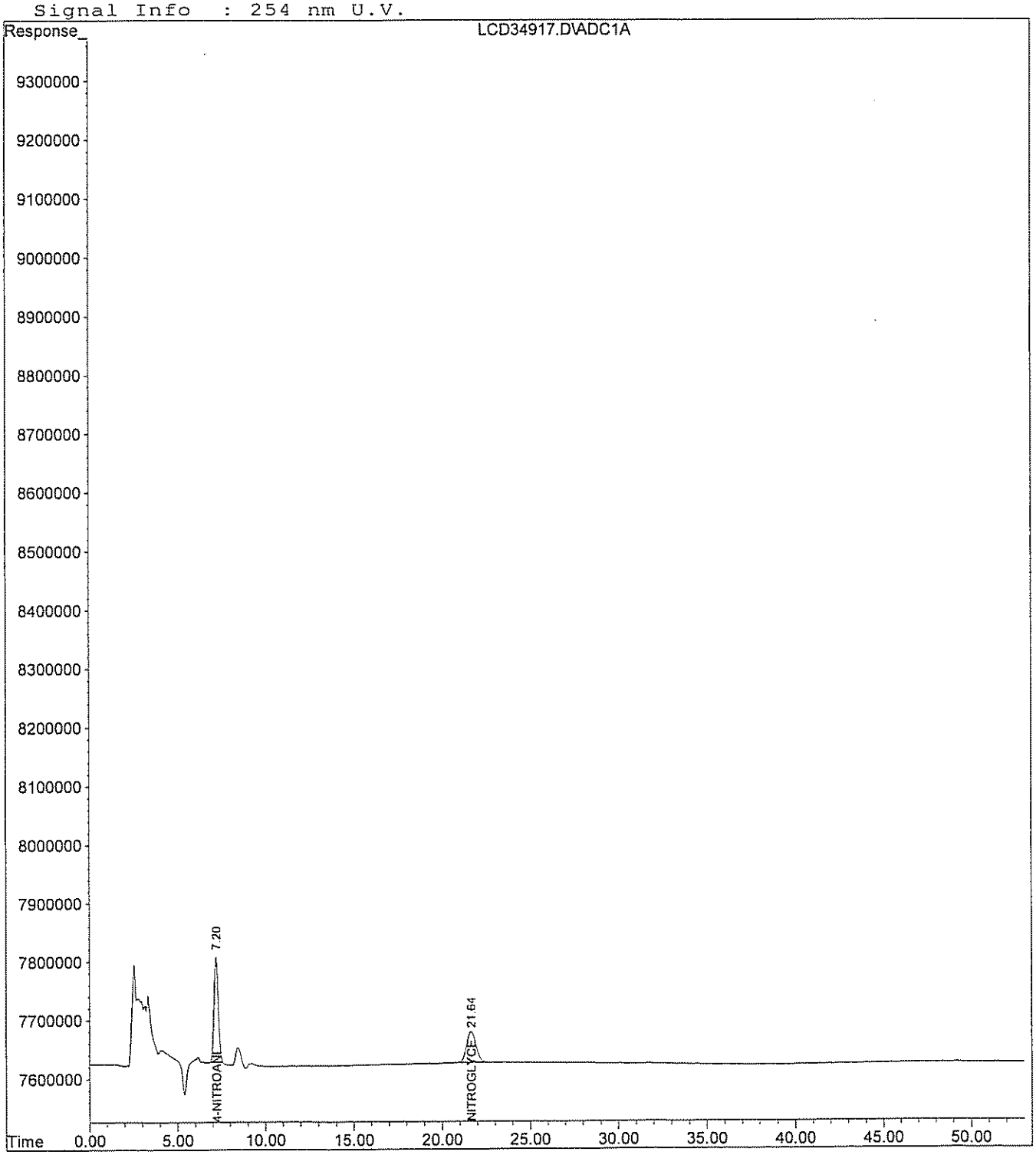
Quantitation Report

Data File : H:\LCDATA\LCD\010907\LCD34917.D
Acq On : 9 Jan 2007 23:11
Sample : 8330NG-LEV3
Misc : C CAL
IntFile : events.e
Quant Time: Jan 10 14:21 2007 Quant Results File: 010907NG.RES

Vial: 12
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\010907\LCD34914.D Vial: 9
Acq On : 9 Jan 2007 20:19 Operator: SS
Sample : 8330NG-BLK Inst : LCD
Misc : C CAL Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 10 14:21 2007 Quant Results File: 010907NG.RES

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
1) S 4-NITROANILINE	0.00	0	N.D.	PPB
Spiked Amount 300.000		Recovery =	0.00%	
Target Compounds				
2) M NITROGLYCERINE	0.00	0	N.D.	PPM

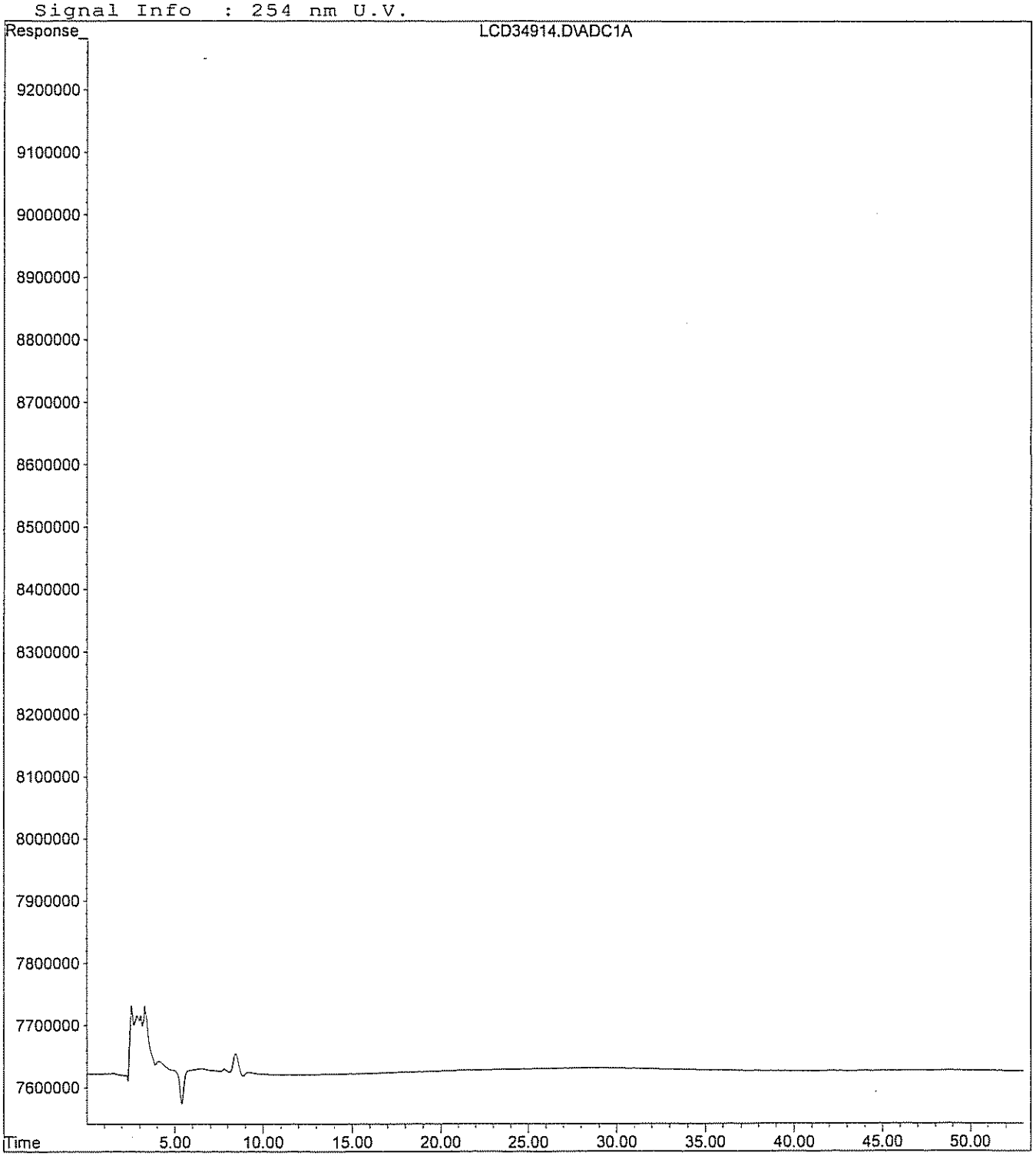
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCD\010907\LCD34914.D Vial: 9
Acq On : 9 Jan 2007 20:19 Operator: SS
Sample : 8330NG-BLK Inst : LCD
Misc : C CAL Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 10 14:21 2007 Quant Results File: 010907NG.RES

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\010907\LCD34915.D Vial: 10
Acq On : 9 Jan 2007 21:16 Operator: SS
Sample : 8330NG-LEV1 Inst : LCD
Misc : C CAL Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 10 14:22 2007 Quant Results File: 010907NG.RES

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S 4-NITROANILINE	7.19	3675673	30.242 PPB m
Spiked Amount 300.000		Recovery =	10.08%
Target Compounds			
2) M NITROGLYCERINE	21.62	1963352	1.084 PPM m

(f)=RT Delta > 1/2 Window (m)=manual int.

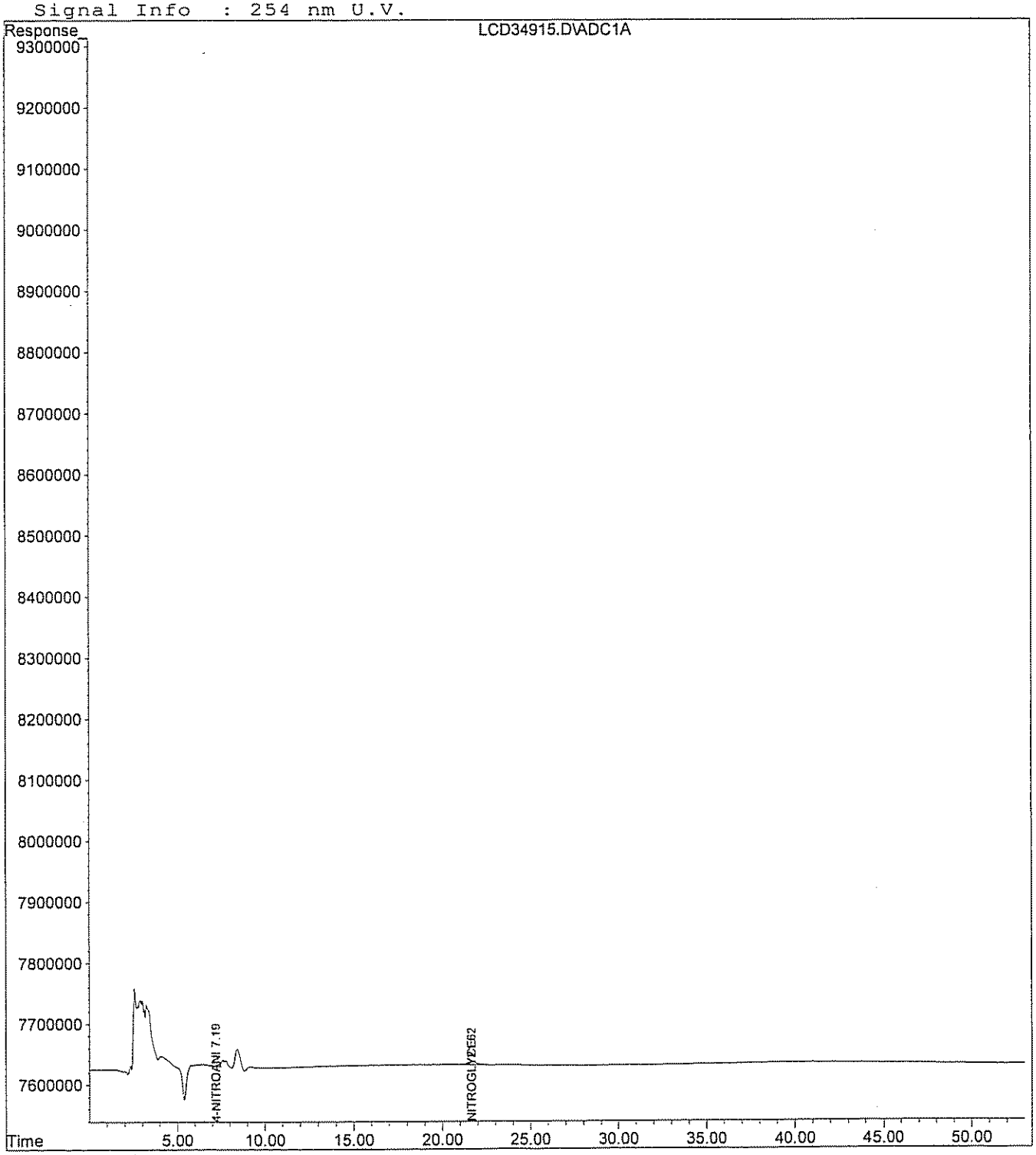
Quantitation Report

Data File : H:\LCDATA\LCD\010907\LCD34915.D
Acq On : 9 Jan 2007 21:16
Sample : 8330NG-LEV1
Misc : C CAL
IntFile : events.e
Quant Time: Jan 10 14:22 2007 Quant Results File: 010907NG.RES

Vial: 10
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\010907\LCD34916.D Vial: 11
Acq On : 9 Jan 2007 22:13 Operator: SS
Sample : 8330NG-LEV2 Inst : LCD
Misc : C CAL Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 10 14:22 2007 Quant Results File: 010907NG.RES

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1) S 4-NITROANILINE	7.19	17464282	139.984	PPB	m
Spiked Amount 300.000		Recovery =	46.66%		
Target Compounds					
2) M NITROGLYCERINE	21.67	9078123	4.904	PPM	m

(f)=RT Delta > 1/2 Window (m)=manual int.

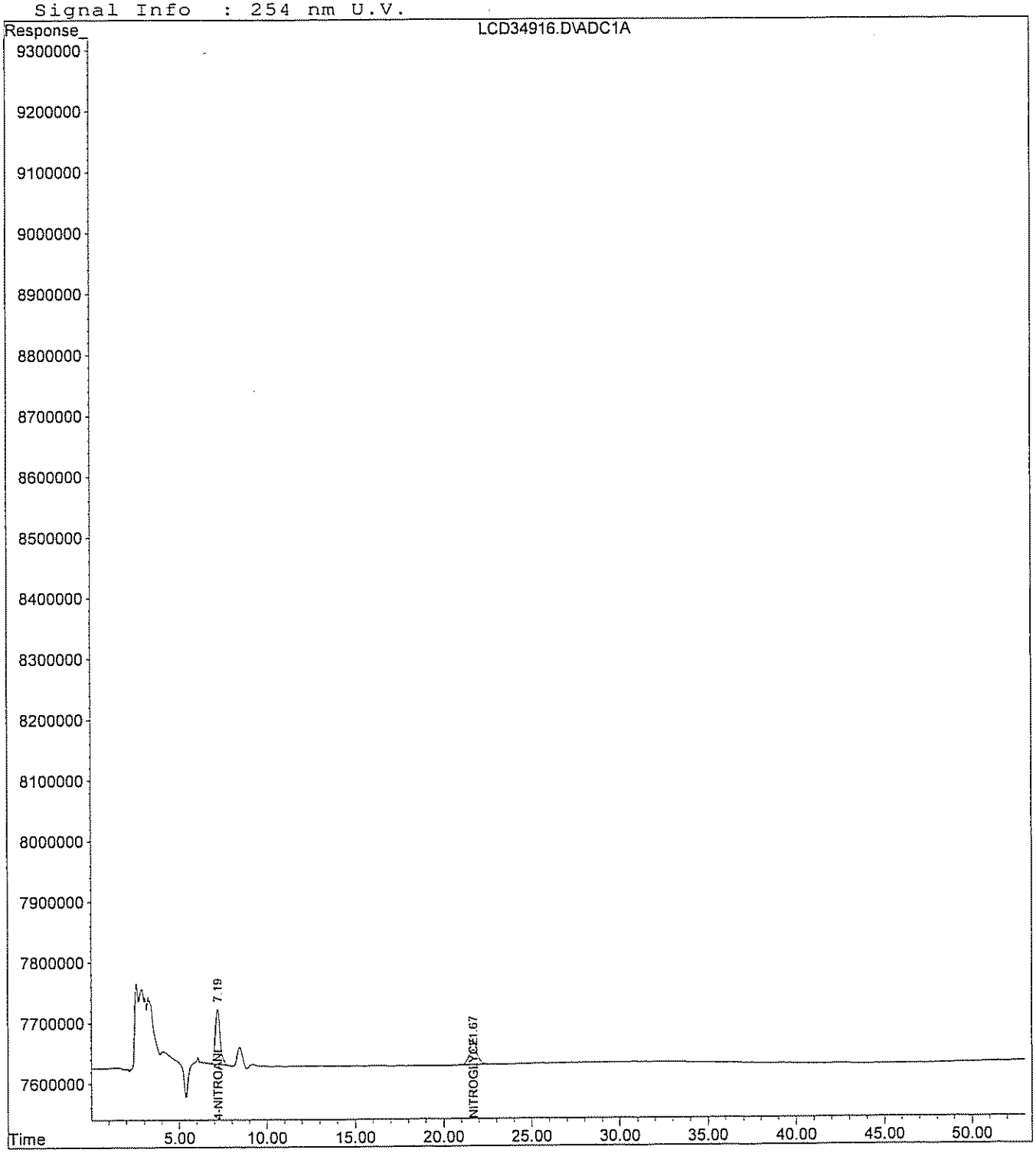
Quantitation Report

Data File : H:\LCDATA\LCD\010907\LCD34916.D
Acq On : 9 Jan 2007 22:13
Sample : 8330NG-LEV2
Misc : C CAL
IntFile : events.e
Quant Time: Jan 10 14:22 2007 Quant Results File: 010907NG.RES

Vial: 11
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\010907\LCD34917.D Vial: 12
Acq On : 9 Jan 2007 23:11 Operator: SS
Sample : 8330NG-LEV3 Inst : LCD
Misc : C CAL Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 10 14:21 2007 Quant Results File: 010907NG.RES

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S 4-NITROANILINE	7.20	30440548	247.858 PPB
Spiked Amount 300.000		Recovery =	82.62%
Target Compounds			
2) M NITROGLYCERINE	21.64f	19678669	11.184 PPM m

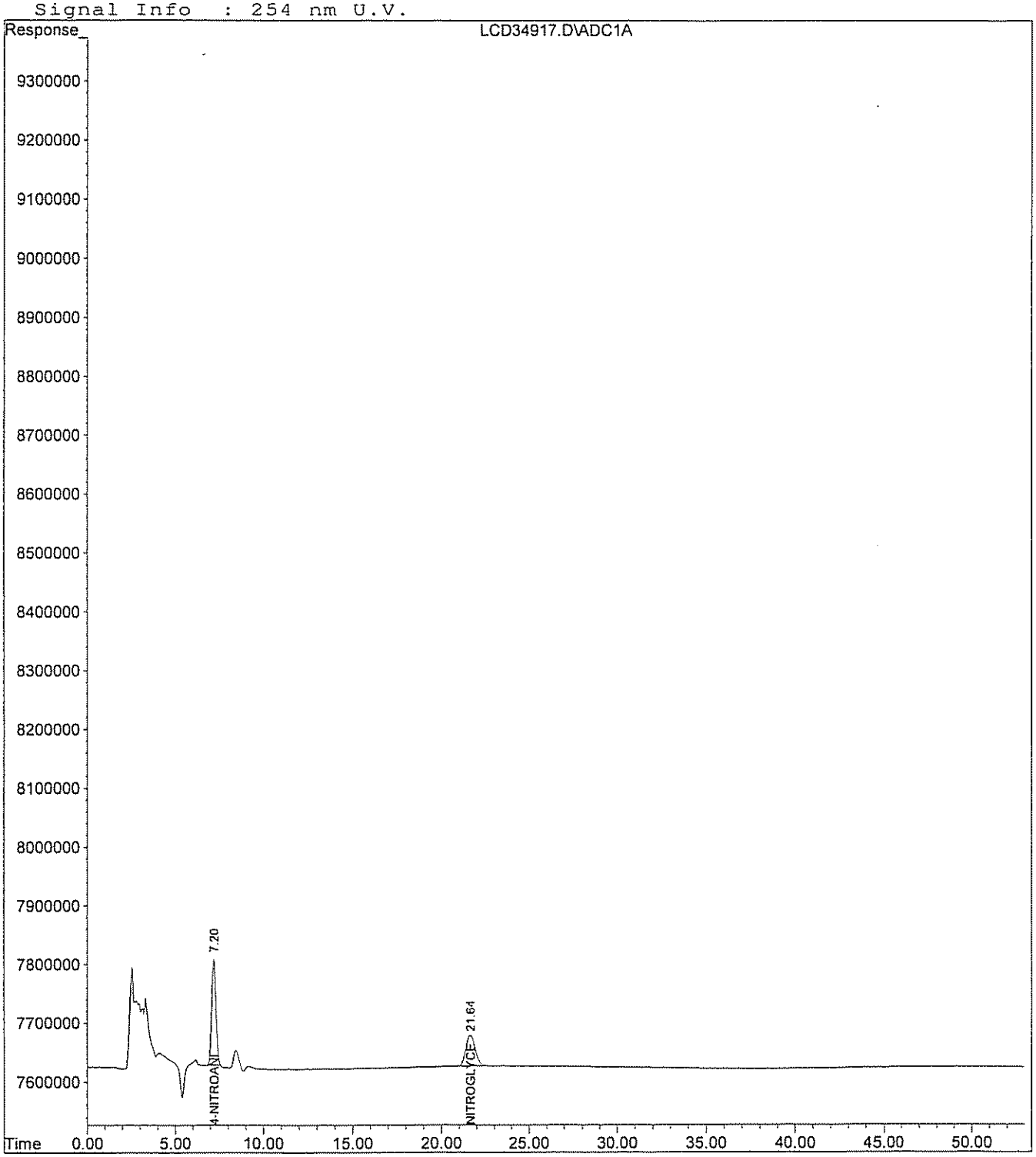
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCD\010907\LCD34917.D Vial: 12
Acq On : 9 Jan 2007 23:11 Operator: SS
Sample : 8330NG-LEV3 Inst : LCD
Misc : C CAL Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 10 14:21 2007 Quant Results File: 010907NG.RES

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\010907\LCD34918.D Vial: 13
Acq On : 10 Jan 2007 00:08 Operator: SS
Sample : 8330NG-LEV4 Inst : LCD
Misc : C CAL Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 10 14:23 2007 Quant Results File: 010907NG.RES

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S 4-NITROANILINE	7.21	62348494	485.250 PPB
Spiked Amount 300.000		Recovery =	161.75%
Target Compounds			
2) M NITROGLYCERINE	21.63	39803052	21.301 PPM m

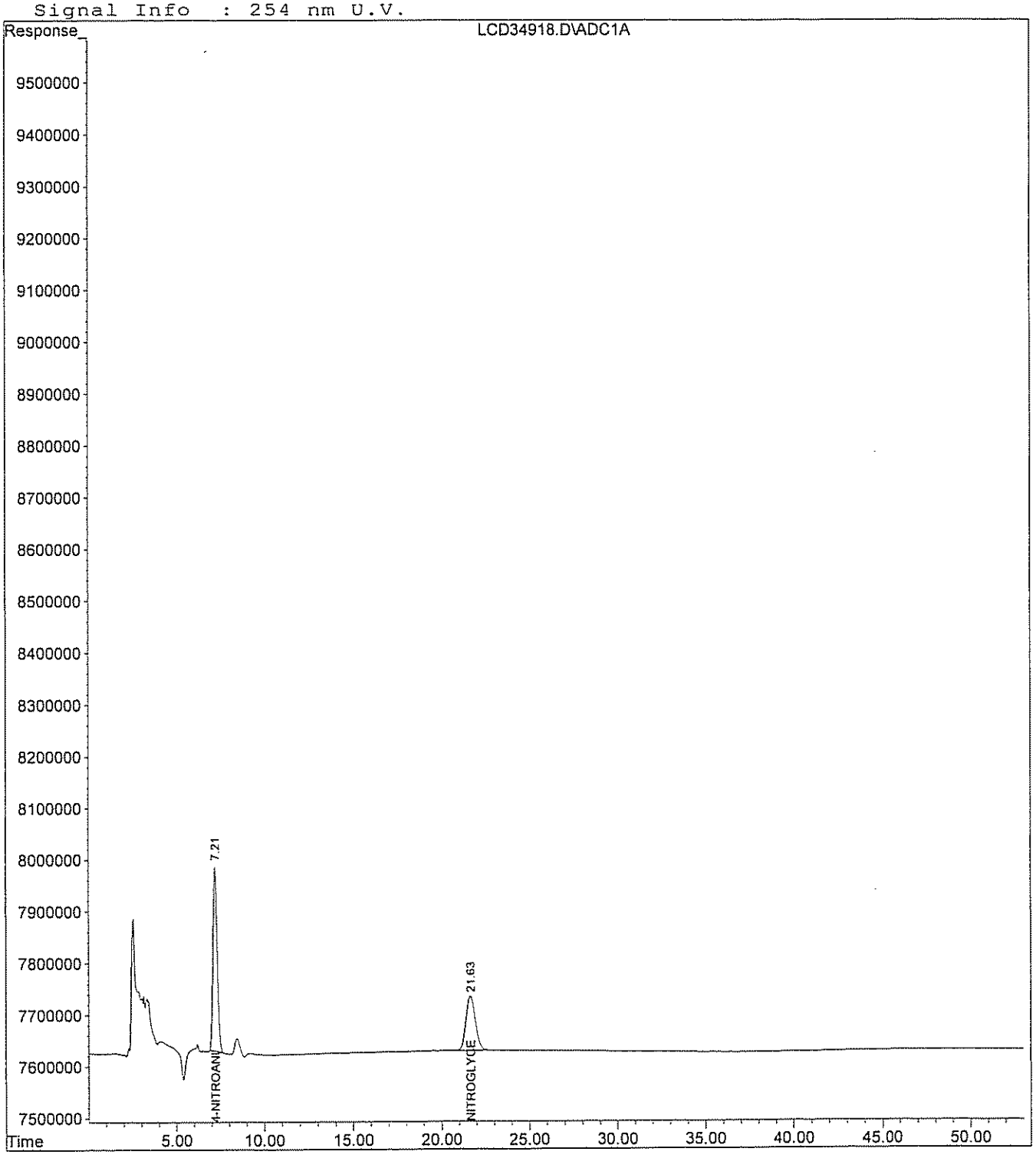
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCD\010907\LCD34918.D Vial: 13
Acq On : 10 Jan 2007 00:08 Operator: SS
Sample : 8330NG-LEV4 Inst : LCD
Misc : C CAL Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 10 14:23 2007 Quant Results File: 010907NG.RES

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\010907\LCD34919.D Vial: 14
Acq On : 10 Jan 2007 1:05 Operator: SS
Sample : 8330NG-LEV5 Inst : LCD
Misc : C CAL Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 10 14:23 2007 Quant Results File: 010907NG.RES

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S 4-NITROANILINE	7.20	148025904	1142.764 PPB
Spiked Amount 300.000		Recovery =	380.92%
Target Compounds			
2) M NITROGLYCERINE	21.63	110173105	57.909 PPM

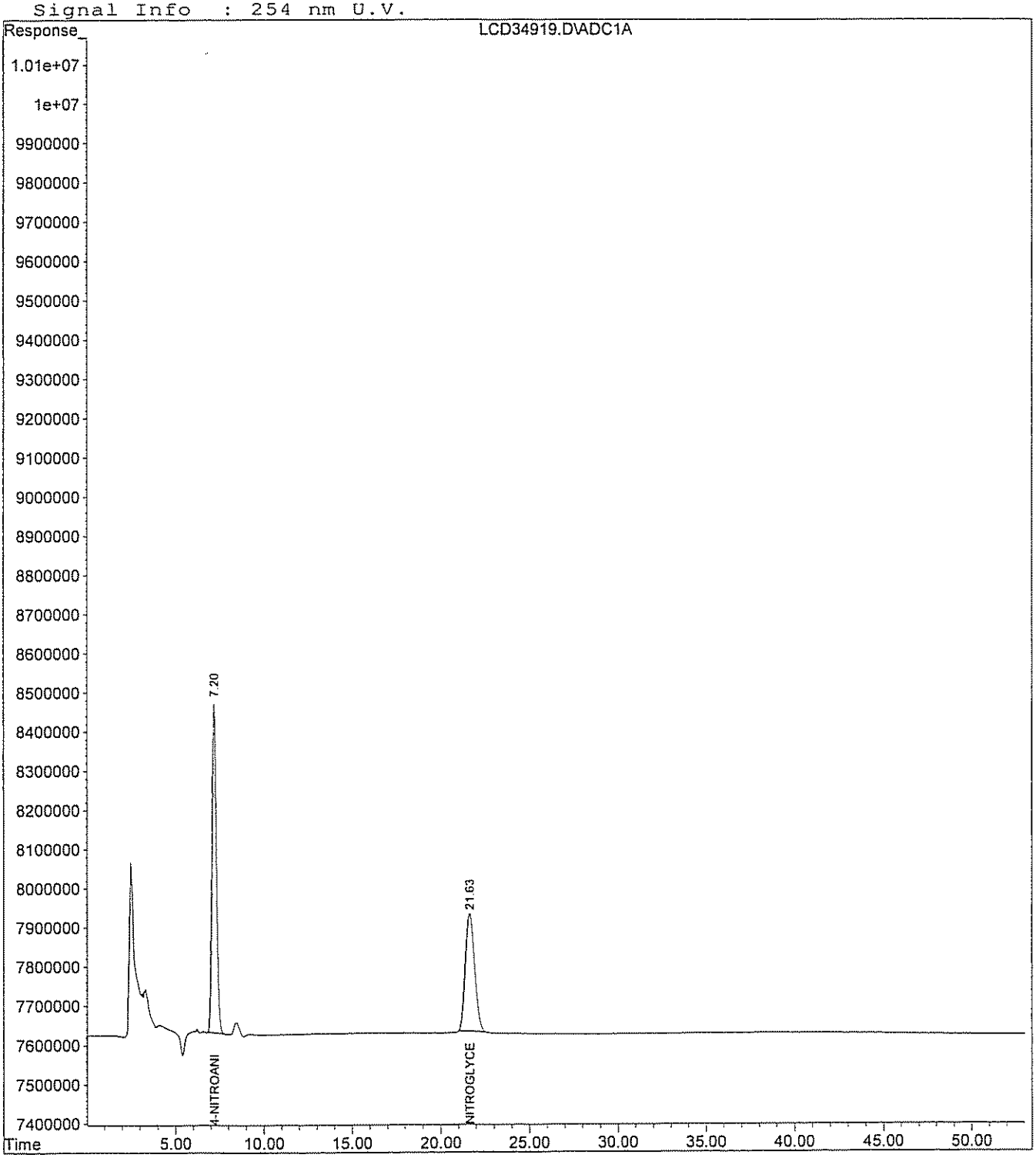
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCD\010907\LCD34919.D Vial: 14
Acq On : 10 Jan 2007 1:05 Operator: SS
Sample : 8330NG-LEV5 Inst : LCD
Misc : C CAL Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 10 14:23 2007 Quant Results File: 010907NG.RES

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



Continuing Calibration Report LCD

Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Wed Jan 10 14:35:06 2007
Response via : Initial Calibration

Continuing Calibration File: LCD34917.D

Min. RRF : 0.000 Min. Rel. Area : 50%
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF		%Dev	Area%
1	S	4-NITROANILINE	130.324	121.762	E3	6.6	100
2	M	NITROGLYCERINE	1.988	1.968	E6	1.0	100

(#) = Out of Range SPCC's out = 0 CCC's out = 0
LCD34917.D 010907NG.M Tue Jan 23 09:07:04 2007 NP1 Page 1

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\010907\LCD34920.D Vial: 15
Acq On : 10 Jan 2007 2:03 Operator: SS
Sample : 8330NG-ICV Inst : LCD
Misc : C CAL Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 10 14:24 2007 Quant Results File: 010907NG.RES

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S 4-NITROANILINE	7.14	250619	1.923 PPB m
Spiked Amount 300.000		Recovery =	0.64%
Target Compounds			
2) M NITROGLYCERINE	21.72	18307132	9.208 PPM m

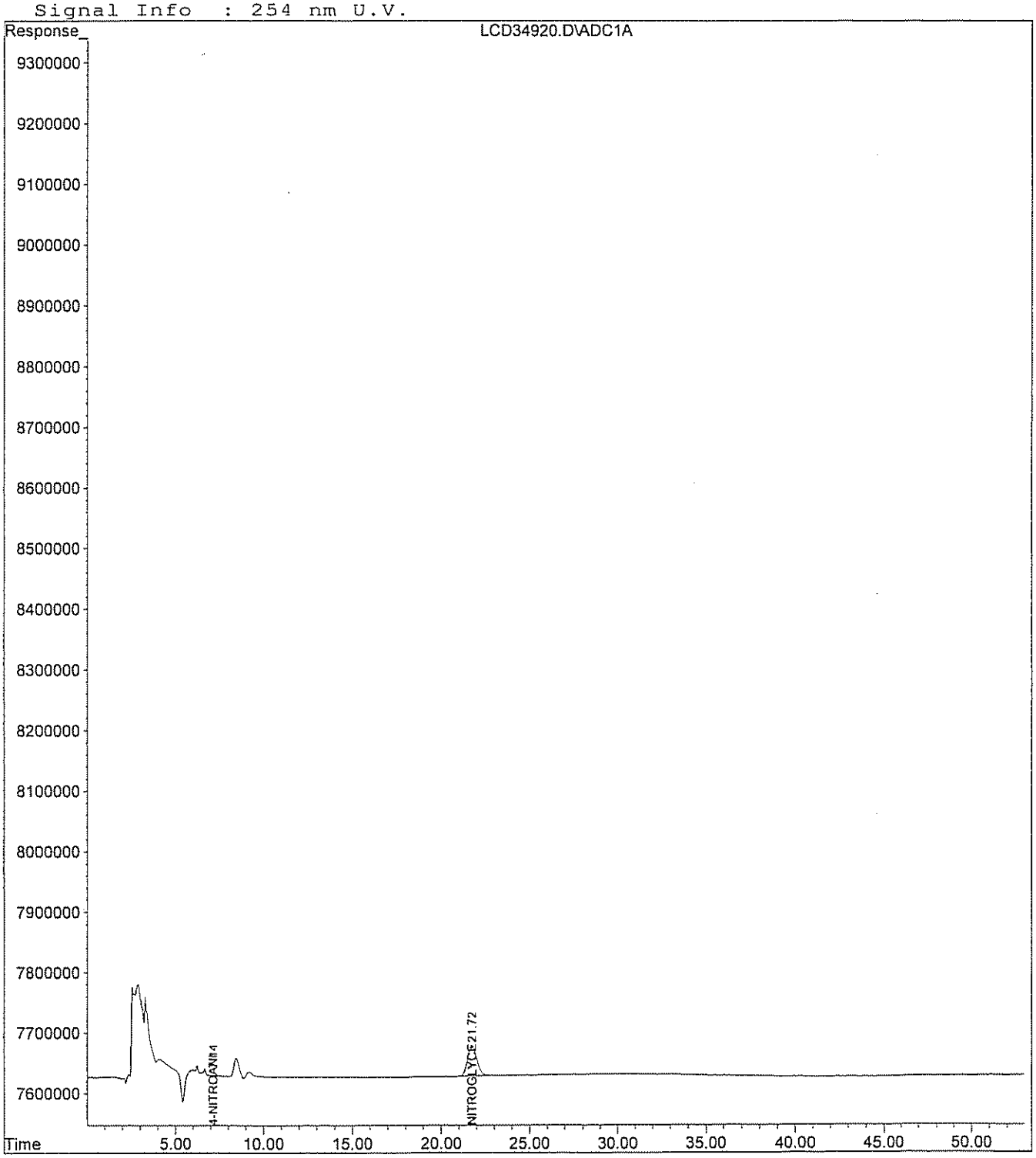
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCD\010907\LCD34920.D Vial: 15
Acq On : 10 Jan 2007 2:03 Operator: SS
Sample : 8330NG-ICV Inst : LCD
Misc : C CAL Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 10 14:24 2007 Quant Results File: 010907NG.RES

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



8330 RETENTION TIME WINDOW ESTABLISHMENT

INSTRUMENT: LCD
COLUMN: C8 ANALYST JCSA
DATE: 1/31/07-2/1/07

COMPOUND	RT1	PW1	RT2	PW2	RT3	PW3	Avg RT	3x RT Std De	Avg PW	RT Window
4-Nitroaniline(Surr.)	7.16	0.28	7.19	0.26	7.18	0.28	7.177	0.046	0.27	0.14
Nitroglycerine	21.58	0.66	21.57	0.67	21.62	0.66	21.590	0.079	0.66	0.33

Advisory Retention Time Windows are based on three daily calibration check standards
Run within a 72 hour window

Windows are the greater of 1/2 the average peak width,
or +/- 3 times the retention time standard deviation

Continuing Calibration Report LCD

Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Thu Mar 08 09:28:25 2007
Response via : Initial Calibration

Continuing Calibration File: LCD35578.D

Min. RRF : 0.000 Min. Rel. Area : 50%
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF		%Dev	Area%
1	S	4-NITROANILINE	130.324	92.745	E3	28.8#	76
2	M	NITROGLYCERINE	1.988	2.282	E6	-14.8	116

(#) = Out of Range SPCC's out = 0 CCC's out = 0
LCD35578.D 010907NG.M Thu Mar 08 09:28:28 2007 NP1 Page 1

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\030207\0302NG\LCD35578.D Vial: 2
Acq On : 2 Mar 2007 14:21 Operator: SS
Sample : 8330NG Inst : LCD
Misc : C CAL Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 2 15:17 2007 Quant Results File: 010907NG.RES

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1) S 4-NITROANILINE	6.97	23186196	177.912	PPB	m
Spiked Amount 300.000		Recovery =	59.30%		
Target Compounds					
2) M NITROGLYCERINE	20.69	22824985	11.481	PPM	m

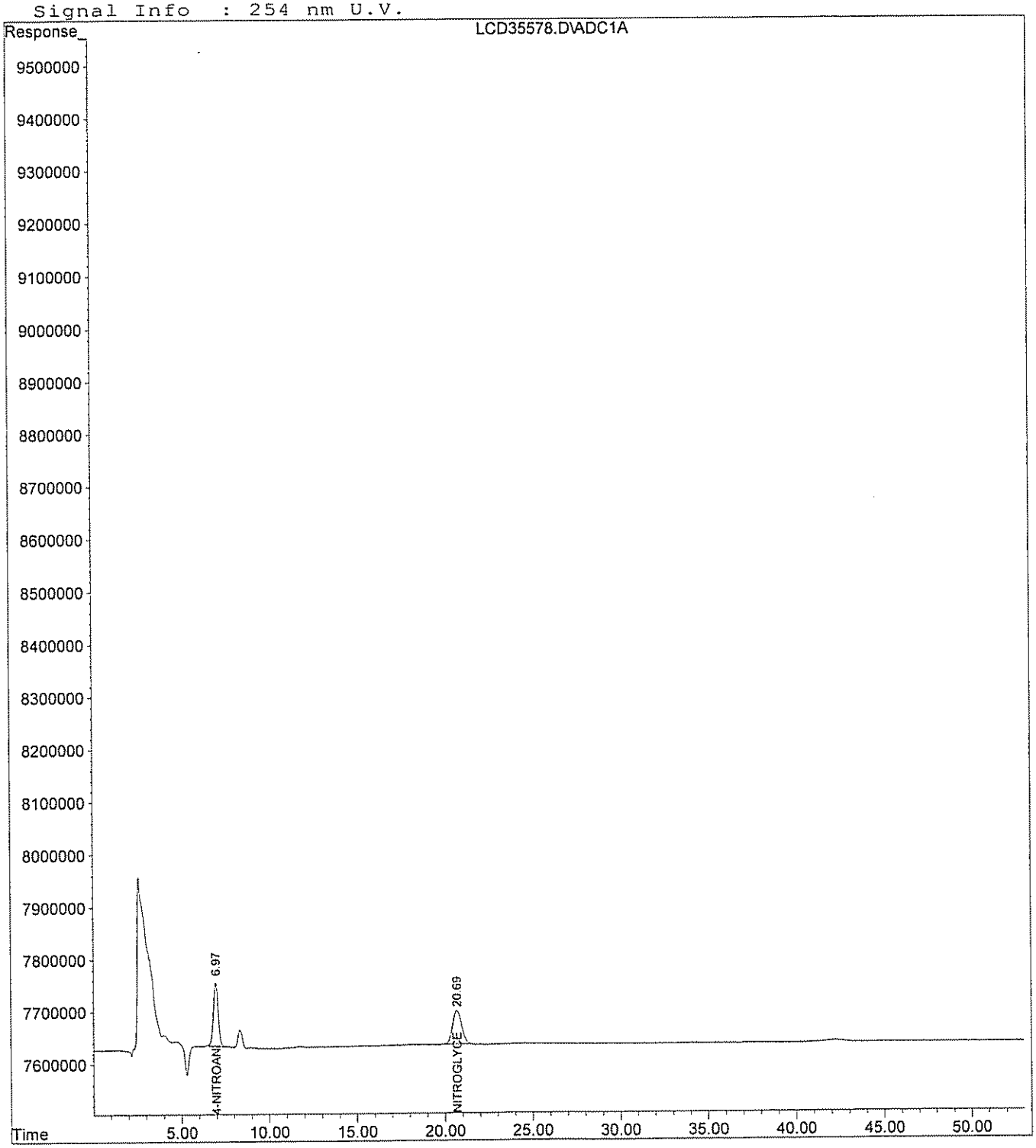
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCD\030207\0302NG\LCD35578.D Vial: 2
Acq On : 2 Mar 2007 14:21 Operator: SS
Sample : 8330NG Inst : LCD
Misc : C CAL Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 2 15:17 2007 Quant Results File: 010907NG.RES

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



Continuing Calibration Report LCD

Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Thu Mar 08 09:28:42 2007
Response via : Initial Calibration

Continuing Calibration File: LCD35591.D

Min. RRF : 0.000 Min. Rel. Area : 50%
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF		%Dev	Area%
1	S	4-NITROANILINE	130.324	104.515	E3	19.8#	86
2	M	NITROGLYCERINE	1.988	2.260	E6	-13.7	115

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\030207\0302NG\LCD35591.D Vial: 15
Acq On : 3 Mar 2007 3:17 Operator: SS
Sample : 8330NG Inst : LCD
Misc : CCAL Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 5 8:30 2007 Quant Results File: 010907NG.RES

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1) S 4-NITROANILINE	6.99	26128668	200.490	PPB	m
Spiked Amount 300.000		Recovery =	66.83%		
Target Compounds					
2) M NITROGLYCERINE	20.74	22604176	11.370	PPM	m

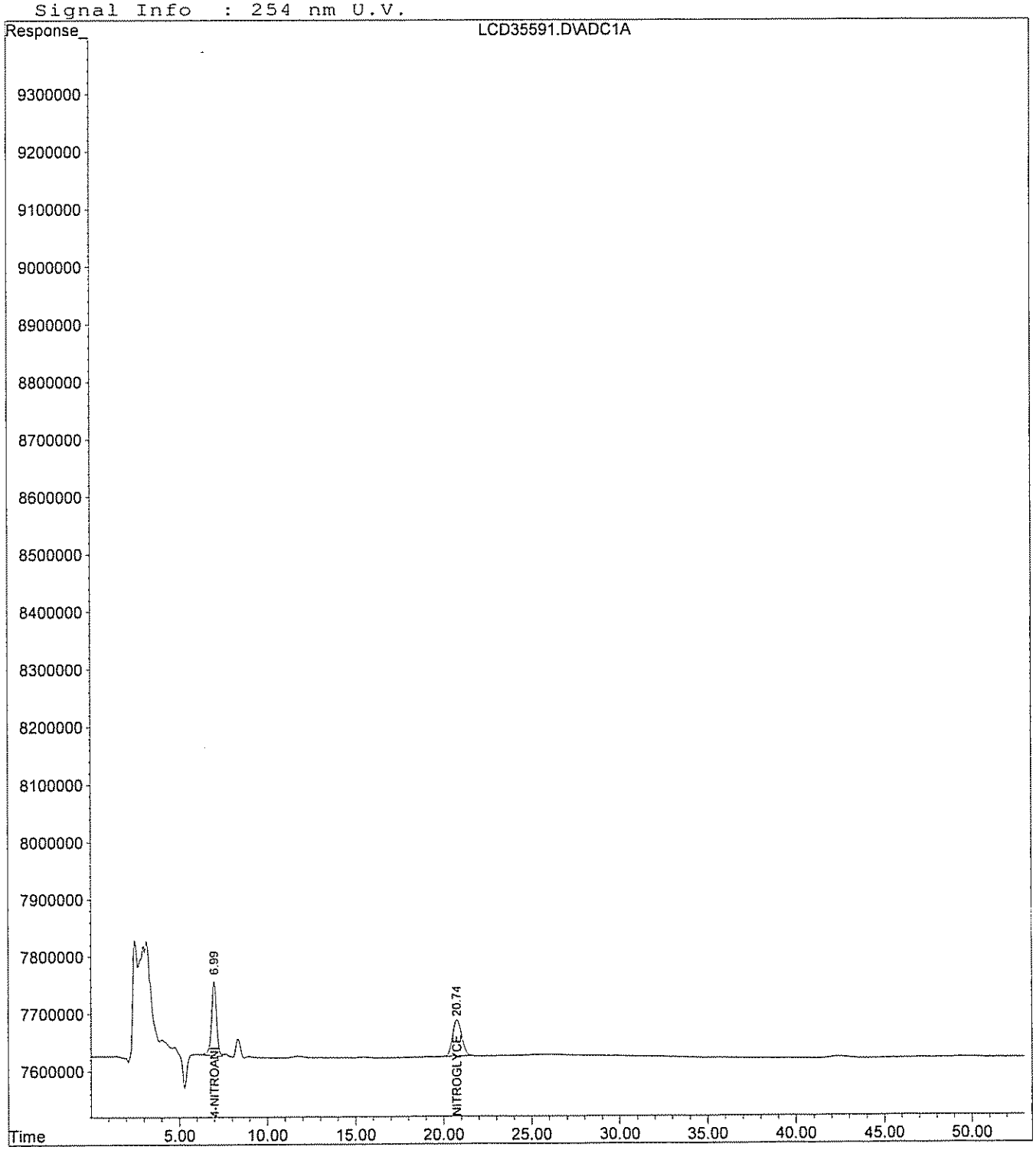
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCD\030207\0302NG\LCD35591.D Vial: 15
Acq On : 3 Mar 2007 3:17 Operator: SS
Sample : 8330NG Inst : LCD
Misc : CCAL Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 5 8:30 2007 Quant Results File: 010907NG.RES

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



Continuing Calibration Report LCD

Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Thu Mar 08 09:28:58 2007
Response via : Initial Calibration

Continuing Calibration File: LCD35604.D

Min. RRF : 0.000 Min. Rel. Area : 50%
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF		%Dev	Area%
1	S	4-NITROANILINE	130.324	102.252	E3	21.5#	84
2	M	NITROGLYCERINE	1.988	2.280	E6	-14.7	116

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\030207\0302NG\LCD35604.D Vial: 28
Acq On : 3 Mar 2007 15:43 Operator: SS
Sample : 8330NG Inst : LCD
Misc : CCAL Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 5 8:31 2007 Quant Results File: 010907NG.RES

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1) S 4-NITROANILINE	6.99	25563081	196.150	PPB	m
Spiked Amount 300.000		Recovery =	65.38%		
Target Compounds					
2) M NITROGLYCERINE	20.74	22795797	11.466	PPM	m

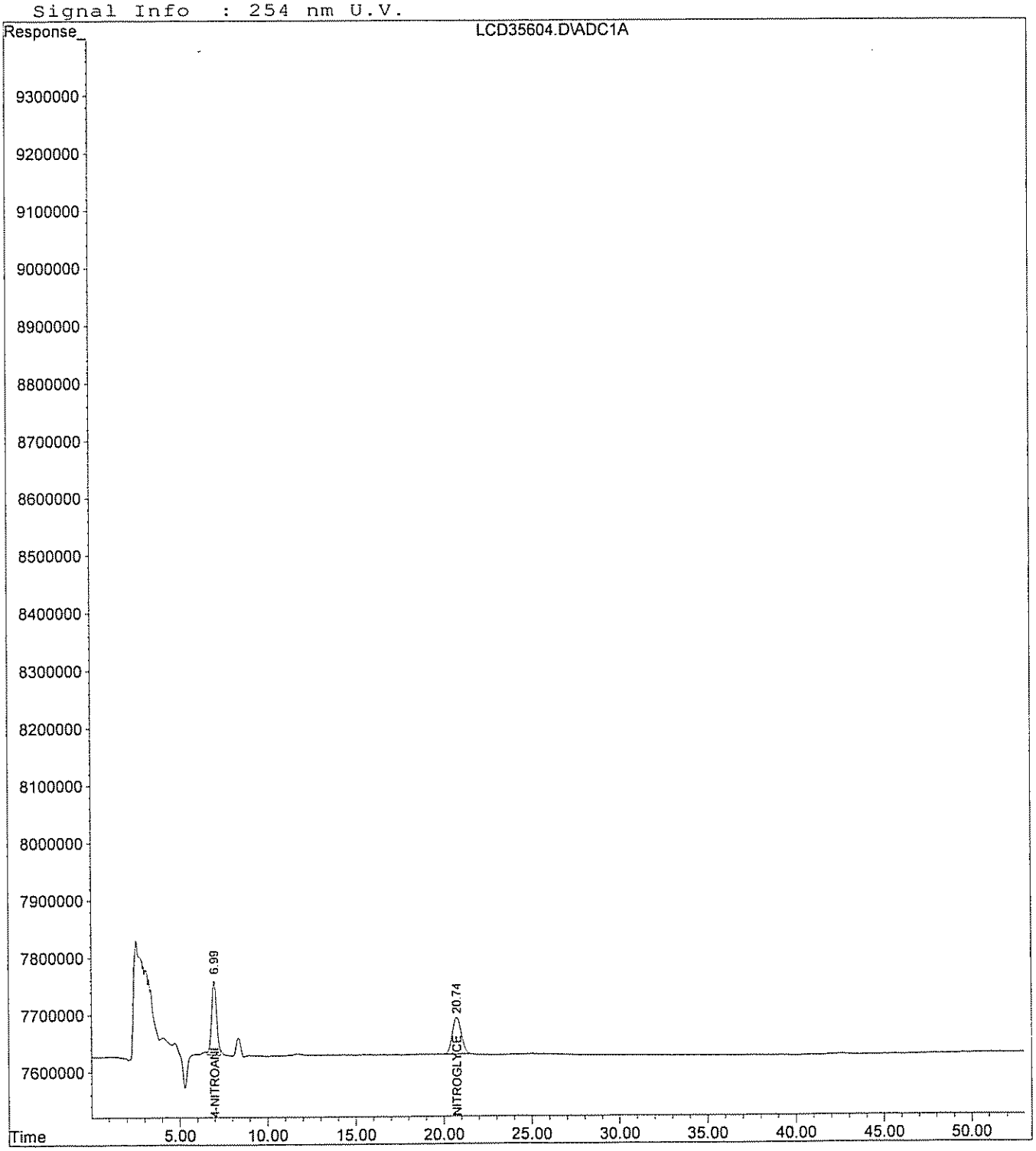
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCD\030207\0302NG\LCD35604.D Vial: 28
Acq On : 3 Mar 2007 15:43 Operator: SS
Sample : 8330NG Inst : LCD
Misc : CCAL Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 5 8:31 2007 Quant Results File: 010907NG.RES

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



Response Factor Report LCD

Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Thu Jan 25 16:45:30 2007

Calibration Files
LEV1 =LCD35040.D LEV2 =LCD35041.D LEV3 =LCD35042.D
LEV4 =LCD35043.D LEV5 =LCD35044.D LEV6 =LCD35045.D

		Compound	LEV1	LEV2	LEV3	LEV4	LEV5	LEV6	Avg		%RSD
1)	T	HMX	1.311	1.274	1.220	1.290	1.302	1.297	1.282	E5	2.57
2)	S	4-Nitroaniline	1.094	1.021	1.124	1.186	1.216	1.222	1.144	E5	6.89
3)	T	1,3,5-Trinitrobenze	3.223	3.242	3.282	3.477	3.521	3.542	3.381	E5	4.36
4)	T	Tetryl	2.262	2.378	2.439	2.591	2.625	2.637	2.489	E5	6.16
5)	T	2,4,6-Trinitrotolue	3.051	3.047	3.075	3.249	3.291	3.318	3.172	E5	4.01
6)	T	4-Amino-2,6-Dinitro	5.206	4.939	5.196	5.493	5.601	5.633	5.345	E5	5.14
7)	T	2,6-Dinitrotoluene	2.301	2.167	2.226	2.332	2.381	2.396	2.301	E5	3.89
8)	T	4-Nitrotoluene	1.939	1.917	1.973	2.095	2.132	2.148	2.034	E5	5.05
9)	M	RDX	1.520	1.483	1.525	1.613	1.635	1.639	1.569	E5	4.31
10)	M	1,3-Dinitrobenzene	4.589	4.398	4.553	4.820	4.922	4.934	4.703	E5	4.70
11)	M	Nitrobenzene	2.845	2.824	2.902	3.082	3.125	3.135	2.985	E5	4.82
12)	M	2-Amino-4,6-Dinitro	5.206	4.939	5.196	5.493	5.601	5.633	5.345	E5	5.14
13)	M	2,4-Dinitrotoluene	4.239	4.072	4.229	4.471	4.560	4.588	4.360	E5	4.80
14)	M	2-Nitrotoluene	1.912	1.816	1.874	1.990	2.024	2.032	1.941	E5	4.53
15)	M	3-Nitrotoluene	1.645	1.524	1.577	1.672	1.699	1.705	1.637	E5	4.42

(#) = Out of Range

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\012507\LCD35039.D
Acq On : 25 Jan 2007 10:00
Sample : 8330MIX-BLK
Misc : CCAL
IntFile : events.e
Quant Time: Jan 25 16:40 2007 Quant Results File: 7125CON.RES

Vial: 1
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Wed Jan 17 09:37:15 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : POLAR RP
Signal Info : 254 nm U.V.

Compound	R.T.	Response	Conc	Units

System Monitoring Compounds

Target Compounds

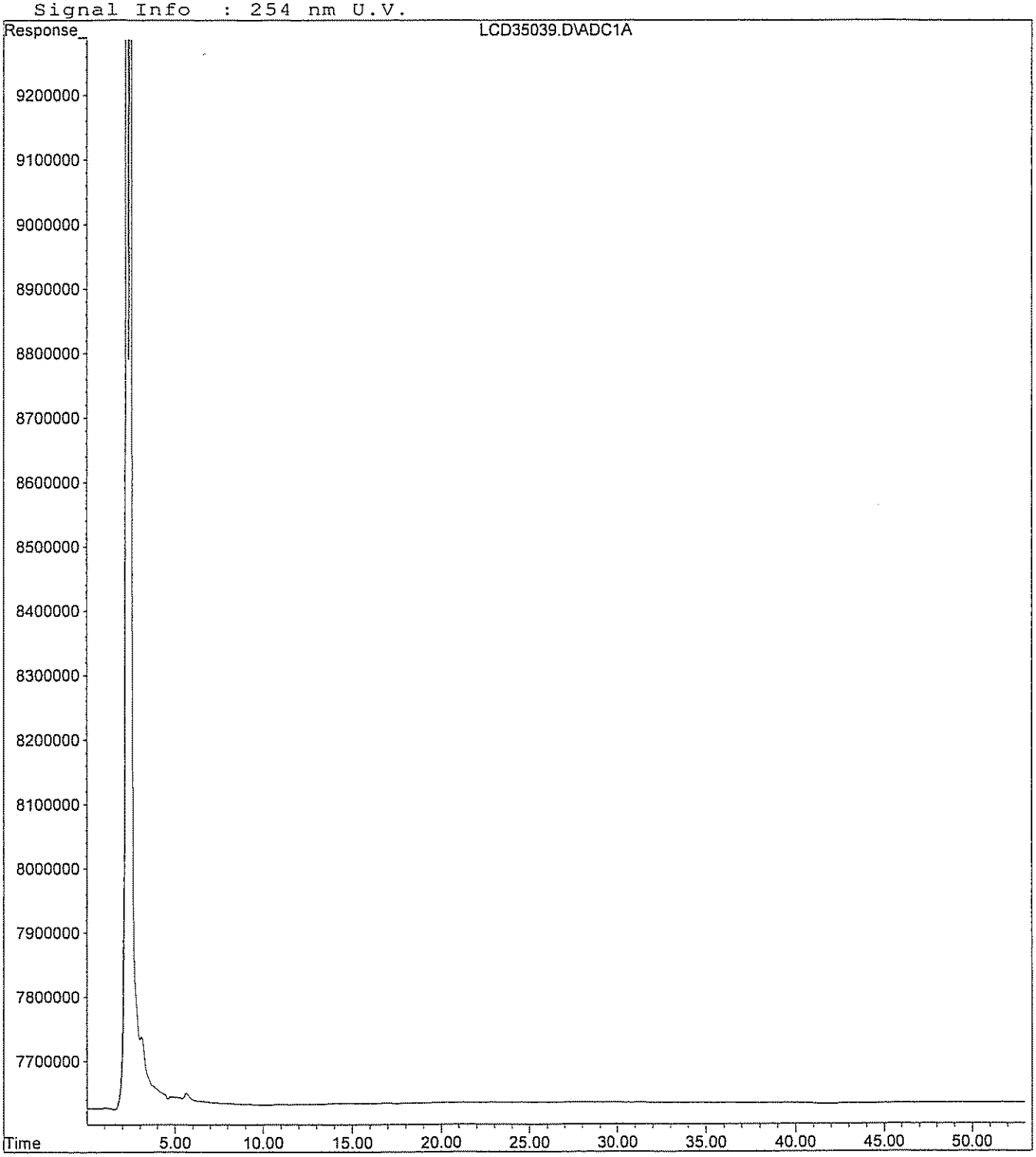
(f)=RT Delta > 0.1 (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCD\012507\LCD35039.D Vial: 1
Acq On : 25 Jan 2007 10:00 Operator: SS
Sample : 8330MIX-BLK Inst : LCD
Misc : CCAL Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 25 16:40 2007 Quant Results File: 7125CON.RES

Quant Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Wed Jan 17 09:37:15 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : POLAR RP
Signal Info : 254 nm U.V.



Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\012507\LCD35040.D Vial: 2
Acq On : 25 Jan 2007 10:58 Operator: SS
Sample : 8330MIX-LEV1 Inst : LCD
Misc : CCAL Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 25 16:42 2007 Quant Results File: 7125CON.RES

Quant Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Wed Jan 17 09:37:15 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : POLAR RP
Signal Info : 254 nm U.V.

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
2)	S	4-Nitroaniline	8.55	2188356	18.581	ng/ml
Spiked Amount		300.000	Range 49 - 133	Recovery =	6.19%#	
		Target Compounds				
1)	T	HMX	15.35	2621734	20.650	ng/mlm
3)	T	1,3,5-Trinitrobenzene	28.86	3223329	10.124	ng/mlm
4)	T	Tetryl	43.40	4523114	24.643	ng/mlm
5)	T	2,4,6-Trinitrotoluene	39.96	3050606	9.768	ng/mlm
6)	T	4-Amino-2,6-Dinitrotoluene	19.30	5206415	9.496	ng/ml
7)	T	2,6-Dinitrotoluene	24.19	2300915	9.893	ng/mlm
8)	T	4-Nitrotoluene	21.22	3878645	18.641	ng/ml
9)	M	RDX	12.47	3040357	19.013	ng/ml
10)	M	1,3-Dinitrobenzene	18.21	4589256	9.588	ng/ml
11)	M	Nitrobenzene	14.10	2845054	9.238	ng/ml
12)	M	2-Amino-4,6-Dinitrotoluene	19.30	5206415	9.496	ng/ml
13)	M	2,4-Dinitrotoluene	25.71	4239244	9.458	ng/ml
14)	M	2-Nitrotoluene	19.69	3824021	19.341	ng/mlm
15)	M	3-Nitrotoluene	20.34	3290467	19.496	ng/mlm

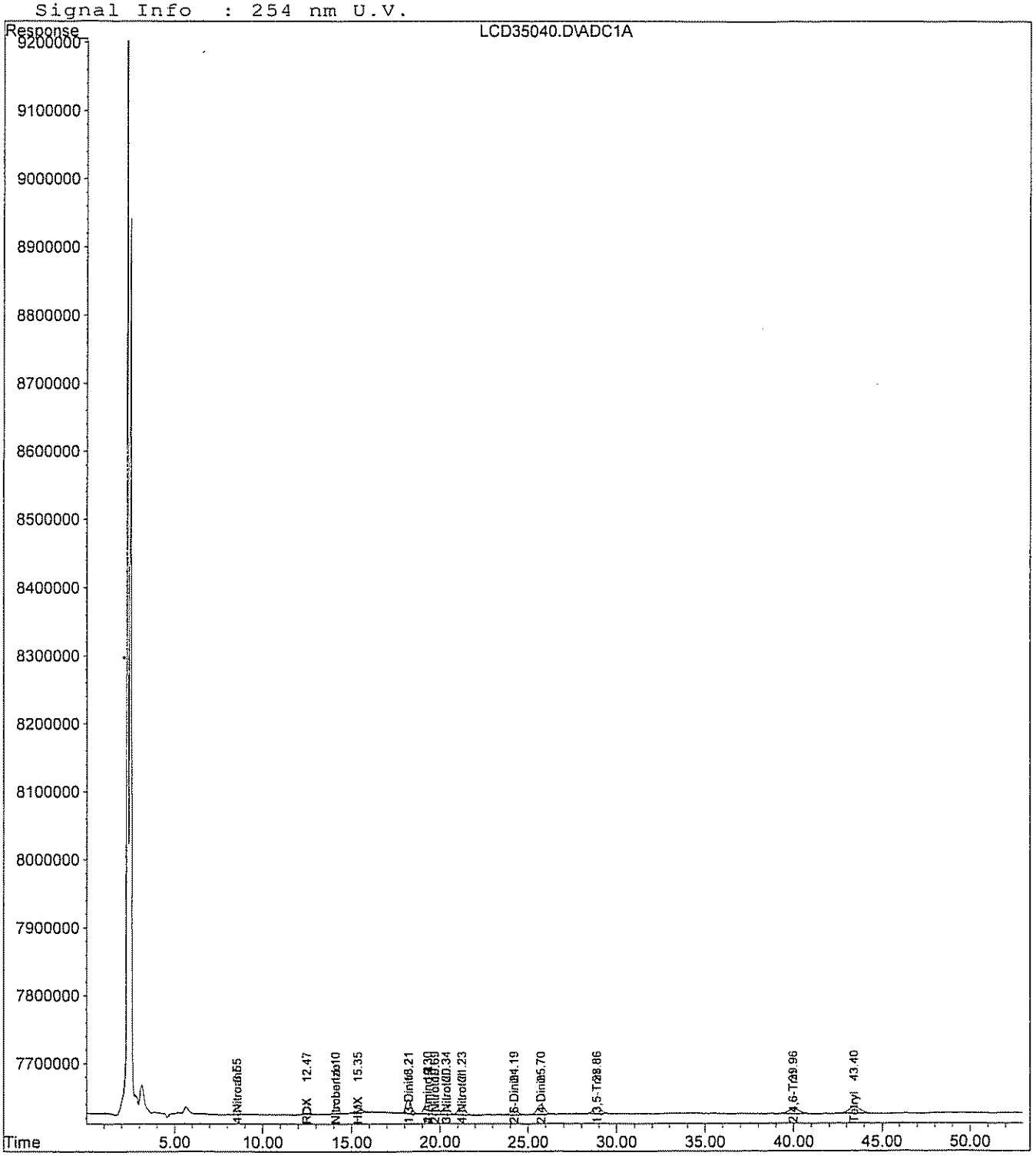
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCD\012507\LCD35040.D Vial: 2
Acq On : 25 Jan 2007 10:58 Operator: SS
Sample : 8330MIX-LEV1 Inst : LCD
Misc : CCAL Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 25 16:42 2007 Quant Results File: 7125CON.RES

Quant Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Wed Jan 17 09:37:15 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : POLAR RP
Signal Info : 254 nm U.V.



Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\012507\LCD35041.D Vial: 3
Acq On : 25 Jan 2007 11:55 Operator: SS
Sample : 8330MIX-LEV2 Inst : LCD
Misc : CCAL Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 25 16:43 2007 Quant Results File: 7125CON.RES

Quant Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Wed Jan 17 09:37:15 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : POLAR RP
Signal Info : 254 nm U.V.

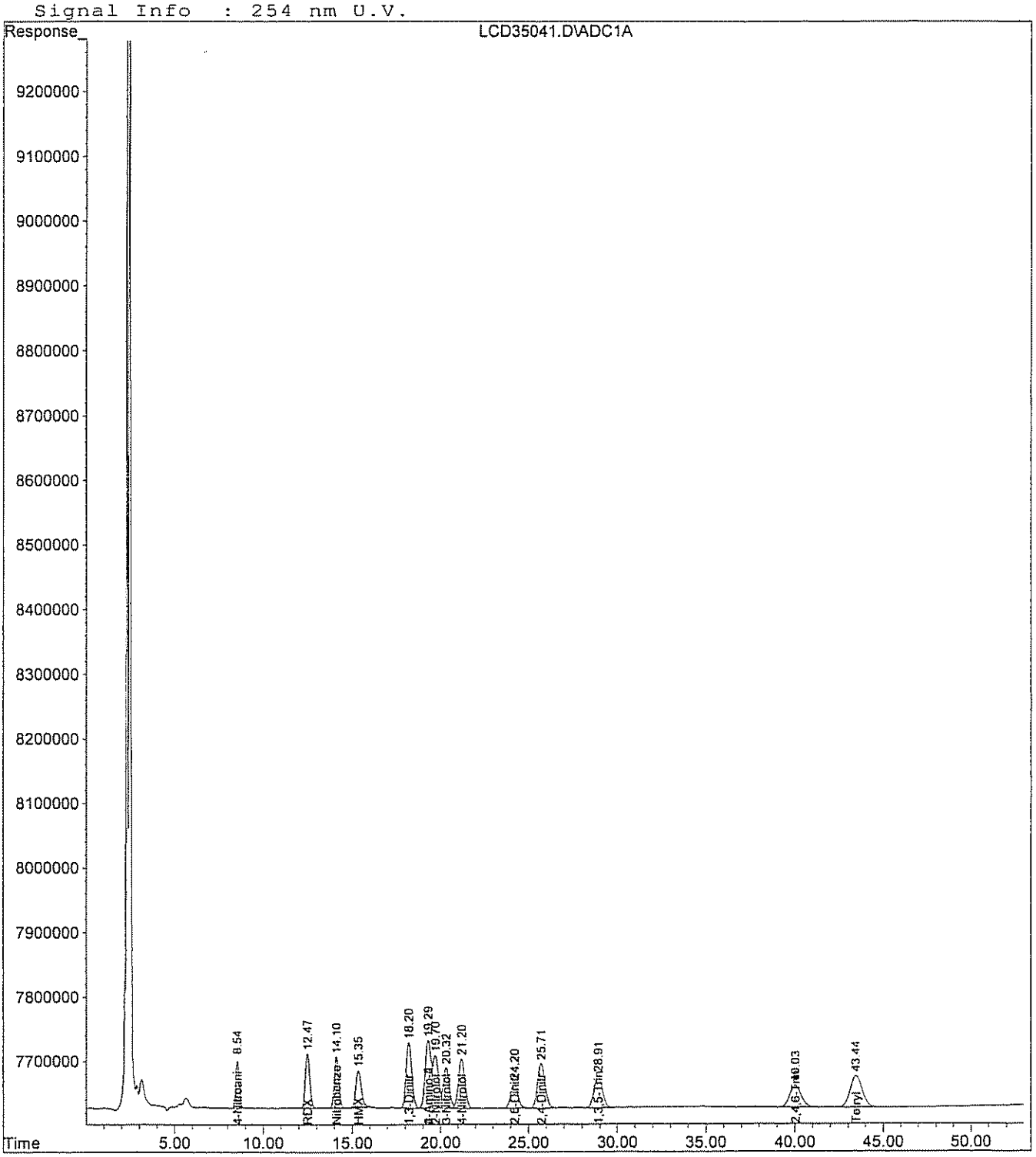
		Compound	R.T.	Response	Conc Units
System Monitoring Compounds					
2)	S	4-Nitroaniline	8.54	10210850	87.784 ng/ml
Spiked Amount 300.000 Range 49 - 133 Recovery = 29.26%#					
Target Compounds					
1)	T	HMX	15.35	12740605	99.999 ng/ml
3)	T	1,3,5-Trinitrobenzene	28.90	16208841	49.221 ng/ml
4)	T	Tetryl	43.46	23776576	110.276 ng/ml
5)	T	2,4,6-Trinitrotoluene	40.03	15236414	48.328 ng/ml
6)	T	4-Amino-2,6-Dinitrotoluene	19.29	24693541	45.552 ng/ml
7)	T	2,6-Dinitrotoluene	24.19	10834404	46.485 ng/ml
8)	T	4-Nitrotoluene	21.21	19165674	93.071 ng/ml
9)	M	RDX	12.47	14833814	93.747 ng/ml
10)	M	1,3-Dinitrobenzene	18.20	21989376	46.182 ng/ml
11)	M	Nitrobenzene	14.10	14122366	46.790 ng/ml
12)	M	2-Amino-4,6-Dinitrotoluene	19.29	24693541	45.552 ng/ml
13)	M	2,4-Dinitrotoluene	25.71	20362461	45.938 ng/ml
14)	M	2-Nitrotoluene	19.71	18156901	92.265 ng/ml
15)	M	3-Nitrotoluene	20.33	15243385	91.883 ng/ml

Quantitation Report

Data File : H:\LCDATA\LCD\012507\LCD35041.D Vial: 3
Acq On : 25 Jan 2007 11:55 Operator: SS
Sample : 8330MIX-LEV2 Inst : LCD
Misc : CCAL Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 25 16:43 2007 Quant Results File: 7125CON.RES

Quant Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Wed Jan 17 09:37:15 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : POLAR RP
Signal Info : 254 nm U.V.



Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\012507\LCD35042.D Vial: 4
Acq On : 25 Jan 2007 12:52 Operator: SS
Sample : 8330MIX-LEV3 Inst : LCD
Misc : CCAL Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 25 16:39 2007 Quant Results File: 7125CON.RES

Quant Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Wed Jan 17 09:37:15 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : POLAR RP
Signal Info : 254 nm U.V.

		Compound	R.T.	Response	Conc Units
System Monitoring Compounds					
2)	S	4-Nitroaniline	8.54	56205394	484.388 ng/ml
Spiked Amount 300.000 Range 49 - 133 Recovery = 161.46%#					
Target Compounds					
1)	T	HMX	15.36	60998099	488.015 ng/ml
3)	T	1,3,5-Trinitrobenzene	28.88	82047199	261.824 ng/ml
4)	T	Tetryl	43.43	121942545	679.847 ng/ml
5)	T	2,4,6-Trinitrotoluene	40.02	76871395	250.117 ng/ml
6)	T	4-Amino-2,6-Dinitrotoluene	19.30	129891135	240.232 ng/ml
7)	T	2,6-Dinitrotoluene	24.18	55648712	242.598 ng/ml
8)	T	4-Nitrotoluene	21.21	98673389	480.924 ng/ml
9)	M	RDX	12.48	76235672	483.623 ng/ml
10)	M	1,3-Dinitrobenzene	18.21	113819304	241.195 ng/ml
11)	M	Nitrobenzene	14.11	72553487	238.939 ng/ml
12)	M	2-Amino-4,6-Dinitrotoluene	19.30	129891135	240.232 ng/ml
13)	M	2,4-Dinitrotoluene	25.70	105728504	239.075 ng/ml
14)	M	2-Nitrotoluene	19.71	93702660	480.620 ng/ml
15)	M	3-Nitrotoluene	20.33	78828342	473.713 ng/ml

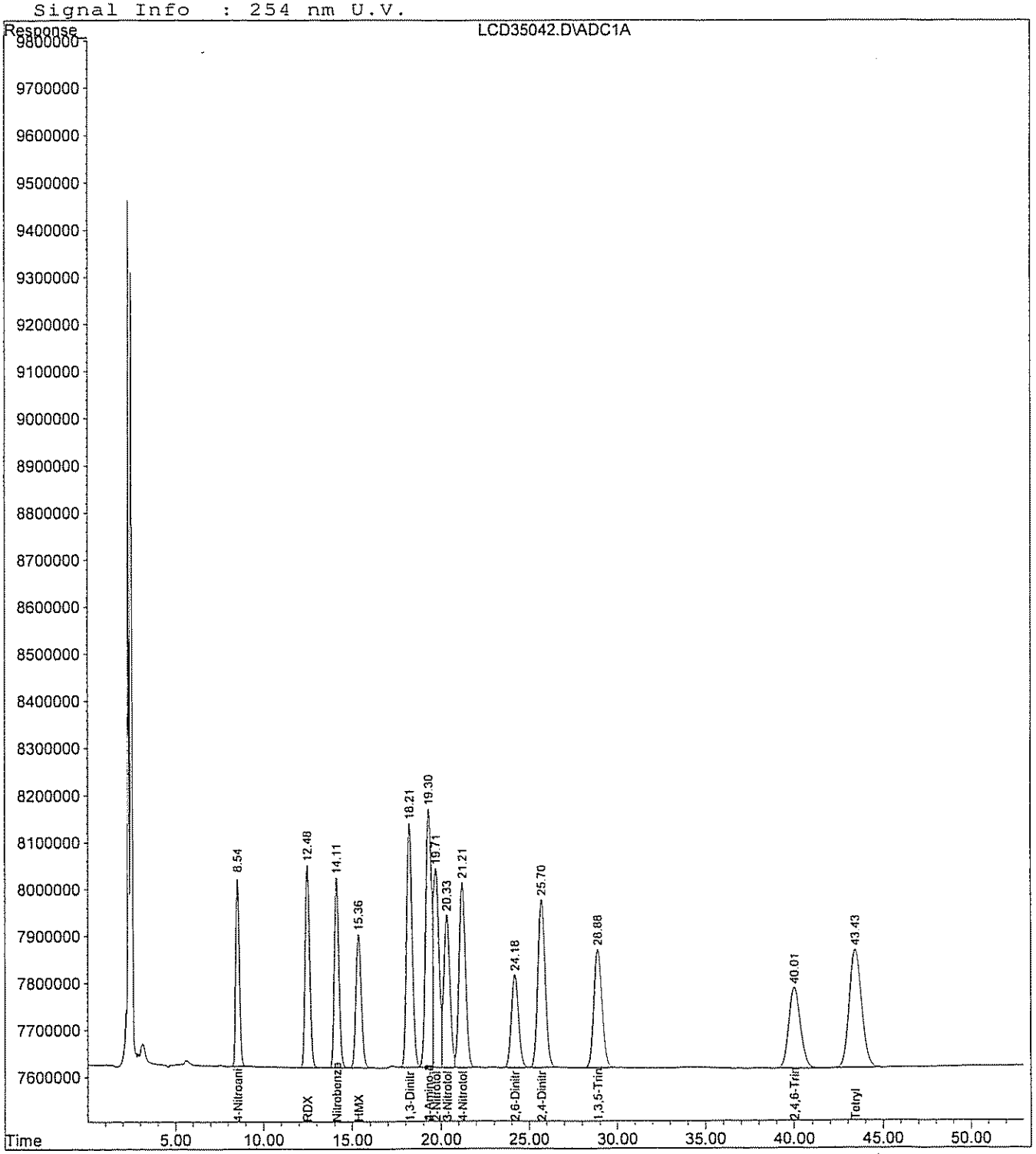
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCD\012507\LCD35042.D Vial: 4
Acq On : 25 Jan 2007 12:52 Operator: SS
Sample : 8330MIX-LEV3 Inst : LCD
Misc : CCAL Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 25 16:39 2007 Quant Results File: 7125CON.RES

Quant Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Wed Jan 17 09:37:15 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : POLAR RP
Signal Info : 254 nm U.V.



Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\012507\LCD35043.D Vial: 5
Acq On : 25 Jan 2007 13:50 Operator: SS
Sample : 8330MIX-LEV4 Inst : LCD
Misc : CCAL Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 25 16:43 2007 Quant Results File: 7125CON.RES

Quant Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Wed Jan 17 09:37:15 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : POLAR RP
Signal Info : 254 nm U.V.

		Compound	R.T.	Response	Conc	Units
System Monitoring Compounds						
2)	S	4-Nitroaniline	8.55	118559799	1038.193	ng/ml
Spiked Amount 300.000 Range 49 - 133 Recovery = 346.06%#						
Target Compounds						
1)	T	HMX	15.37	129012717	1008.794	ng/ml
3)	T	1,3,5-Trinitrobenzene	28.82	173868693	515.169	ng/ml
4)	T	Tetryl	43.38	259103446	1044.240	ng/ml
5)	T	2,4,6-Trinitrotoluene	39.94	162455555	513.023	ng/ml
6)	T	4-Amino-2,6-Dinitrotoluene	19.28	274673473	514.660	ng/ml
7)	T	2,6-Dinitrotoluene	24.14	116591089	506.522	ng/ml
8)	T	4-Nitrotoluene	21.18	209544421	1031.714	ng/ml
9)	M	RDX	12.49	161254839	1030.254	ng/ml
10)	M	1,3-Dinitrobenzene	18.20	241024492	513.074	ng/ml
11)	M	Nitrobenzene	14.12	154085456	517.156	ng/ml
12)	M	2-Amino-4,6-Dinitrotoluene	19.28	274673473	514.660	ng/ml
13)	M	2,4-Dinitrotoluene	25.65	223542887	512.895	ng/ml
14)	M	2-Nitrotoluene	19.69	199048051	1026.336	ng/ml
15)	M	3-Nitrotoluene	20.31	167170085	1022.713	ng/ml

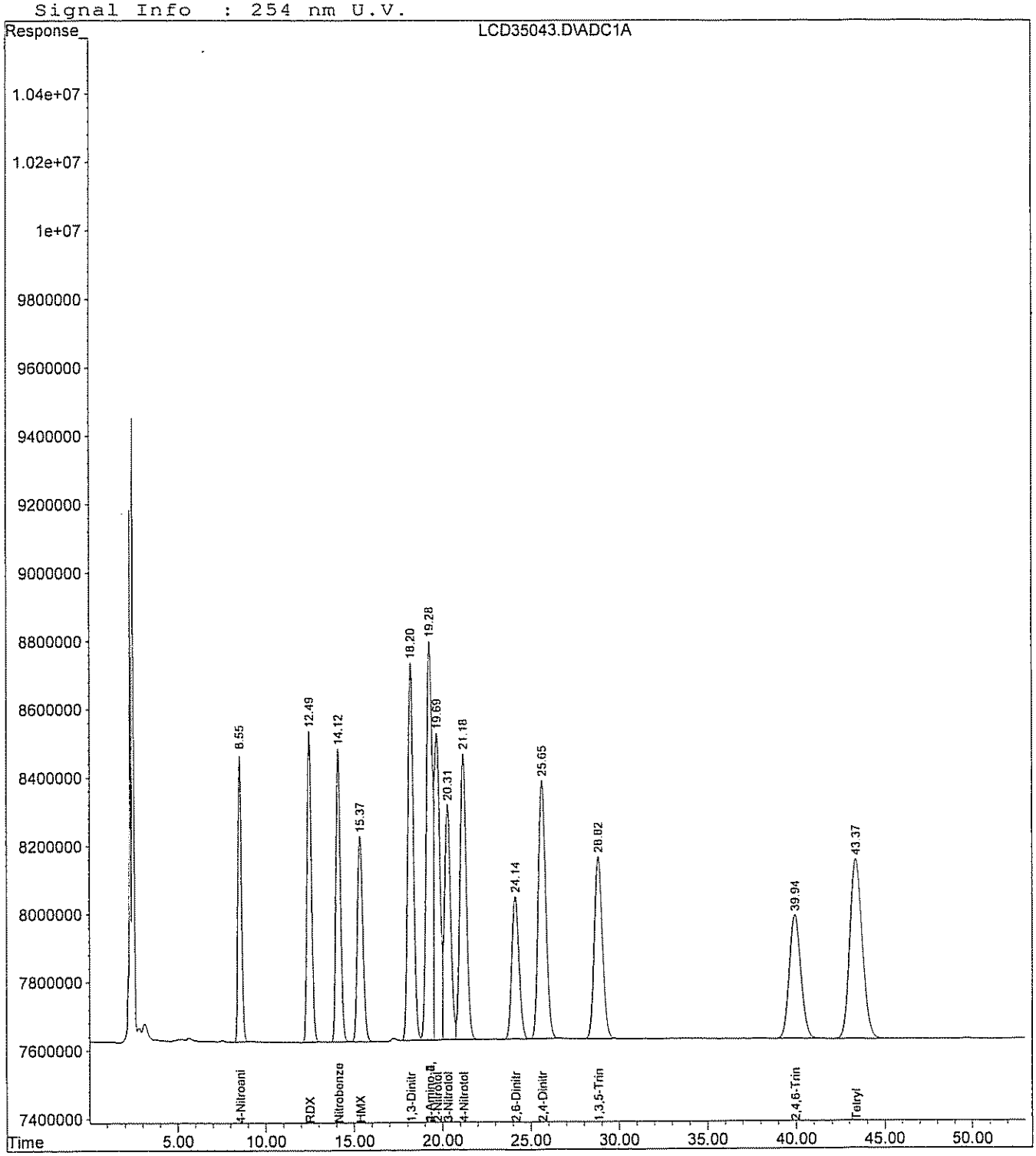
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCD\012507\LCD35043.D Vial: 5
Acq On : 25 Jan 2007 13:50 Operator: SS
Sample : 8330MIX-LEV4 Inst : LCD
Misc : CCAL Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 25 16:43 2007 Quant Results File: 7125CON.RES

Quant Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Wed Jan 17 09:37:15 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : POLAR RP
Signal Info : 254 nm U.V.



Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\012507\LCD35044.D Vial: 6
Acq On : 25 Jan 2007 14:47 Operator: SS
Sample : 8330MIX-LEV5 Inst : LCD
Misc : CCAL Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 25 16:44 2007 Quant Results File: 7125CON.RES

Quant Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Wed Jan 17 09:37:15 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : POLAR RP
Signal Info : 254 nm U.V.

		Compound	R.T.	Response	Conc	Units
System Monitoring Compounds						
2)	S	4-Nitroaniline	8.54	243266678	2127.496	ng/ml
Spiked Amount 300.000 Range 49 - 133 Recovery = 709.17%#						
Target Compounds						
1)	T	HMX	15.35	260447907	2030.817	ng/ml
3)	T	1,3,5-Trinitrobenzene	28.90	352086094	1040.758	ng/ml
4)	T	Tetryl	43.45	525009075	2109.206	ng/ml
5)	T	2,4,6-Trinitrotoluene	40.02	329055827	1037.209	ng/ml
6)	T	4-Amino-2,6-Dinitrotoluene	19.30	560137116	1048.042	ng/ml
7)	T	2,6-Dinitrotoluene	24.19	238113973	1034.228	ng/ml
8)	T	4-Nitrotoluene	21.21	426363377	2095.262	ng/ml
9)	M	RDX	12.47	326969008	2084.518	ng/ml
10)	M	1,3-Dinitrobenzene	18.21	492232404	1046.063	ng/ml
11)	M	Nitrobenzene	14.11	312488182	1046.573	ng/ml
12)	M	2-Amino-4,6-Dinitrotoluene	19.30	560137116	1048.042	ng/ml
13)	M	2,4-Dinitrotoluene	25.71	455984137	1044.942	ng/ml
14)	M	2-Nitrotoluene	19.71	404831162	2083.627	ng/ml
15)	M	3-Nitrotoluene	20.34	339862060	2074.781	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

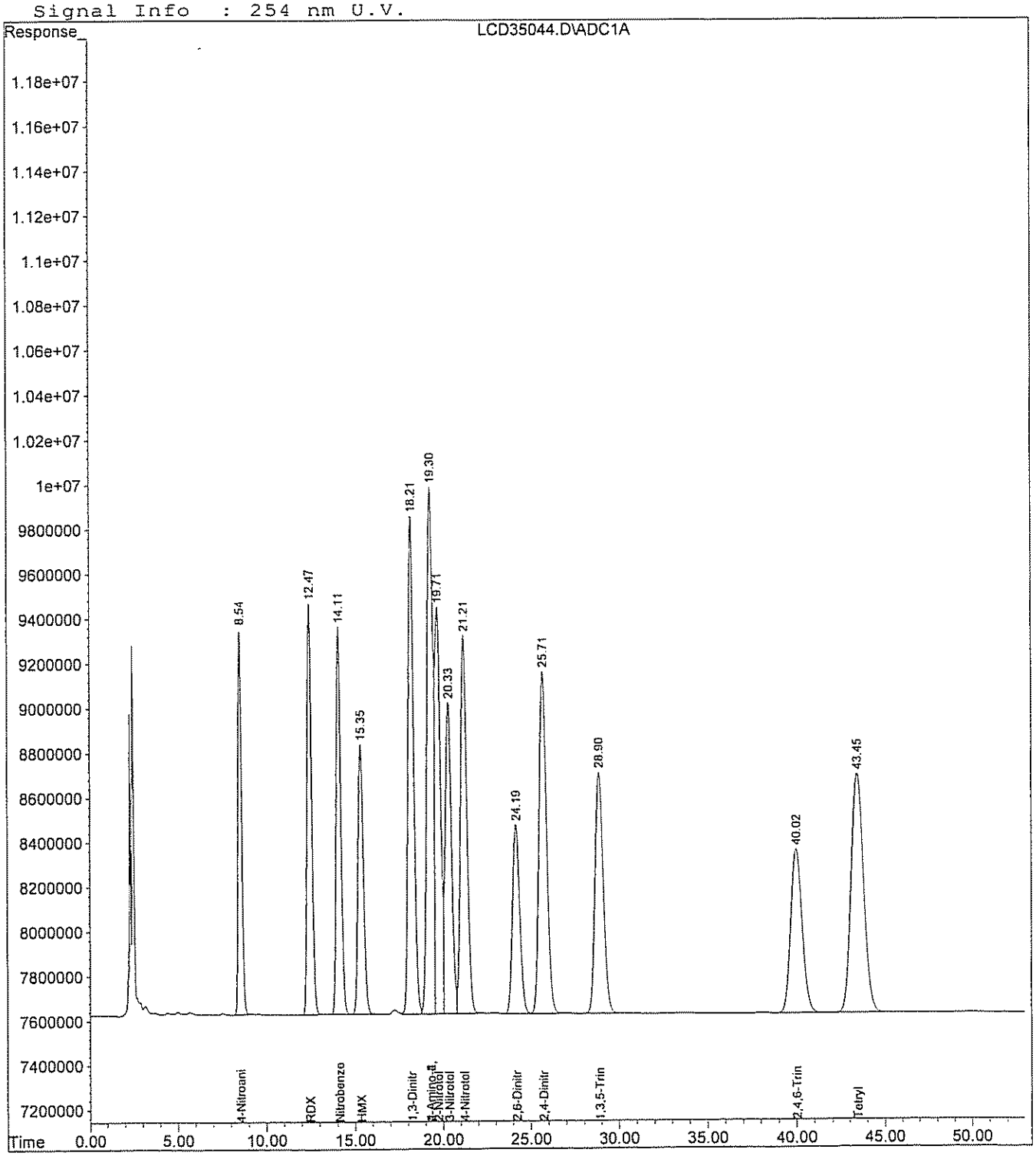
Quantitation Report

Data File : H:\LCDATA\LCD\012507\LCD35044.D
Acq On : 25 Jan 2007 14:47
Sample : 8330MIX-LEV5
Misc : CCAL
IntFile : events.e
Quant Time: Jan 25 16:44 2007 Quant Results File: 7125CON.RES

Vial: 6
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Wed Jan 17 09:37:15 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : POLAR RP
Signal Info : 254 nm U.V.



Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\012507\LCD35045.D Vial: 7
Acq On : 25 Jan 2007 15:45 Operator: SS
Sample : 8330MIX-LEV6 Inst : LCD
Misc : CCAL Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 25 16:44 2007 Quant Results File: 7125CON.RES

Quant Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Wed Jan 17 09:37:15 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : POLAR RP
Signal Info : 254 nm U.V.

		Compound	R.T.	Response	Conc	Units
System Monitoring Compounds						
2)	S	4-Nitroaniline	8.54	611077415	5343.779	ng/ml
Spiked Amount 300.000 Range 49 - 133 Recovery = 1781.26%#						
Target Compounds						
1)	T	HMX	15.31	648287420	5053.233	ng/ml
3)	T	1,3,5-Trinitrobenzene	28.88	885520755	2619.764	ng/ml
4)	T	Tetryl	43.40	1318558933	5298.325	ng/ml
5)	T	2,4,6-Trinitrotoluene	39.99	829408752	2615.555	ng/ml
6)	T	4-Amino-2,6-Dinitrotoluene	19.26	1408257346	2636.022	ng/ml
7)	T	2,6-Dinitrotoluene	24.16	599119285	2604.913	ng/ml
8)	T	4-Nitrotoluene	21.18	1073801281	5279.669	ng/ml
9)	M	RDX	12.45	819644498	5225.210	ng/ml
10)	M	1,3-Dinitrobenzene	18.18	1233482134	2622.521	ng/ml
11)	M	Nitrobenzene	14.09	783674081	2625.309	ng/ml
12)	M	2-Amino-4,6-Dinitrotoluene	19.26	1408257346	2636.022	ng/ml
13)	M	2,4-Dinitrotoluene	25.68	1147105633	2631.435	ng/ml
14)	M	2-Nitrotoluene	19.69	1016144761	5233.486	ng/ml
15)	M	3-Nitrotoluene	20.31	852561439	5207.738	ng/ml

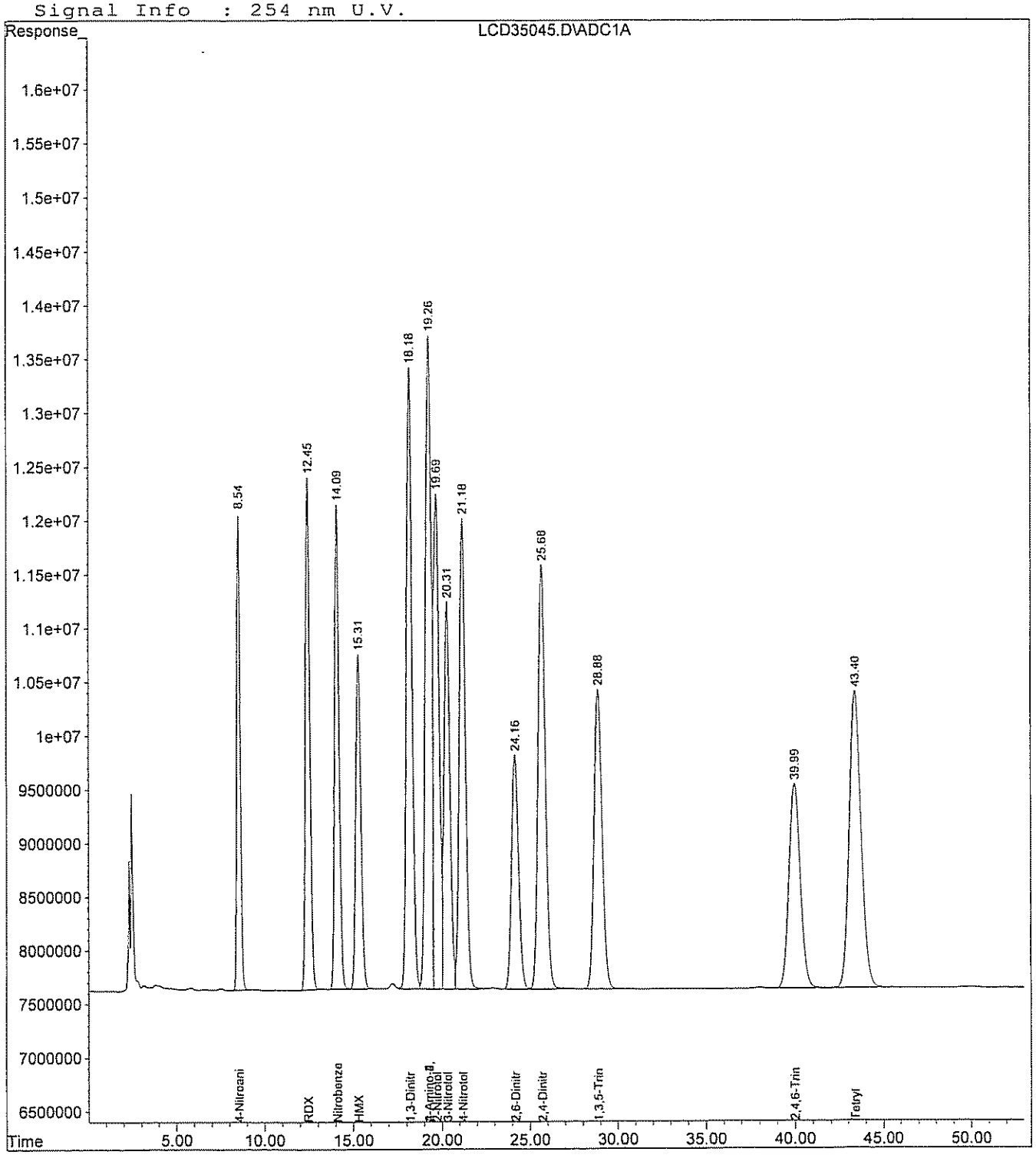
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCD\012507\LCD35045.D Vial: 7
Acq On : 25 Jan 2007 15:45 Operator: SS
Sample : 8330MIX-LEV6 Inst : LCD
Misc : CCAL Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 25 16:44 2007 Quant Results File: 7125CON.RES

Quant Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Wed Jan 17 09:37:15 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : POLAR RP
Signal Info : 254 nm U.V.



Continuing Calibration Report LCD

Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Wed Jan 17 09:37:15 2007
Response via : Initial Calibration

Continuing Calibration File: LCD35068.D

Min. RRF : 0.000 Min. Rel. Area : 50%
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF		%Dev	Area%
1	T	HMX	128.231	130.553	E3	-1.8	107
2	S	4-Nitroaniline	114.391	113.032	E3	1.2	101
3	T	1,3,5-Trinitrobenzene	338.122	353.767	E3	-4.6	108
4	T	Tetryl	248.854	243.504	E3	2.2	100
5	T	2,4,6-Trinitrotoluene	317.167	329.877	E3	-4.0	107
6	T	4-Amino-2,6-Dinitrotoluene	534.477	543.614	E3	-1.7	105
7	T	2,6-Dinitrotoluene	230.053	238.585	E3	-3.7	107
8	T	4-Nitrotoluene	203.404	212.069	E3	-4.3	107
9	M	RDX	156.916	163.131	E3	-4.0	107
10	M	1,3-Dinitrobenzene	470.277	488.613	E3	-3.9	107
11	M	Nitrobenzene	298.549	318.183	E3	-6.6	110
12	M	2-Amino-4,6-Dinitrotoluene	534.477	543.614	E3	-1.7	105
13	M	2,4-Dinitrotoluene	436.000	450.866	E3	-3.4	107
14	M	2-Nitrotoluene	194.145	200.779	E3	-3.4	107
15	M	3-Nitrotoluene	163.705	169.198	E3	-3.4	107

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\012507\LCD35047.D Vial: 9
Acq On : 26 Jan 2007 8:55 Operator: SS
Sample : 8330MIX-ICV Inst : LCD
Misc : CCAL Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 26 9:45 2007 Quant Results File: 7125CON.RES

Quant Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Wed Jan 17 09:37:15 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : POLAR RP
Signal Info : 254 nm U.V.

		Compound	R.T.	Response	Conc	Units
System Monitoring Compounds						
Target Compounds						
1)	T	HMX	15.39	32825222	255.986	ng/ml
3)	T	1,3,5-Trinitrobenzene	28.97	88685382	262.288	ng/ml
4)	T	Tetryl	43.59f	57112809	229.503	ng/ml
5)	T	2,4,6-Trinitrotoluene	40.13	89030728	280.706	ng/ml
6)	T	4-Amino-2,6-Dinitrotoluene	19.34	150531291	281.642	ng/ml
7)	T	2,6-Dinitrotoluene	24.25	59516922	258.710	ng/ml
8)	T	4-Nitrotoluene	21.25	53713312	264.072	ng/ml
9)	M	RDX	12.51	41617986	265.225	ng/ml
10)	M	1,3-Dinitrobenzene	18.24	124166623	264.028	ng/ml
11)	M	Nitrobenzene	14.14	77893084	260.905	ng/ml
12)	M	2-Amino-4,6-Dinitrotoluene	19.34	150531291	281.642	ng/ml
13)	M	2,4-Dinitrotoluene	25.77	109965839	252.215	ng/ml
14)	M	2-Nitrotoluene	19.73	43687060	225.023	ng/ml
15)	M	3-Nitrotoluene	20.37	42428932	259.180	ng/ml

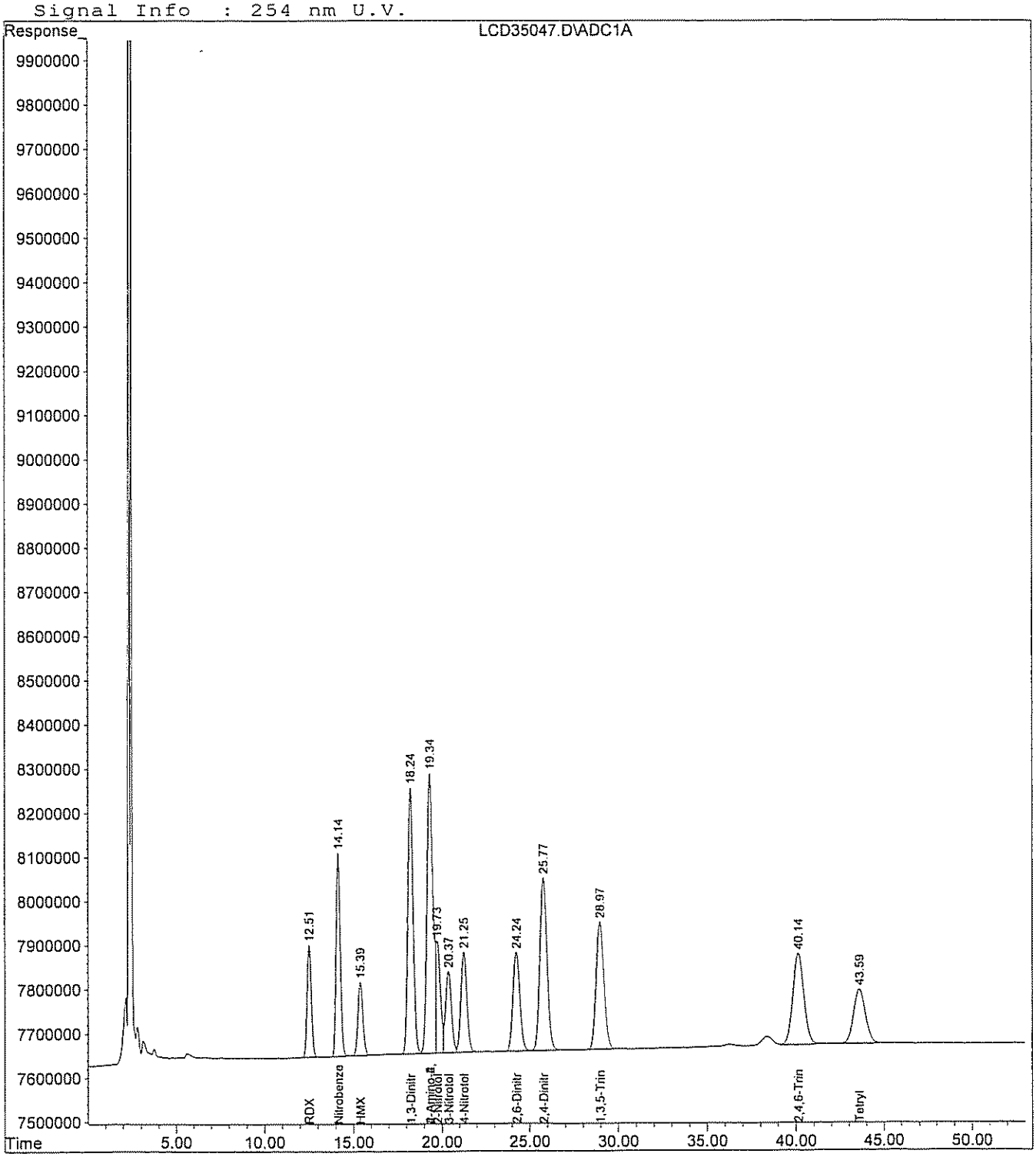
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCD\012507\LCD35047.D Vial: 9
Acq On : 26 Jan 2007 8:55 Operator: SS
Sample : 8330MIX-ICV Inst : LCD
Misc : CCAL Multiplr: 1.00
IntFile : events.e
Quant Time: Jan 26 9:45 2007 Quant Results File: 7125CON.RES

Quant Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Wed Jan 17 09:37:15 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : POLAR RP
Signal Info : 254 nm U.V.



8330 RETENTION TIME WINDOW ESTABLISHMENT

INTRUMENT: LCD
COLUMN: POLAR ANALYST JCSA
DATE: 1/26/07

COMPOUND	RT1	PW1	RT2	PW2	RT3	PW3	Avg RT	3x RT Std De	Avg PW	RT Window
4-Nitroaniline(Surr.)	8.64	0.23	8.63	0.23	8.64	0.23	8.637	0.017	0.23	0.12
HMX	15.59	0.34	15.59	0.34	15.58	0.34	15.587	0.017	0.34	0.17
1,3,5-Trinitrobenzene	29.37	0.51	29.38	0.50	29.33	0.49	29.360	0.079	0.50	0.25
Tetryl	44.42	0.78	44.47	0.77	44.41	0.74	44.433	0.096	0.76	0.38
2,4,6-Trinitrotoluene	40.81	0.71	40.86	0.70	40.82	0.67	40.830	0.079	0.69	0.35
4-ADNT	19.61	0.37	19.62	0.37	19.59	0.36	19.607	0.046	0.36	0.18
2,6-Dinitrotoluene	24.61	0.45	24.63	0.44	24.59	0.43	24.610	0.060	0.44	0.22
4-Nitrotoluene	21.55	0.40	21.56	0.39	21.54	0.39	21.550	0.030	0.39	0.20
RDX	12.65	0.28	12.63	0.29	12.64	0.28	12.640	0.030	0.28	0.14
1,3-Dinitrobenzene	18.46	0.35	18.46	0.35	18.44	0.34	18.453	0.035	0.34	0.17
Nitrobenzene	14.30	0.28	14.29	0.28	14.29	0.28	14.293	0.017	0.28	0.14
2-ADNT	19.61	0.37	19.62	0.37	19.59	0.36	19.607	0.046	0.36	0.18
2,4-Dinitrotoluene	26.15	0.47	26.16	0.46	26.12	0.45	26.143	0.062	0.46	0.23
2-Nitrotoluene	20.02	0.34	20.03	0.34	20.02	0.34	20.023	0.017	0.34	0.17
3-Nitrotoluene	20.65	0.38	20.67	0.38	20.64	0.37	20.653	0.046	0.38	0.19

Advisory Retention Time Windows are based on three daily calibration check standards
Run within a 72 hour window

Windows are the greater of 1/2 the average peak width,
or +/- 3 times the retention time standard deviation

Continuing Calibration Report LCD

Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Thu Mar 08 09:29:25 2007
Response via : Initial Calibration

Continuing Calibration File: LCD35613.D

Min. RRF : 0.000 Min. Rel. Area : 50%
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF		%Dev	Area%
1	T	HMX	128.231	131.364	E3	-2.4	108
2	S	4-Nitroaniline	114.391	120.874	E3	-5.7	108
3	T	1,3,5-Trinitrobenzene	338.122	357.782	E3	-5.8	109
4	T	Tetryl	248.854	255.405	E3	-2.6	105
5	T	2,4,6-Trinitrotoluene	317.167	335.955	E3	-5.9	109
6	T	4-Amino-2,6-Dinitrotoluene	534.477	560.075	E3	-4.8	108
7	T	2,6-Dinitrotoluene	230.053	240.797	E3	-4.7	108
8	T	4-Nitrotoluene	203.404	215.635	E3	-6.0	109
9	M	RDX	156.916	165.550	E3	-5.5	109
10	M	1,3-Dinitrobenzene	470.277	497.371	E3	-5.8	109
11	M	Nitrobenzene	298.549	318.140	E3	-6.6	110
12	M	2-Amino-4,6-Dinitrotoluene	534.477	560.075	E3	-4.8	108
13	M	2,4-Dinitrotoluene	436.000	459.398	E3	-5.4	109
14	M	2-Nitrotoluene	194.145	205.035	E3	-5.6	109
15	M	3-Nitrotoluene	163.705	172.218	E3	-5.2	109

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\030507\LCD35613.D Vial: 1
Acq On : 5 Mar 2007 9:33 Operator: SS
Sample : 8330MIX Inst : LCD
Misc : CCAL Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 5 10:31 2007 Quant Results File: 7125CON.RES

Quant Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Fri Feb 16 08:55:47 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : POLAR RP
Signal Info : 254 nm U.V.

		Compound	R.T.	Response	Conc Units
		System Monitoring Compounds			
2)	S	4-Nitroaniline	8.54	60437115	528.338 ng/ml
Spiked Amount		300.000	Range 49 - 133	Recovery	= 176.11%#
		Target Compounds			
1)	T	HMX	15.31	65681995	512.218 ng/ml
3)	T	1,3,5-Trinitrobenzene	28.80	89445497	264.536 ng/ml
4)	T	Tetryl	43.26	127702499	513.162 ng/ml
5)	T	2,4,6-Trinitrotoluene	39.86	83988671	264.809 ng/ml
6)	T	4-Amino-2,6-Dinitrotoluene	19.22	140018756	261.973 ng/ml
7)	T	2,6-Dinitrotoluene	24.11	60199169	261.675 ng/ml
8)	T	4-Nitrotoluene	21.16	107817453	530.066 ng/ml
9)	M	RDX	12.45	82775182	527.513 ng/ml
10)	M	1,3-Dinitrobenzene	18.16	124342675	264.403 ng/ml
11)	M	Nitrobenzene	14.09	79535022	266.405 ng/ml
12)	M	2-Amino-4,6-Dinitrotoluene	19.22	140018756	261.973 ng/ml
13)	M	2,4-Dinitrotoluene	25.62	114849604	263.417 ng/ml
14)	M	2-Nitrotoluene	19.67	102517429	528.047 ng/ml
15)	M	3-Nitrotoluene	20.28	86109200	526.004 ng/ml

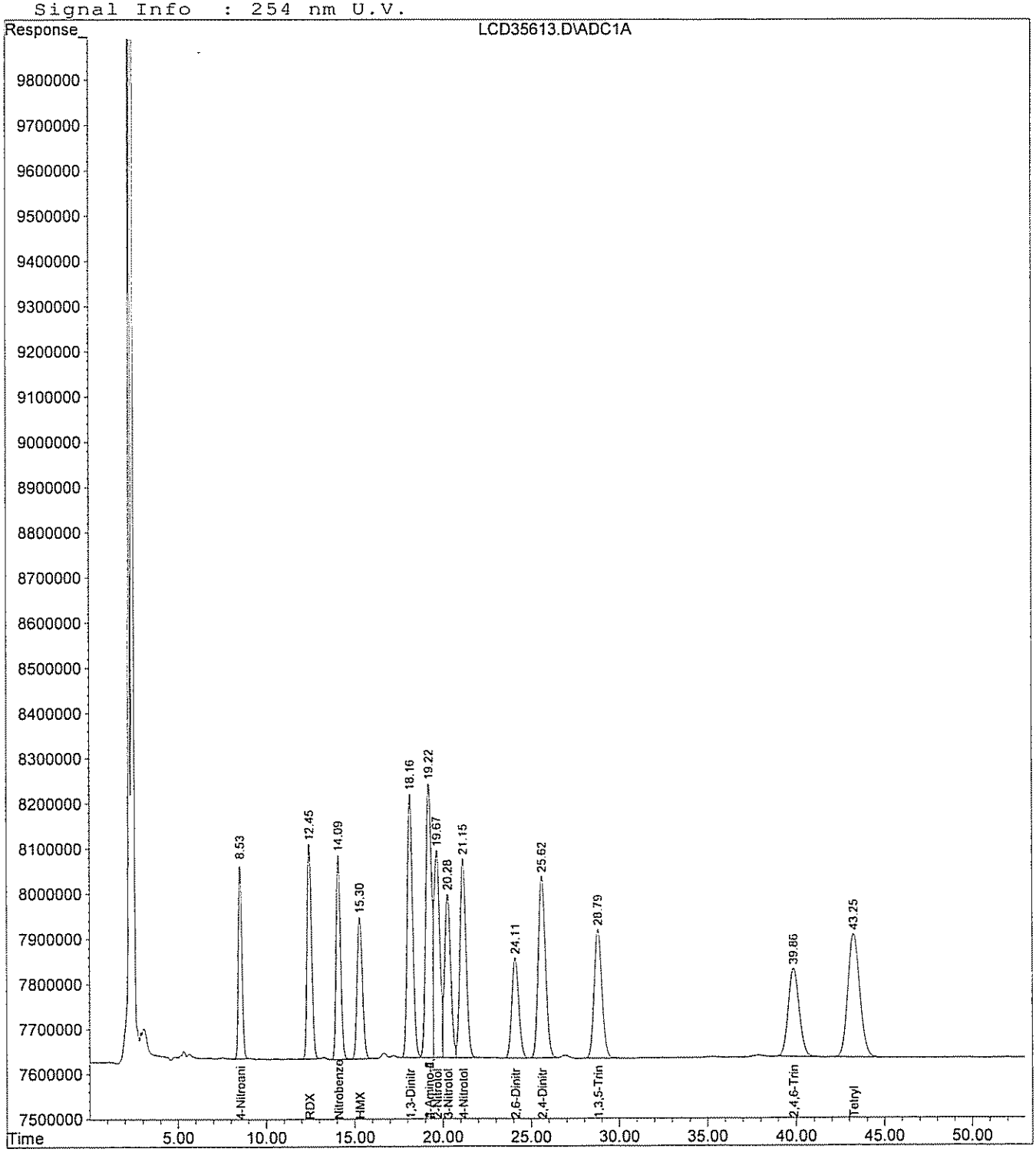
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCD\030507\LCD35613.D Vial: 1
Acq On : 5 Mar 2007 9:33 Operator: SS
Sample : 8330MIX Inst : LCD
Misc : CCAL Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 5 10:31 2007 Quant Results File: 7125CON.RES

Quant Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Fri Feb 16 08:55:47 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : POLAR RP
Signal Info : 254 nm U.V.



Continuing Calibration Report LCD

Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Thu Mar 08 09:29:45 2007
Response via : Initial Calibration

Continuing Calibration File: LCD35625.D

Min. RRF : 0.000 Min. Rel. Area : 50%
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF		%Dev	Area%
1	T	HMX	128.231	133.802	E3	-4.3	110
2	S	4-Nitroaniline	114.391	121.096	E3	-5.9	108
3	T	1,3,5-Trinitrobenzene	338.122	361.971	E3	-7.1	110
4	T	Tetryl	248.854	258.731	E3	-4.0	106
5	T	2,4,6-Trinitrotoluene	317.167	338.216	E3	-6.6	110
6	T	4-Amino-2,6-Dinitrotoluene	534.477	560.096	E3	-4.8	108
7	T	2,6-Dinitrotoluene	230.053	243.437	E3	-5.8	109
8	T	4-Nitrotoluene	203.404	216.795	E3	-6.6	110
9	M	RDX	156.916	167.218	E3	-6.6	110
10	M	1,3-Dinitrobenzene	470.277	500.137	E3	-6.3	110
11	M	Nitrobenzene	298.549	319.995	E3	-7.2	110
12	M	2-Amino-4,6-Dinitrotoluene	534.477	560.096	E3	-4.8	108
13	M	2,4-Dinitrotoluene	436.000	462.978	E3	-6.2	109
14	M	2-Nitrotoluene	194.145	206.900	E3	-6.6	110
15	M	3-Nitrotoluene	163.705	173.287	E3	-5.9	110

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\030507\LCD35625.D Vial: 13
Acq On : 5 Mar 2007 21:12 Operator: SS
Sample : 8330MIX Inst : LCD
Misc : CCAL Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 9:39 2007 Quant Results File: 7125CON.RES

Quant Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Fri Feb 16 08:55:47 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : POLAR RP
Signal Info : 254 nm U.V.

		Compound	R.T.	Response	Conc Units
System Monitoring Compounds					
2)	S	4-Nitroaniline	8.53	60547991	529.308 ng/ml
Spiked Amount 300.000 Range 49 - 133 Recovery = 176.44%#					
Target Compounds					
1)	T	HMX	15.32	66901109	521.725 ng/ml
3)	T	1,3,5-Trinitrobenzene	28.82	90492680	267.633 ng/ml
4)	T	Tetryl	43.30	129365621	519.845 ng/ml
5)	T	2,4,6-Trinitrotoluene	39.89	84553926	266.591 ng/ml
6)	T	4-Amino-2,6-Dinitrotoluene	19.25	140024079	261.983 ng/ml
7)	T	2,6-Dinitrotoluene	24.15	60859146	264.544 ng/ml
8)	T	4-Nitrotoluene	21.18	108397584	532.918 ng/ml
9)	M	RDX	12.45	83609242	532.828 ng/ml
10)	M	1,3-Dinitrobenzene	18.17	125034327	265.874 ng/ml
11)	M	Nitrobenzene	14.10	79998737	267.958 ng/ml
12)	M	2-Amino-4,6-Dinitrotoluene	19.25	140024079	261.983 ng/ml
13)	M	2,4-Dinitrotoluene	25.65	115744434	265.469 ng/ml
14)	M	2-Nitrotoluene	19.69	103449754	532.849 ng/ml
15)	M	3-Nitrotoluene	20.31	86643425	529.267 ng/ml

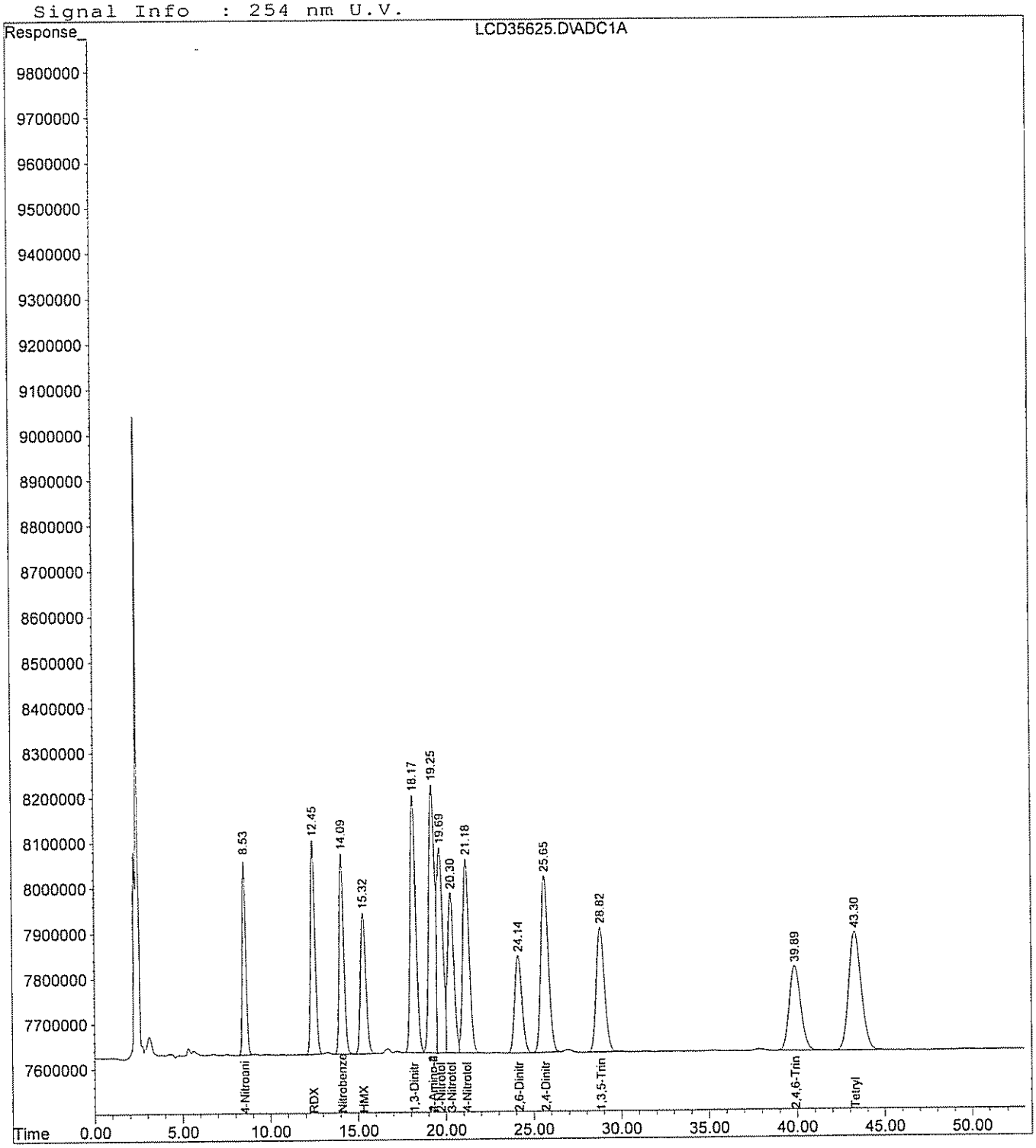
Quantitation Report

Data File : H:\LCDATA\LCD\030507\LCD35625.D
Acq On : 5 Mar 2007 21:12
Sample : 8330MIX
Misc : CCAL
IntFile : events.e
Quant Time: Mar 6 9:39 2007 Quant Results File: 7125CON.RES

Vial: 13
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Fri Feb 16 08:55:47 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : POLAR RP
Signal Info : 254 nm U.V.



Continuing Calibration Report LCD

Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Thu Mar 08 09:30:03 2007
Response via : Initial Calibration

Continuing Calibration File: LCD35634.D

Min. RRF : 0.000 Min. Rel. Area : 50%
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF		%Dev	Area%
1	T	HMX	128.231	139.542	E3	-8.8	114
2	S	4-Nitroaniline	114.391	126.306	E3	-10.4	112
3	T	1,3,5-Trinitrobenzene	338.122	374.896	E3	-10.9	114
4	T	Tetryl	248.854	272.632	E3	-9.6	112
5	T	2,4,6-Trinitrotoluene	317.167	352.927	E3	-11.3	115
6	T	4-Amino-2,6-Dinitrotoluene	534.477	585.702	E3	-9.6	113
7	T	2,6-Dinitrotoluene	230.053	253.575	E3	-10.2	114
8	T	4-Nitrotoluene	203.404	224.471	E3	-10.4	114
9	M	RDX	156.916	175.482	E3	-11.8	115
10	M	1,3-Dinitrobenzene	470.277	521.152	E3	-10.8	114
11	M	Nitrobenzene	298.549	328.229	E3	-9.9	113
12	M	2-Amino-4,6-Dinitrotoluene	534.477	585.702	E3	-9.6	113
13	M	2,4-Dinitrotoluene	436.000	483.736	E3	-10.9	114
14	M	2-Nitrotoluene	194.145	213.554	E3	-10.0	114
15	M	3-Nitrotoluene	163.705	180.447	E3	-10.2	114

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\030507\LCD35634.D Vial: 22
Acq On : 6 Mar 2007 5:48 Operator: SS
Sample : 8330MIX Inst : LCD
Misc : CCAL Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 9:39 2007 Quant Results File: 7125CON.RES

Quant Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Fri Feb 16 08:55:47 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : POLAR RP
Signal Info : 254 nm U.V.

		Compound	R.T.	Response	Conc	Units
System Monitoring Compounds						
2)	S	4-Nitroaniline	8.56	63152768	552.078	ng/ml
Spiked Amount		300.000	Range 49 - 133	Recovery	= 184.03%#	
Target Compounds						
1)	T	HMX	15.37	69771110	544.107	ng/ml
3)	T	1,3,5-Trinitrobenzene	28.84	93724119	277.190	ng/ml
4)	T	Tetryl	43.38	136315903	547.774	ng/ml
5)	T	2,4,6-Trinitrotoluene	39.96	88231794	278.187	ng/ml
6)	T	4-Amino-2,6-Dinitrotoluene	19.29	146425396	273.960	ng/ml
7)	T	2,6-Dinitrotoluene	24.16	63393651	275.561	ng/ml
8)	T	4-Nitrotoluene	21.21	112235534	551.787	ng/ml
9)	M	RDX	12.49	87741110	559.160	ng/ml
10)	M	1,3-Dinitrobenzene	18.21	130288002	277.045	ng/ml
11)	M	Nitrobenzene	14.13	82057194	274.853	ng/ml
12)	M	2-Amino-4,6-Dinitrotoluene	19.29	146425396	273.960	ng/ml
13)	M	2,4-Dinitrotoluene	25.67	120933962	277.371	ng/ml
14)	M	2-Nitrotoluene	19.72	106776992	549.987	ng/ml
15)	M	3-Nitrotoluene	20.34	90223676	551.137	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

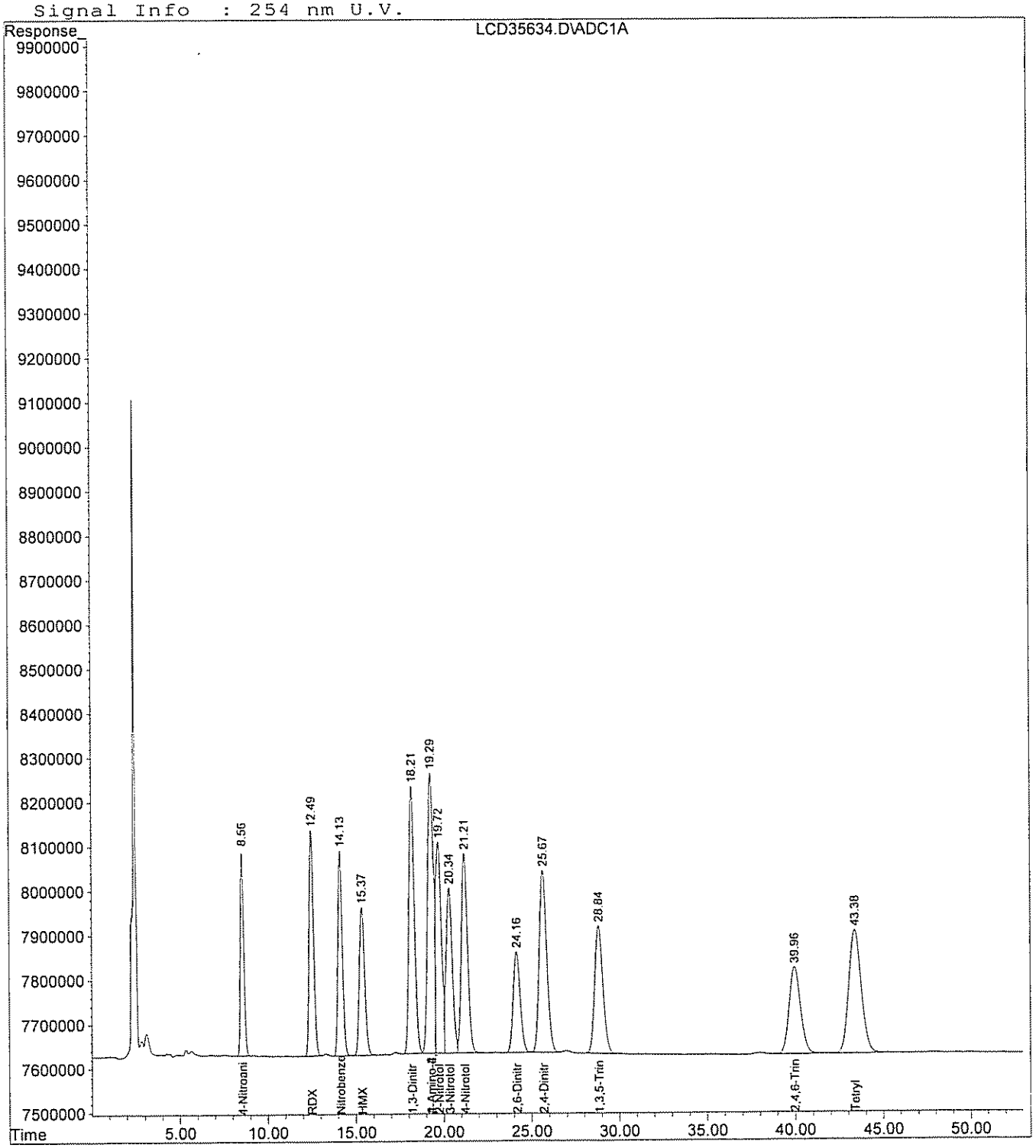
Quantitation Report

Data File : H:\LCDATA\LCD\030507\LCD35634.D
Acq On : 6 Mar 2007 5:48
Sample : 8330MIX
Misc : CCAL
IntFile : events.e
Quant Time: Mar 6 9:39 2007 Quant Results File: 7125CON.RES

Vial: 22
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : I:\LCDATA\LCD\METHODS\7125CON.M (Chemstation Integrator)
Title : 8330 Explosives Confirmation
Last Update : Fri Feb 16 08:55:47 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : POLAR RP
Signal Info : 254 nm U.V.



D. Raw QC Data

1. Blank Data
2. Matrix Spike Data
3. Matrix Spike Duplicate Data
4. Laboratory Control Standard Data (where applicable)
5. Extraction Logsheet
6. Injection Logsheet

GPL Laboratories

GPL Laboratories

GPL
FORM I
ANALYSIS DATA SHEET

SAMPLE NO
BLK96629

Lab Name :	GPL Laboratories	Client. :	Shaw E&I, Inc
Lab Code :	GPL	SAS NO. :	
Case No. :		SDG NO :	702113
Matrix : (Soil / Water)	SOIL	Lab Sample ID :	BLK96629
Sample Volume :	10	Lab File ID :	LCD35579.D
% Moisture:		Date Received	
Extraction:	EXT_SW8330	Date Extracted:	02/27/2007
Extract Volume:	40 mL	Date Analyzed	03/02/2007
Injection Volume :	µL	Dilution Factor :	1
GPC Clean up (Y/N):	pH:		

Concentration Units (ug/L or ug/kg dry weight) : mg/kg

CAS NO	COMPOUND		Q
99-35-4	1,3,5-Trinitrobenzene	0.040	U
99-65-0	1,3-Dinitrobenzene	0.040	U
118-96-7	2,4,6-Trinitrotoluene	0.040	U
121-14-2	2,4-Dinitrotoluene	0.040	U
606-20-2	2,6-Dinitrotoluene	0.040	U
35572-78-2	2-Amino-4,6-Dinitrotoluene	0.040	U
19406-51-0	4-Amino-2,6-Dinitrotoluene	0.040	U
2691-41-0	HMX	0.080	U
98-95-3	Nitrobenzene	0.040	U
121-82-4	RDX	0.080	U
479-45-8	Tetryl	0.080	U
99-08-1	m-Nitrotoluene	0.080	U
88-72-2	o-Nitrotoluene	0.080	U
99-99-0	p-Nitrotoluene	0.080	U

FORM I SW8330A_SHAW

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\030207\LCD35579.D
Acq On : 2 Mar 2007 15:23
Sample : BLK96629
Misc : SOIL.SHAW
IntFile : events.e
Quant Time: Mar 5 9:17 2007 Quant Results File: 71248330.RES

Vial: 3
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Mon Mar 05 09:17:54 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
2) S 4-Nitroaniline	6.97	23003268	176.143	ng/mlm
Spiked Amount 150.000 Range 52 - 154		Recovery = 117.43%		
Target Compounds				
1) T HMX	0.00	0	N.D.	ng/ml
3) T 1,3,5-Trinitrobenzene	0.00	0	N.D.	ng/ml
4) T Tetryl	0.00	0	N.D.	ng/ml
5) T 2,4,6-Trinitrotoluene	0.00	0	N.D.	ng/ml
6) T 4-Amino-2,6-Dinitrotoluene	0.00	0	N.D.	ng/ml
7) T 2,6-Dinitrotoluene	0.00	0	N.D.	ng/ml
8) T 4-Nitrotoluene	0.00	0	N.D.	ng/ml
9) M RDX	0.00	0	N.D.	ng/ml
10) M 1,3-Dinitrobenzene	0.00	0	N.D.	ng/ml
11) M Nitrobenzene	0.00	0	N.D.	ng/ml
12) M 2-Amino-4,6-Dinitrotoluene	0.00	0	N.D.	ng/ml
13) M 2,4-Dinitrotoluene	0.00	0	N.D.	ng/ml
14) M 2-Nitrotoluene	0.00	0	N.D.	ng/ml
15) M 3-Nitrotoluene	0.00	0	N.D.	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

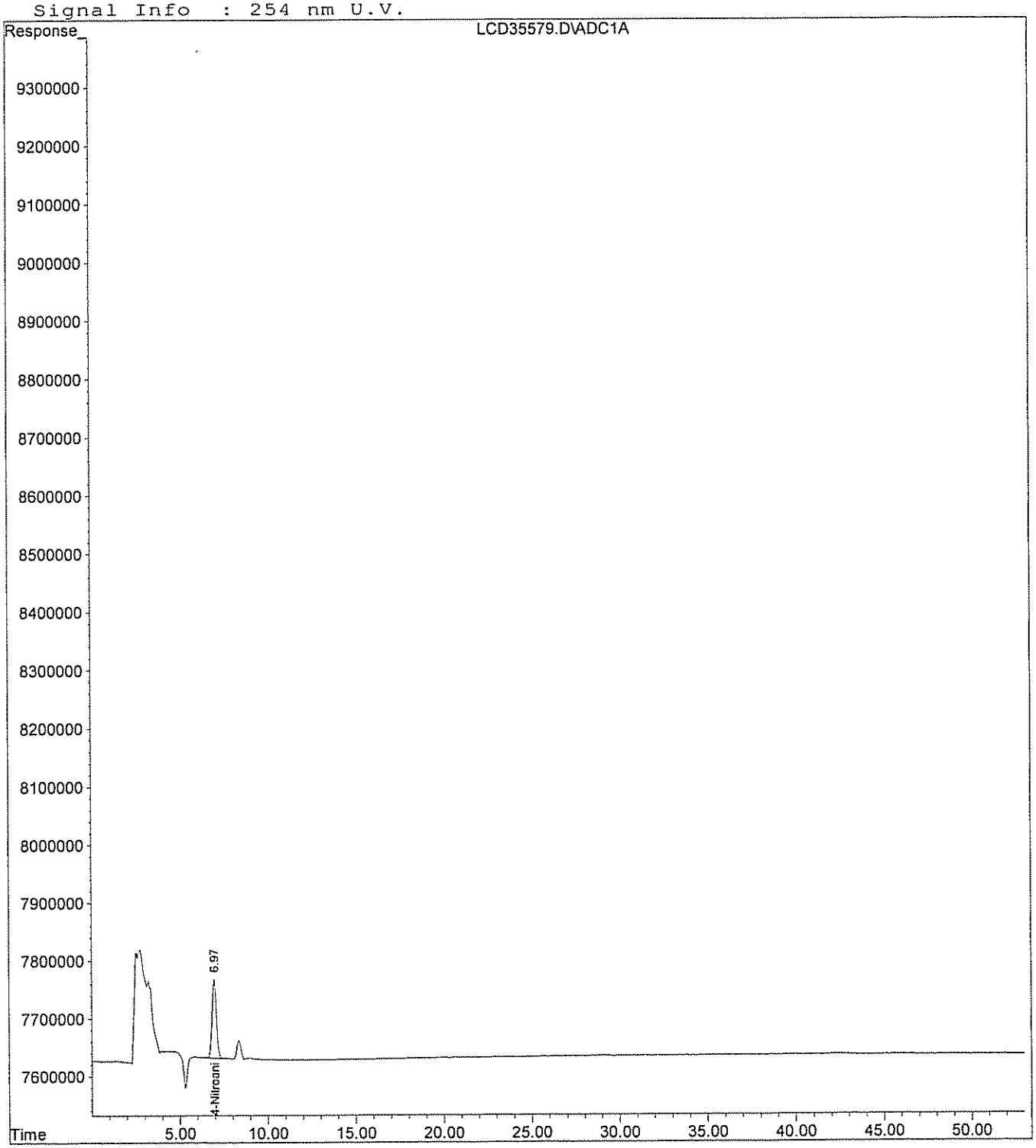
Quantitation Report

Data File : H:\LCDATA\LCD\030207\LCD35579.D
Acq On : 2 Mar 2007 15:23
Sample : BLK96629
Misc : SOIL.SHAW
IntFile : events.e
Quant Time: Mar 5 9:17 2007 Quant Results File: 71248330.RES

Vial: 3
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Mon Mar 05 09:17:54 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



GPL Laboratories

GPL
FORM 1
ANALYSIS DATA SHEET

SAMPLE NO
BLK96632

Lab Name :	GPL Laboratories	Client. :	Shaw E&I, Inc
Lab Code :	GPL	SAS NO. :	
Case No. :		SDG NO :	702113
Matrix : (Soil / Water)	SOIL	Lab Sample ID :	BLK96632
Sample Volume :	10	Lab File ID :	LCD35579.D
% Moisture:		Date Received	
Extraction:	EXT_SW8330	Date Extracted:	02/27/2007
Extract Volume:	40 mL	Date Analyzed	03/02/2007
Injection Volume :	100 µ L	Dilution Factor :	1
GPC Clean up (Y/N):	pH:		

Concentration Units (ug/L or ug/kg dry weight) : mg/kg

CAS NO	COMPOUND		Q
55-63-0	Nitroglycerine	4.0	U

FORM I SW8330

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\030207\0302NG\LCD35579.D Vial: 3
Acq On : 2 Mar 2007 15:23 Operator: SS
Sample : BLK96632 Inst : LCD
Misc : SOIL.SHAW Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 5 10:09 2007 Quant Results File: 010907NG.RES

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1) S 4-NITROANILINE	6.97	22887973	175.623	PPB	m
Spiked Amount 300.000		Recovery =	58.54%		
Target Compounds					
2) M NITROGLYCERINE	0.00	0	N.D.	PPM	

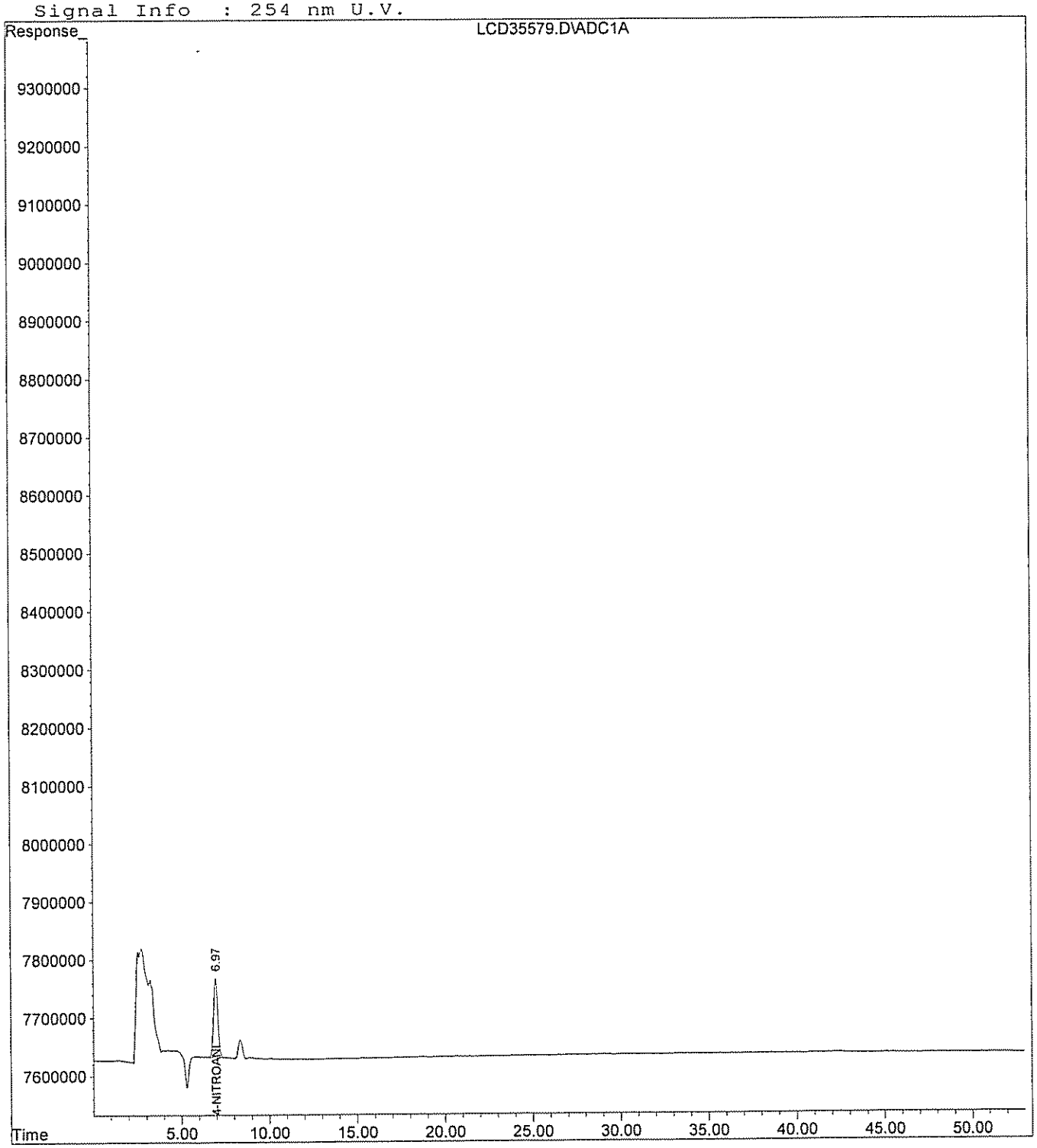
(f)=RT Delta > 1/2 Window (m)=manual int.
LCD35579.D 010907NG.M Mon Mar 05 10:17:58 2007 NP1 Page 1

Quantitation Report

Data File : H:\LCDATA\LCD\030207\0302NG\LCD35579.D Vial: 3
Acq On : 2 Mar 2007 15:23 Operator: SS
Sample : BLK96632 Inst : LCD
Misc : SOIL.SHAW Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 5 10:09 2007 Quant Results File: 010907NG.RES

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



GPL Laboratories

GPL
FORM I
ANALYSIS DATA SHEET

SAMPLE NO
NWO-039-0006MS

Lab Name :	GPL Laboratories	Client. :	Shaw E&I, Inc
Lab Code :	GPL	SAS NO. :	
Case No. :		SDG NO :	702113
Matrix : (Soil / Water)	SOIL	Lab Sample ID :	702113-001-001-1/1MS
Sample Volume :	10.02	Lab File ID :	LCD35581.D
% Moisture:		Date Received	02/23/2007
Extraction:	EXT_SW8330	Date Extracted:	02/27/2007
Extract Volume:	40 mL	Date Analyzed	03/02/2007
Injection Volume :	µ L	Dilution Factor :	1
GPC Clean up (Y/N):	pH:		

Concentration Units (ug/L or ug/kg dry weight) : mg/kg

CAS NO	COMPOUND		Q
99-35-4	1,3,5-Trinitrobenzene	0.50	
99-65-0	1,3-Dinitrobenzene	0.57	
118-96-7	2,4,6-Trinitrotoluene	0.52	
121-14-2	2,4-Dinitrotoluene	0.48	
606-20-2	2,6-Dinitrotoluene	0.52	
35572-78-2	2-Amino-4,6-Dinitrotoluene	0.50	
19406-51-0	4-Amino-2,6-Dinitrotoluene	0.48	
2691-41-0	HMX	0.53	
98-95-3	Nitrobenzene	0.50	
121-82-4	RDX	0.54	
479-45-8	Tetryl	0.50	
99-08-1	m-Nitrotoluene	0.49	
88-72-2	o-Nitrotoluene	0.52	
99-99-0	p-Nitrotoluene	0.48	

FORM I SW8330A_SHAW

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\030207\LCD35581.D Vial: 5
Acq On : 2 Mar 2007 17:43 Operator: SS
Sample : 702113-001-001-1/1MS Inst : LCD
Misc : SOIL.SHAW Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 5 9:21 2007 Quant Results File: 71248330.RES

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Mon Mar 05 09:17:54 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

		Compound	R.T.	Response	Conc	Units
System Monitoring Compounds						
2)	S	4-Nitroaniline	6.98	24394619	186.797	ng/mlm
Spiked Amount 150.000 Range 52 - 154 Recovery = 124.53%						
Target Compounds						
1)	T	HMX	4.59	17529957	131.939	ng/mlm
3)	T	1,3,5-Trinitrobenzene	12.97	46701617	126.008	ng/ml
4)	T	Tetryl	18.93	34601799	126.132	ng/ml
5)	T	2,4,6-Trinitrotoluene	23.10	44998525	130.292	ng/ml
6)	T	4-Amino-2,6-Dinitrotoluene	24.99	29382172	119.773	ng/ml
7)	T	2,6-Dinitrotoluene	28.97	30264822	130.847	ng/ml
8)	T	4-Nitrotoluene	40.32	22075913	121.681	ng/ml
9)	M	RDX	8.78	23252044	135.555	ng/ml
10)	M	1,3-Dinitrobenzene	17.17	72104855	143.220	ng/ml
11)	M	Nitrobenzene	20.65	40798689	124.783	ng/ml
12)	M	2-Amino-4,6-Dinitrotoluene	26.58	44604276	126.690	ng/ml
13)	M	2,4-Dinitrotoluene	30.13	59116857	120.271	ng/ml
14)	M	2-Nitrotoluene	37.35	27256661	129.659	ng/ml
15)	M	3-Nitrotoluene	43.76	27081992	122.487	ng/mlm

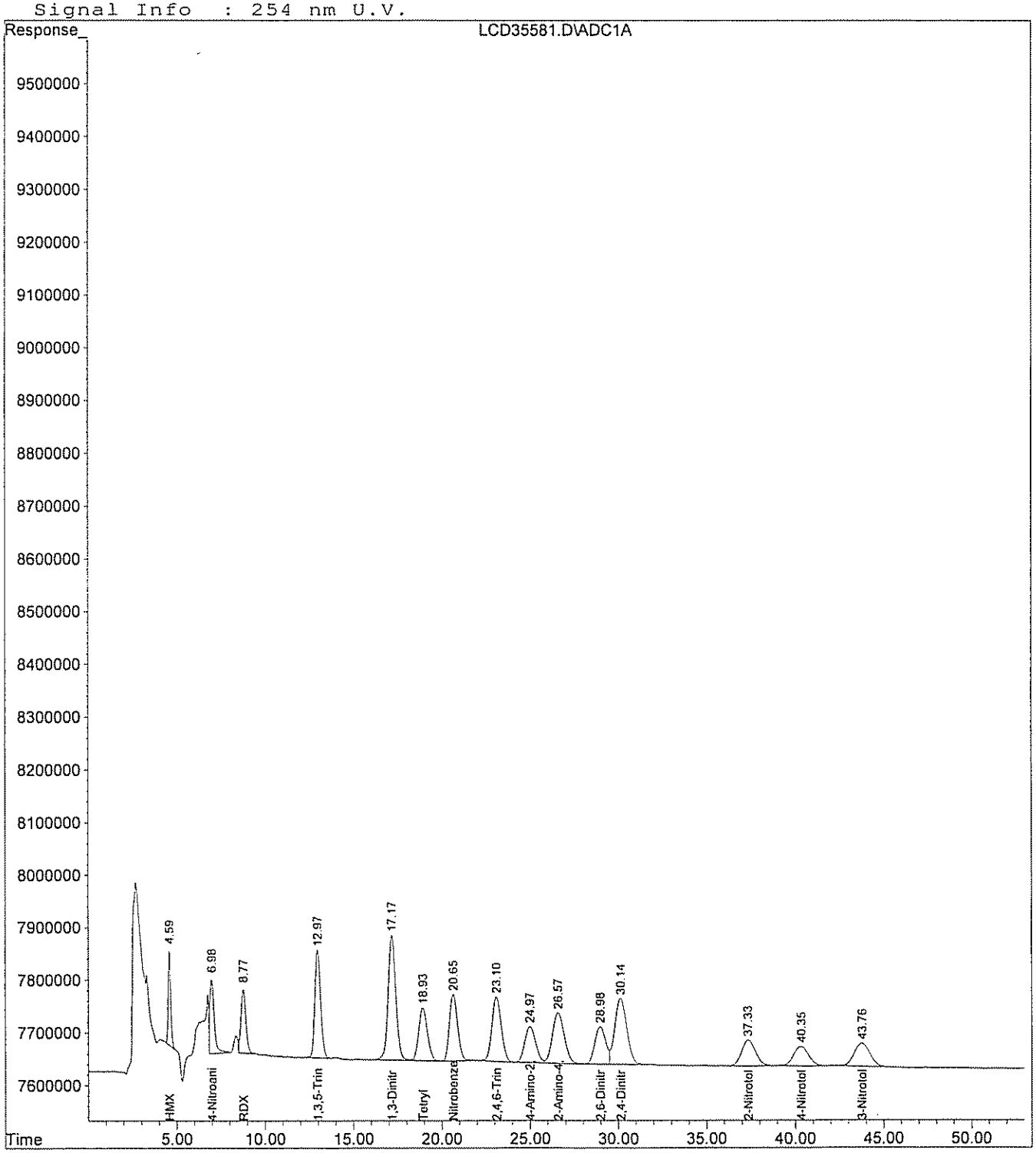
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCD\030207\LCD35581.D Vial: 5
Acq On : 2 Mar 2007 17:43 Operator: SS
Sample : 702113-001-001-1/1MS Inst : LCD
Misc : SOIL.SHAW Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 5 9:21 2007 Quant Results File: 71248330.RES

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Mon Mar 05 09:17:54 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



GPL Laboratories

GPL
FORM I
ANALYSIS DATA SHEET

SAMPLE NO
NWO-039-0006MSD

Lab Name :	GPL Laboratories	Client. :	Shaw E&I, Inc
Lab Code :	GPL	SAS NO. :	
Case No. :		SDG NO :	702113
Matrix : (Soil / Water)	SOIL	Lab Sample ID :	702113-001-001-1/1MSD
Sample Volume :	10	Lab File ID :	LCD35582.D
% Moisture:		Date Received	02/23/2007
Extraction:	EXT_SW8330	Date Extracted:	02/27/2007
Extract Volume:	40 mL	Date Analyzed	03/02/2007
Injection Volume :	µ L	Dilution Factor :	1
GPC Clean up (Y/N):	pH:		

Concentration Units (ug/L or ug/kg dry weight) : mg/kg

CAS NO	COMPOUND		Q
99-35-4	1,3,5-Trinitrobenzene	0.51	
99-65-0	1,3-Dinitrobenzene	0.58	
118-96-7	2,4,6-Trinitrotoluene	0.53	
121-14-2	2,4-Dinitrotoluene	0.48	
606-20-2	2,6-Dinitrotoluene	0.53	
35572-78-2	2-Amino-4,6-Dinitrotoluene	0.51	
19406-51-0	4-Amino-2,6-Dinitrotoluene	0.49	
2691-41-0	HMX	0.53	
98-95-3	Nitrobenzene	0.51	
121-82-4	RDX	0.55	
479-45-8	Tetryl	0.51	
99-08-1	m-Nitrotoluene	0.51	
88-72-2	o-Nitrotoluene	0.54	
99-99-0	p-Nitrotoluene	0.50	

FORM I SW8330A_SHAW

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\030207\LCD35582.D
Acq On : 2 Mar 2007 18:40
Sample : 702113-001-001-1/1MSD
Misc : SOIL.SHAW
IntFile : events.e
Quant Time: Mar 5 9:21 2007 Quant Results File: 71248330.RES

Vial: 6
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Mon Mar 05 09:17:54 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

		Compound	R.T.	Response	Conc Units
		System Monitoring Compounds			
2)	S	4-Nitroaniline	7.01	23694467	181.435 ng/ml
Spiked Amount		150.000	Range 52 - 154	Recovery	= 120.96%
		Target Compounds			
1)	T	HMX	4.60	17615630	132.583 ng/mlm
3)	T	1,3,5-Trinitrobenzene	13.01	47134278	127.175 ng/ml
4)	T	Tetryl	19.02	34716711	126.551 ng/ml
5)	T	2,4,6-Trinitrotoluene	23.19	46137043	133.588 ng/ml
6)	T	4-Amino-2,6-Dinitrotoluene	25.15	29848026	121.672 ng/ml
7)	T	2,6-Dinitrotoluene	29.10	30674046	132.616 ng/ml
8)	T	4-Nitrotoluene	40.45	22766270	125.486 ng/ml
9)	M	RDX	8.81	23478148	136.874 ng/ml
10)	M	1,3-Dinitrobenzene	17.24	73608811	146.207 ng/ml
11)	M	Nitrobenzene	20.73	41453080	126.784 ng/ml
12)	M	2-Amino-4,6-Dinitrotoluene	26.76	45272831	128.589 ng/ml
13)	M	2,4-Dinitrotoluene	30.28	59576240	121.206 ng/ml
14)	M	2-Nitrotoluene	37.49f	28376455	134.986 ng/ml
15)	M	3-Nitrotoluene	43.86	28207812	127.579 ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

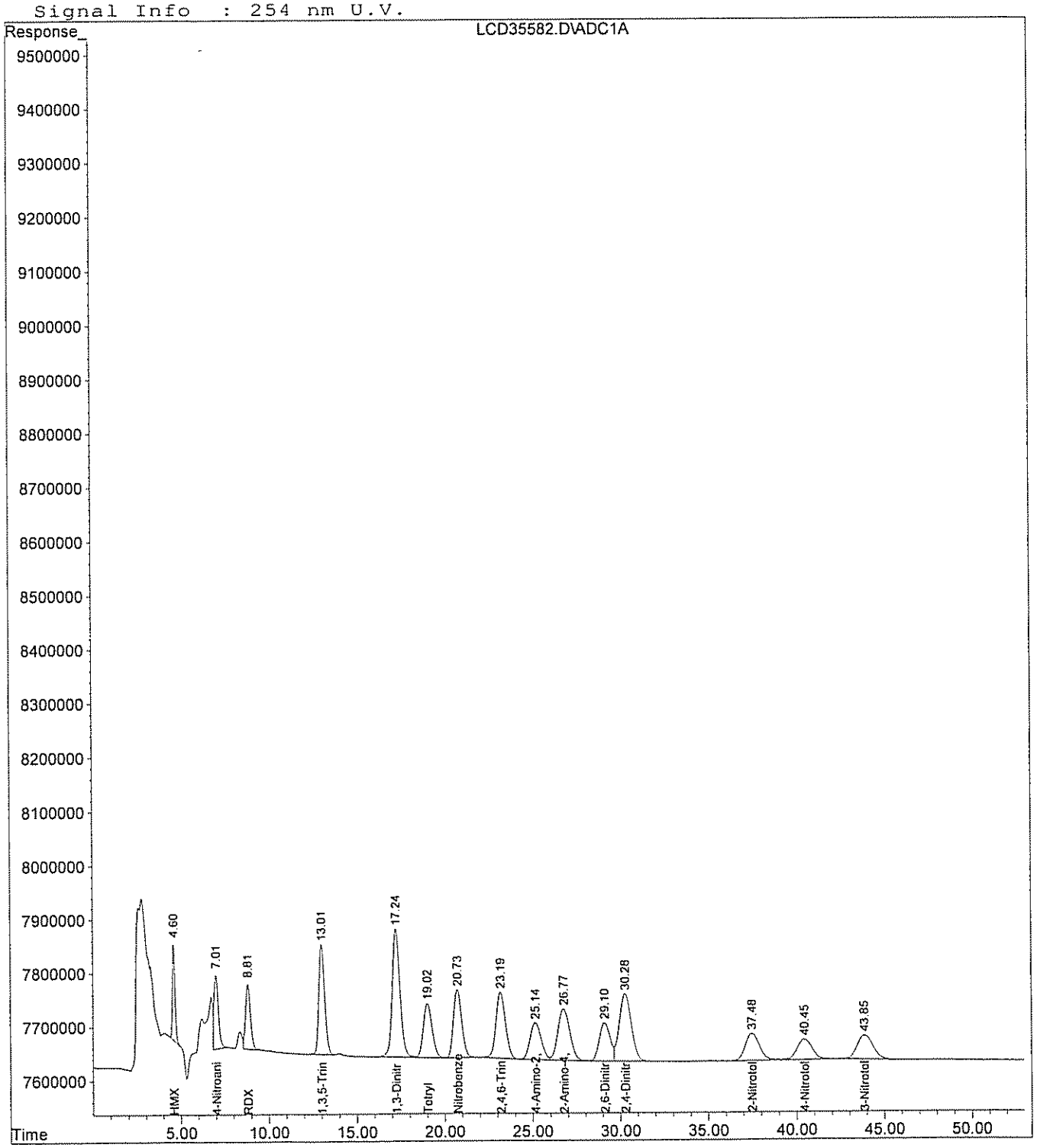
Quantitation Report

Data File : H:\LCDATA\LCD\030207\LCD35582.D
Acq On : 2 Mar 2007 18:40
Sample : 702113-001-001-1/1MSD
Misc : SOIL.SHAW
IntFile : events.e
Quant Time: Mar 5 9:21 2007 Quant Results File: 71248330.RES

Vial: 6
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Mon Mar 05 09:17:54 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



GPL Laboratories

GPL
FORM 1
ANALYSIS DATA SHEET

SAMPLE NO
NWO-039-0006MS

Lab Name :	GPL Laboratories	Client. :	Shaw E&I, Inc
Lab Code :	GPL	SAS NO. :	
Case No. :		SDG NO :	702113
Matrix : (Soil / Water)	SOIL	Lab Sample ID :	702113-001-001-1/1MS
Sample Volume :	10.01	Lab File ID :	LCD35584.D
% Moisture:		Date Received	02/23/2007
Extraction:	EXT_SW8330	Date Extracted:	02/27/2007
Extract Volume:	40 mL	Date Analyzed	03/02/2007
Injection Volume :	100 µ L	Dilution Factor :	1
GPC Clean up (Y/N):	pH:		

Concentration Units (ug/L or ug/kg dry weight) : mg/kg

CAS NO	COMPOUND		Q
55-63-0	Nitroglycerine	9.2	

FORM I SW8330

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\030207\0302NG\LCD35584.D Vial: 8
Acq On : 2 Mar 2007 20:35 Operator: SS
Sample : 702113-001-001-1/1MS Inst : LCD
Misc : SOIL.SHAW Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 5 10:11 2007 Quant Results File: 010907NG.RES

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1) S 4-NITROANILINE	6.97	25743304	197.533	PPB	m
Spiked Amount 300.000		Recovery =	65.84%		
Target Compounds					
2) M NITROGLYCERINE	20.76	4578143	2.303	PPM	m

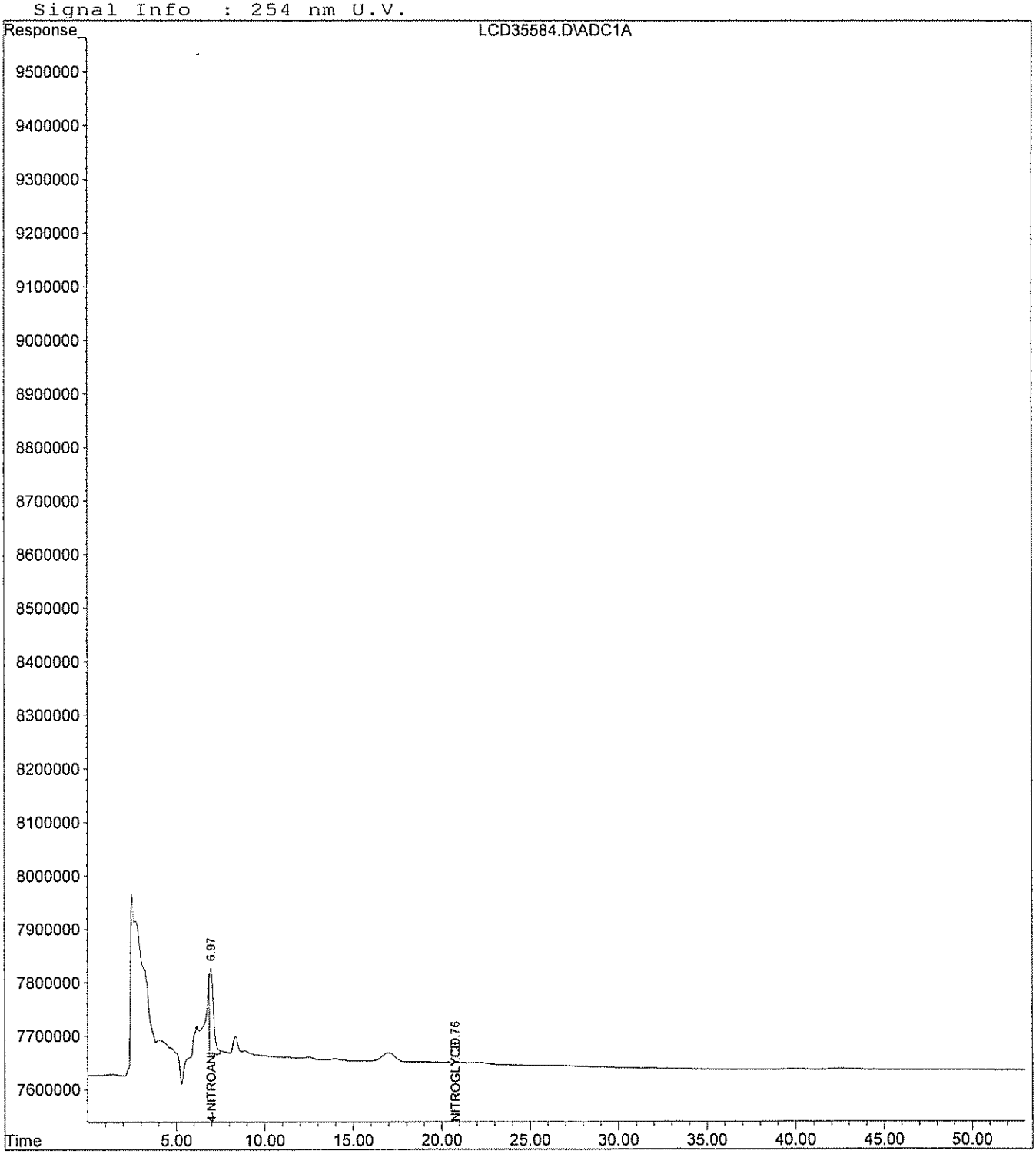
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

```
Data File : H:\LCDATA\LCD\030207\0302NG\LCD35584.D        Vial: 8
Acq On    :  2 Mar 2007  20:35                         Operator: SS
Sample    : 702113-001-001-1/1MS                       Inst    : LCD
Misc      : SOIL.SHAW                                  Multiplr: 1.00
IntFile   : events.e
Quant Time: Mar  5 10:11 2007  Quant Results File: 010907NG.RES

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title        : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update  : Sat May 07 18:57:59 2005
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj.  : 100 uL
Signal Phase : C8
Signal Info  : 254 nm U.V.
```



GPL Laboratories

GPL
FORM 1
ANALYSIS DATA SHEET

SAMPLE NO
NWO-039-0006MSD

Lab Name :	GPL Laboratories	Client. :	Shaw E&I, Inc
Lab Code :	GPL	SAS NO. :	
Case No. :		SDG NO :	702113
Matrix : (Soil / Water)	SOIL	Lab Sample ID :	702113-001-001-1/1MSD
Sample Volume :	10.03	Lab File ID :	LCD35585.D
% Moisture:		Date Received	02/23/2007
Extraction:	EXT_SW8330	Date Extracted:	02/27/2007
Extract Volume:	40 mL	Date Analyzed	03/02/2007
Injection Volume :	100 µ L	Dilution Factor :	1
GPC Clean up (Y/N):	pH:		

Concentration Units (ug/L or ug/kg dry weight) : mg/kg

CAS NO	COMPOUND		Q
55-63-0	Nitroglycerine	9.7	

FORM I SW8330

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\030207\0302NG\LCD35585.D Vial: 9
Acq On : 2 Mar 2007 21:32 Operator: SS
Sample : 702113-001-001-1/1MSD Inst : LCD
Misc : SOIL.SHAW Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 5 10:11 2007 Quant Results File: 010907NG.RES

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1) S 4-NITROANILINE	7.01	25591087	196.365	PPB	m
Spiked Amount 300.000		Recovery =	65.46%		
Target Compounds					
2) M NITROGLYCERINE	20.81	4857720	2.443	PPM	m

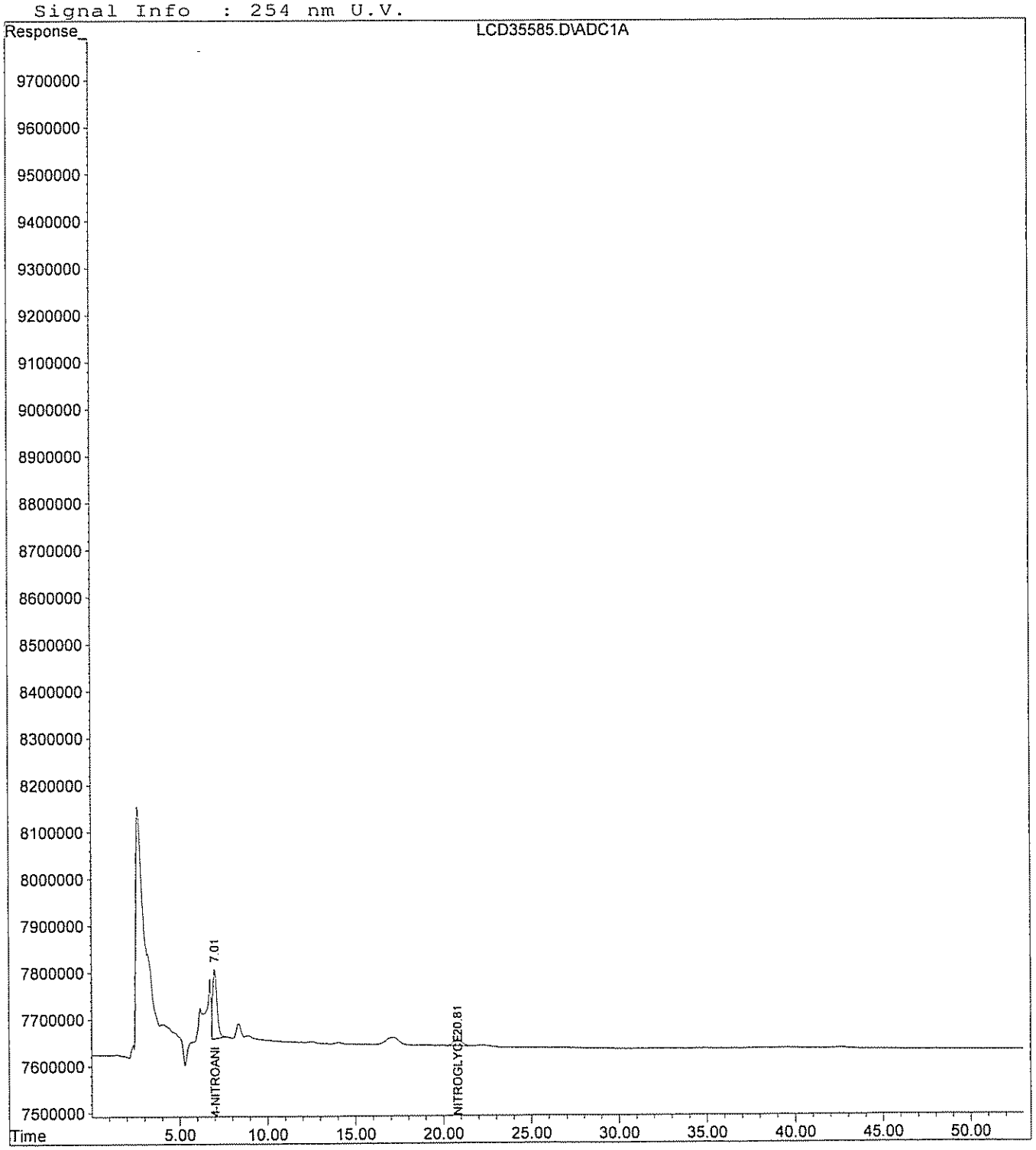
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCD\030207\0302NG\LCD35585.D Vial: 9
Acq On : 2 Mar 2007 21:32 Operator: SS
Sample : 702113-001-001-1/1MSD Inst : LCD
Misc : SOIL.SHAW Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 5 10:11 2007 Quant Results File: 010907NG.RES

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



GPL Laboratories

GPL
FORM I
ANALYSIS DATA SHEET

SAMPLE NO
BKS96629

Lab Name :	GPL Laboratories	Client. :	Shaw E&I, Inc
Lab Code :	GPL	SAS NO. :	
Case No. :		SDG NO :	702113
Matrix : (Soil / Water)	SOIL	Lab Sample ID :	BKS96629
Sample Volume :	10	Lab File ID :	LCD35580.D
% Moisture:		Date Received	
Extraction:	EXT_SW8330	Date Extracted:	02/27/2007
Extract Volume:	40 mL	Date Analyzed	03/02/2007
Injection Volume :	µL	Dilution Factor :	1
GPC Clean up (Y/N):	pH:		

Concentration Units (ug/L or ug/kg dry weight) : mg/kg

CAS NO	COMPOUND		Q
99-35-4	1,3,5-Trinitrobenzene	0.52	
99-65-0	1,3-Dinitrobenzene	0.54	
118-96-7	2,4,6-Trinitrotoluene	0.56	
121-14-2	2,4-Dinitrotoluene	0.51	
606-20-2	2,6-Dinitrotoluene	0.56	
35572-78-2	2-Amino-4,6-Dinitrotoluene	0.54	
19406-51-0	4-Amino-2,6-Dinitrotoluene	0.54	
2691-41-0	HMX	0.58	
98-95-3	Nitrobenzene	0.53	
121-82-4	RDX	0.57	
479-45-8	Tetryl	0.50	
99-08-1	m-Nitrotoluene	0.54	
88-72-2	o-Nitrotoluene	0.54	
99-99-0	p-Nitrotoluene	0.50	

FORM I SW8330A_SHAW

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\030207\LCD35580.D
Acq On : 2 Mar 2007 16:20
Sample : BKS96629
Misc : SOIL.SHAW
IntFile : events.e
Quant Time: Mar 5 9:19 2007 Quant Results File: 71248330.RES

Vial: 4
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Mon Mar 05 09:17:54 2007
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
2)	S	4-Nitroaniline	6.98	22487386	172.192	ng/ml
Spiked Amount		150.000	Range 52 - 154	Recovery	= 114.79%	
		Target Compounds				
1)	T	HMX	4.58	19231868	144.748	ng/mlm
3)	T	1,3,5-Trinitrobenzene	12.95	48501080	130.863	ng/ml
4)	T	Tetryl	18.87	34695605	126.474	ng/ml
5)	T	2,4,6-Trinitrotoluene	23.04	48638859	140.832	ng/ml
6)	T	4-Amino-2,6-Dinitrotoluene	24.89	33460886	136.400	ng/ml
7)	T	2,6-Dinitrotoluene	28.88	32264806	139.493	ng/ml
8)	T	4-Nitrotoluene	40.18	22759342	125.448	ng/ml
9)	M	RDX	8.76	24383980	142.154	ng/mlm
10)	M	1,3-Dinitrobenzene	17.14	68230748	135.525	ng/ml
11)	M	Nitrobenzene	20.60	43627791	133.436	ng/ml
12)	M	2-Amino-4,6-Dinitrotoluene	26.46	47422246	134.694	ng/ml
13)	M	2,4-Dinitrotoluene	30.04	62421914	126.996	ng/ml
14)	M	2-Nitrotoluene	37.24	28351114	134.865	ng/ml
15)	M	3-Nitrotoluene	43.60	29708604	134.367	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

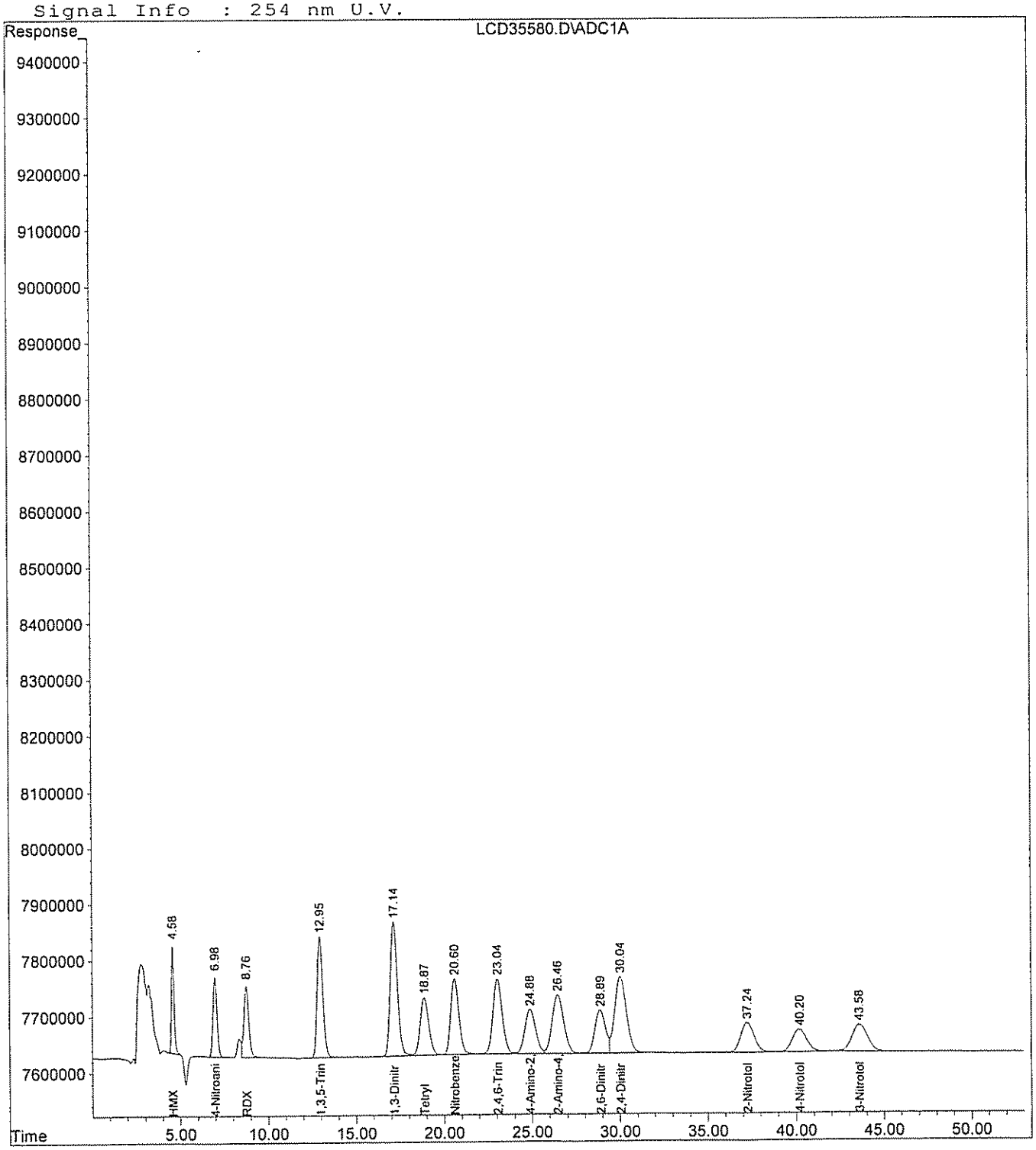
Quantitation Report

Data File : H:\LCDATA\LCD\030207\LCD35580.D
Acq On : 2 Mar 2007 16:20
Sample : BKS96629
Misc : SOIL.SHAW
IntFile : events.e
Quant Time: Mar 5 9:19 2007 Quant Results File: 71248330.RES

Vial: 4
Operator: SS
Inst : LCD
Multiplr: 1.00

Quant Method : H:\LCDATA\LCD\METHODS\71248330.M (Chemstation Integrator)
Title : 8330 Explosives
Last Update : Mon Mar 05 09:17:54 2007
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



GPL Laboratories

GPL
FORM 1
ANALYSIS DATA SHEET

SAMPLE NO
BKS96632

Lab Name :	GPL Laboratories	Client. :	Shaw E&I, Inc
Lab Code :	GPL	SAS NO. :	
Case No. :		SDG NO :	702113
Matrix : (Soil / Water)	SOIL	Lab Sample ID :	BKS96632
Sample Volume :	10	Lab File ID :	LCD35583.D
% Moisture:		Date Received	
Extraction:	EXT_SW8330	Date Extracted:	02/27/2007
Extract Volume:	40 mL	Date Analyzed	03/02/2007
Injection Volume :	100 µL	Dilution Factor :	1
GPC Clean up (Y/N):	pH:		

Concentration Units (ug/L or ug/kg dry weight) : mg/kg

CAS NO	COMPOUND		Q
55-63-0	Nitroglycerine	9.8	

FORM I SW8330

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCD\030207\0302NG\LCD35583.D Vial: 7
Acq On : 2 Mar 2007 19:38 Operator: SS
Sample : BKS96632 Inst : LCD
Misc : SOIL.SHAW Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 5 10:10 2007 Quant Results File: 010907NG.RES

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Initial Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1) S 4-NITROANILINE	7.01	22174392	170.148	PPB	
Spiked Amount 300.000		Recovery =	56.72%		
Target Compounds					
2) M NITROGLYCERINE	20.79	4893708	2.462	PPM	m

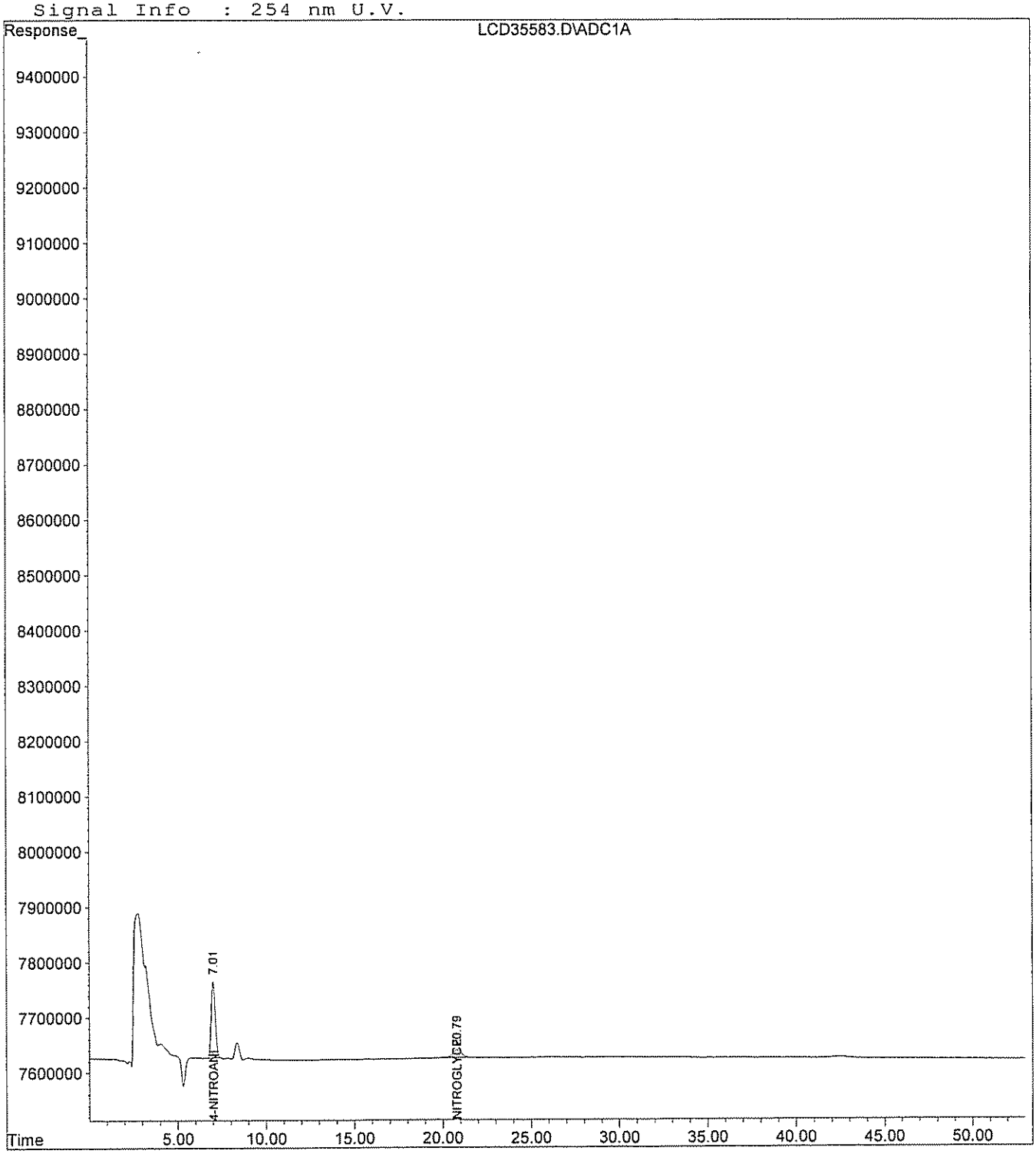
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCD\030207\0302NG\LCD35583.D Vial: 7
Acq On : 2 Mar 2007 19:38 Operator: SS
Sample : BKS96632 Inst : LCD
Misc : SOIL.SHAW Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 5 10:10 2007 Quant Results File: 010907NG.RES

Quant Method : H:\LCDATA\LCD\METHODS\010907NG.M (Chemstation Integrator)
Title : NITROGLYCERINE- 5 POINT IC PRIMARY
Last Update : Sat May 07 18:57:59 2005
Response via : Multiple Level Calibration
DataAcq Meth : 8330MIX.M

Volume Inj. : 100 uL
Signal Phase : C8
Signal Info : 254 nm U.V.



EXPLOSIVES /NITROGUANIDINE /NITROGLYCERINE /PICRIC ACID /PETN EXTRACTION LOG

SOIL / WATER / WIPES

Approval / Date: DS 02/27/07 Client: Shaw E & I, Inc and USACE

Analysis Method: 8330 + PETN + NG (S)

Extraction Chemist: NP Date: 02-27-07 Spike Witness: VT

Work Order	Fraction	Sample Amount gram/mL	Surrogate Added, mL	Spike Added, mL	Final Volume, mL
702113	BLK	10.00	1.0	—	40.0
	BKS1	10.00		1.0 + 0.4 PETN	
	001 MS1	10.02			
	001 MSD1	10.00			
	BKS2	10.00		1.0 (NG)	
	001 MS2	10.01			
	001 MSD2	10.03			
	001	10.00		—	
	002	10.02			
	003	10.02			
	004	10.03			
	005	10.00			
	006	10.01			
	007	10.00			
702104	001	10.03			
	002	10.00			
	003	10.00			

DS 02/27/07

Solvent: Acetonitrile / DI Water

Solvent Lot #: 065280 Matrix Spike #: 38712 Matrix Spike Conc.: 5 PPm

Surrogate Solution #: 39183 Matrix Spike #: 39085 ~~lot~~ PETN N.G. Matrix Spike Conc.: 10 PPm

Surrogate Conc.(s): 6 PPm Matrix Spike #: 38451 NG Matrix Spike Conc.: 100 PPm

Calcium Chloride#: 040676 Sodium Sulfate#: — Sand#: 43007309

Sodium Chloride#: —

Comments & Observations: Xenco for 8330 # 96629

Xenco for ~~8330 Pet~~ # 96631

Xenco for 8330 NG # 96632

HPLC ANALYSIS LOGBOOK

Instrument ID: **LC # D** (HP1100) 71248330 LCD P

Method File:	h:\lcdata\lcd\methods
Detector/ Wavelength:	UV 254 nm
Injection Volume:	100 µL

Data File Path:	h:\lcdata\lcd\012407
Mobile Phase:	8330-449-71-8
Flow Rate:	0.9 mL/min

ICAL: 71248330 Analyst: KSA Reviewed by: S.S. Date: 01/25/07

Injection Log

Directory: h:\lcdata\lcd\012407

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injecte
1	1	lcd35031.d	1.	8330MIX-BLK	CCAL	24 Jan
2	2	lcd35032.d	1.	8330MIX-LEV1	CCAL	24 Jan
3	3	lcd35033.d	1.	8330MIX-LEV2	CCAL	24 Jan
4	4	lcd35034.d	1.	8330MIX-LEV3	CCAL	24 Jan
5	5	lcd35035.d	1.	8330MIX-LEV4	CCAL	24 Jan
6	6	lcd35036.d	1.	8330MIX-LEV5	CCAL	24 Jan
7	7	lcd35037.d	1.	8330MIX-LEV6	CCAL	24 Jan
8	8	lcd35038.d	1.	8330MIX-ICV	CCAL	24 Jan
LCD						
LCD						
LCD						
LCD						
LCD						
LCD						
LCD						
LCD						
LCD						
LCD						
LCD						
LCD						
LCD						
LCD						
LCD						
LCD						
LCD						

Remarks	Standard	Solution ID	Conc.	Date Prep.
97762	8330MIX	38897	10/20 ppm	12/14/06

HPLC ANALYSIS LOGBOOK

LCD P NG

Instrument ID: **LC # D** (HP1100)

Method File:	h:\lcdata\lcd\methods
Detector/ Wavelength:	UV 254 nm
Injection Volume:	100 µL

Data File Path:	h:\lcdata\lcd\010907
Mobile Phase:	8330-(49-69-33
Flow Rate:	0.9 mL/min

ICAL: 010907NG Analyst: JCSA Reviewed by: S.S. Date: 1/17/07

Injection Log

Directory: h:\lcdata\lcd\010907

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injecte
1	1	lcd34906.d	1.	8330MIX-BLK	C CAL	9 Jan
2	2	lcd34907.d	1.	8330MIX-LEV1	C CAL	9 Jan
3	3	lcd34908.d	1.	8330MIX-LEV2	C CAL	9 Jan
4	4	lcd34909.d	1.	8330MIX-LEV3	C CAL	9 Jan
5	5	lcd34910.d	1.	8330MIX-LEV4	C CAL	9 Jan
6	6	lcd34911.d	1.	8330MIX-LEV5	C CAL	9 Jan
7	7	lcd34912.d	1.	8330MIX-LEV6	C CAL	9 Jan
8	8	lcd34913.d	1.	8330MIX-ICV	C CAL	9 Jan
9	9	lcd34914.d	1.	8330NG-BLK	C CAL	9 Jan
10	10	lcd34915.d	1.	8330NG-LEV1	C CAL	9 Jan
11	11	lcd34916.d	1.	8330NG-LEV2	C CAL	9 Jan
12	12	lcd34917.d	1.	8330NG-LEV3	C CAL	9 Jan
13	13	lcd34918.d	1.	8330NG-LEV4	C CAL	10 Jan
14	14	lcd34919.d	1.	8330NG-LEV5	C CAL	10 Jan
15	15	lcd34920.d	1.	8330NG-ICV	C CAL	10 Jan

Not used

LCD						
LCD						
LCD						
LCD						
LCD						
LCD						
LCD						
LCD						
LCD						
LCD						
LCD						
LCD						

Remarks	Standard	Solution ID	Conc.	Date Prep.
9763	8330 MIX	38897	10/20 ppm	12/14/06
	4-Nitroaniline	39206	10 ppm	1/9/07
	NG	38665	100 ppm	11/16/06

HPLC ANALYSIS LOGBOOK

Instrument ID: **LC # D** (HP1100) 7125CON LCD C

Method File:	h:\lcdata\lcd\methods
Detector/ Wavelength:	UV 254 nm
Injection Volume:	100 µL

Data File Path:	h:\lcdata\lcd\012507
Mobile Phase:	8330-L49-71-5
Flow Rate:	1.0 mL/min

ICAL: 7125CON Analyst: JCSA Reviewed by: ST. Date: 01/26/07

Injection Log

Directory: h:\lcdata\lcd\012507

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	lcd35039.d	1.	8330MIX-BLK	CCAL	25 Jan
2	2	lcd35040.d	1.	8330MIX-LEV1	CCAL	25 Jan
3	3	lcd35041.d	1.	8330MIX-LEV2	CCAL	25 Jan
4	4	lcd35042.d	1.	8330MIX-LEV3	CCAL	25 Jan
5	5	lcd35043.d	1.	8330MIX-LEV4	CCAL	25 Jan
6	6	lcd35044.d	1.	8330MIX-LEV5	CCAL	25 Jan
7	7	lcd35045.d	1.	8330MIX-LEV6	CCAL	25 Jan
8	8	lcd35046.d	1.	8330MIX-ICV	CCAL	25 Jan
9	9	lcd35047.d	1.	8330MIX-ICV	CCAL	26 Jan
LCD						
LCD						
LCD						
LCD						
LCD						
LCD						
LCD						
LCD						
LCD						
LCD						
LCD						
LCD						
LCD						
LCD						
LCD						
LCD						
LCD						

Remarks	Standard	Solution ID	Conc.	Date Prep.
	8330 MIX	38897	10/20 ppm	12/14/06

HPLC ANALYSIS LOGBOOK

Instrument ID: **LC # D** (HP1100)

Method File:	h:\lcdata\lcd\methods
Detector/ Wavelength:	UV 254 nm
Injection Volume:	100 µL

Data File Path:	h:\lcdata\lcd\030207
Mobile Phase:	8330 - L49-73-27
Flow Rate:	0.9 mL/min

ICAL: 71248370/010907 NB Analyst: KSA Reviewed by: SS Date: 03/06/07

Injection Log

Directory: h:\lcdata\lcd\030207

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injecte
1		lcd35577.d	1.			
2	2	lcd35578.d	1.	8330NG	C CAL	2 Mar
3	3	lcd35579.d	1.	BLK96629	SOIL.SHAW	2 Mar
4	4	lcd35580.d	1.	BKS96629	SOIL.SHAW	2 Mar
5	5	lcd35581.d	1.	702113-001-001-1/1MS	SOIL.SHAW	2 Mar
6	6	lcd35582.d	1.	702113-001-001-1/1MSD	SOIL.SHAW	2 Mar
7	7	lcd35583.d	1.	BKS96632	SOIL.SHAW	2 Mar
8	8	lcd35584.d	1.	702113-001-001-1/1MS	SOIL.SHAW	2 Mar
9	9	lcd35585.d	1.	702113-001-001-1/1MSD	SOIL.SHAW	2 Mar
10	10	lcd35586.d	1.	702113-001-001-1/1	SOIL.SHAW	2 Mar
11	11	lcd35587.d	1.	702113-002-002-1/1	SOIL.SHAW	2 Mar
12	12	lcd35588.d	1.	702113-003-003-1/1	SOIL.SHAW	3 Mar
13	13	lcd35589.d	1.	RINSE	ACN	3 Mar
14	14	lcd35590.d	1.	8330MIX	CCAL	3 Mar
15	15	lcd35591.d	1.	8330NG	CCAL	3 Mar
16	16	lcd35592.d	1.	702113-004-004-1/1	SOIL.SHAW	3 Mar
17	17	lcd35593.d	1.	702113-005-005-1/1	SOIL.SHAW	3 Mar
18	18	lcd35594.d	1.	702113-006-006-1/1	SOIL.SHAW	3 Mar
19	19	lcd35595.d	1.	702113-007-013-1/1	SOIL.SHAW	3 Mar
20	20	lcd35596.d	1.	702104-001-004-1/1	SOIL.USACE	3 Mar
21	21	lcd35597.d	1.	702104-002-005-1/1	SOIL.USACE	3 Mar
22	22	lcd35598.d	1.	702104-003-006-1/1	SOIL.USACE	3 Mar
23	23	lcd35599.d	1.	BLK96693	WATER.TECHLAW	3 Mar
24	24	lcd35600.d	1.	BKS96693	WATER.TECHLAW	3 Mar
25	25	lcd35601.d	1.	BKSD96693	WATER.TECHLAW	3 Mar
26	26	lcd35602.d	1.	RINSE	ACN	3 Mar
27	27	lcd35603.d	1.	8330MIX	CCAL	3 Mar
28	28	lcd35604.d	1.	8330NG	CCAL	3 Mar
29	29	lcd35605.d	1.	703006-001-040-1/2	WATER.TECHLAW	3 Mar
30	30	lcd35606.d	1.	703006-002-042-1/2	WATER.TECHLAW	3 Mar
31	31	lcd35607.d	1.	703006-004-032-1/2	WATER.TECHLAW	3 Mar
32	32	lcd35608.d	1.	703006-005-034-1/2	WATER.TECHLAW	3 Mar
33	33	lcd35609.d	1.	703006-006-036-1/2	WATER.TECHLAW	3 Mar
34	34	lcd35610.d	1.	703006-007-038-1/2	WATER.TECHLAW	3 Mar
35	35	lcd35611.d	1.	RINSE	ACN	3 Mar
36	36	lcd35612.d	1.	8330MIX	CCAL	3 Mar

Remarks	Standard	Solution ID	Conc.	Date Prep.
	8330 MIX	39648	10 ~~50~~ ppm	12/12/07
	4-Nitroaniline	39206	10 ppm	1/19/07
	NG	39366	1000 ppm	1/18/07

HPLC ANALYSIS LOGBOOK

Instrument ID: **LC # D** (HP1100)

Method File:	h:\lcdata\lcd\methods
Detector/ Wavelength:	UV 254 nm
Injection Volume:	10 µL

Data File Path:	h:\lcdata\lcd\030507
Mobile Phase:	8330-L49-73-29
Flow Rate:	1.0 mL/min

ICAL: 7125CON Analyst: JCSA Reviewed by: S.S. Date: 03/06/07

Injection Log

Directory: h:\lcdata\lcd\030507

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injecte
1	1	lcd35613.d	1.	8330MIX	CCAL	5 Mar
2	2	lcd35614.d	1.	702113-001	SOIL.SHAW	5 Mar
3	3	lcd35615.d	1.	702132-001	SOIL.CPEG	5 Mar
4	4	lcd35616.d	1.	702132-002	SOIL.CPEG	5 Mar
5	5	lcd35617.d	1.	702132-003	SOIL.CPEG	5 Mar
6	6	lcd35618.d	1.	702132-004	SOIL.CPEG	5 Mar
7	7	lcd35619.d	1.	702132-005	SOIL.CPEG	5 Mar
8	8	lcd35620.d	1.	702132-006	SOIL.CPEG	5 Mar
9	9	lcd35621.d	1.	702132-007	SOIL.CPEG	5 Mar
10	10	lcd35622.d	1.	702132-008	SOIL.CPEG	5 Mar
11	11	lcd35623.d	1.	702132-009	SOIL.CPEG	5 Mar
12	12	lcd35624.d	1.	RINSE	ACN	5 Mar
13	13	lcd35625.d	1.	8330MIX	CCAL	5 Mar
14	14	lcd35626.d	1.	702132-010	SOIL.CPEG	5 Mar
15	15	lcd35627.d	1.	702113-002	SOIL.SHAW	5 Mar
16	16	lcd35628.d	1.	702113-003	SOIL.SHAW	6 Mar
17	17	lcd35629.d	1.	702113-004	SOIL.SHAW	6 Mar
18	18	lcd35630.d	1.	702113-005	SOIL.SHAW	6 Mar
19	19	lcd35631.d	1.	702113-006	SOIL.SHAW	6 Mar
20	20	lcd35632.d	1.	702113-007	SOIL.SHAW	6 Mar
21	21	lcd35633.d	1.	RINSE	ACN	6 Mar
22	22	lcd35634.d	1.	8330MIX	CCAL	6 Mar

LCD						
LCD						
LCD						
LCD						
LCD						
LCD						
LCD						
LCD						
LCD						

Remarks	Standard	Solution ID	Conc.	Date Prep.
	8330 MIX	37648	10/20 ppm	2/12/07

LOW IMPACT EXPLOSIVES AND PROPELLANTS

GPL Laboratories

A. QC Summary

1. Surrogate Percent Recovery Summary
2. Matrix Spike/Matrix Spike Duplicate Summary
3. Laboratory Control Standard Summary (where applicable)
4. Method Blank Summary

GPL Laboratories

Surrogate Recovery Summary

Matrix : SOIL **Analytical Method : SW8330** **SDG No : 702113**

Surrogate	NO2ANIL4
Lower QC Limits	**31**
Upper QC Limits	**129**
Sample ID	
BKS96631	113
BLK96631	113
NWO-039-0006	194 *
NWO-039-0006MS	150 *
NWO-039-0006MSD	162 *
NWO-039-0007	103
NWO-039-0008	172 *
NWO-039-0009	189 *
NWO-039-0010	100
NWO-039-0013	100
NWO-039-1005	101

* Value outside of QC Limts

NO2ANIL4 = 4-Nitroaniline

GPL Laboratories

MS/MSD RECOVERY

SAMPLE NO
NWO-039-0006MSD

Lab Name : GPL Laboratories SDG NO : 702113 Method : SW8330

Lab Code : GPL Lab Sample ID : 702113-001-001-1/1MSD Matrix : SOIL Analysis Date : 03/02/2007

Compound	Spike Added (mg/kg)		CONCENTRATION (mg/kg)			%RECOVERY		% RPD	RPD Limit	QC Limits
	MS	MSD	Sample	MS	MSD	MS	MSD			
Nitroglycerine	10	10	0.0	9.2	9.7	92	97	5	25	60-120

SAMPLE NO
NWO-039-0006MSD

Lab Name : GPL Laboratories SDG NO : 702113 Method : SW8330

Lab Code : GPL Lab Sample ID : 702113-001-001-1/1MSD Matrix : SOIL Analysis Date : 03/07/2007

Compound	Spike Added (mg/kg)		CONCENTRATION (mg/kg)			%RECOVERY		% RPD	RPD Limit	QC Limits
	MS	MSD	Sample	MS	MSD	MS	MSD			
Pentaerythritol Tetranitrate	.4	.4	0.0	0.70	0.65	175 *	163 *	7	25	60-120

Column to be used to flag recovery and RPD Values with an asterisk.

* Values Outside of QC Limits.

RPD 0 Out of 2 Outside Limit
Spike Recovery : 2 Out of 4 outside limit

GPL Laboratories

LCS SUMMARY

SAMPLE NO
BKS96631

Lab Name :	GPL Laboratories	Contract. :	Fort Flagler Military Reservation - 039
Lab Code :	GPL	SDG NO :	702113
Matrix :	SOIL	Lab Sample ID :	BKS96631
Method :	SW8330	Analysis Date :	03/07/2007

COMPOUND	SPIKE ADDED (mg/kg)	BLANK CONCENTRATION (mg/kg)	LCS CONCENTRATION (mg/kg)	LCS % REC	QC LIMTS
Pentaerythritol Tetranitrate	.4	0	0.42	105	60-120

* Values Outside of QC Limits.

Spike recovery : 0 out of 1 outside limits

LOW IMPACT EXPLOSIVES AND PROPELLANTS

GPL Laboratories

A. QC Summary

1. Surrogate Percent Recovery Summary
2. Matrix Spike/Matrix Spike Duplicate Summary
3. Laboratory Control Standard Summary (where applicable)
4. Method Blank Summary

GPL Laboratories

GPL Laboratories

GPL
FORM 4
EXPLOSIVE METHOD BLANK SUMMARY

SAMPLE NO
BLK96631

Lab Name :	GPL Laboratories	Client. :	Shaw E&I, Inc
Lab Code :	GPL	SAS NO. :	96631
Lab File ID :	E39855D.D	SDG NO :	702113
Date Analyzed	03/07/2007	Lab Sample ID :	BLK96631
Date Extracted :	02/27/2007	Time Analyzed :	20:03
Matrix :(Soil/Water).	SOIL	Level :(Low/Med)	

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES,MS AND MSD :

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed
BKS96631	BKS96631	E39856D.D	03/07/2007
NWO-039-0006MS	702113-001-001-1/1MS	E39857D.D	03/07/2007
NWO-039-0006MSD	702113-001-001-1/1MSD	E39858D.D	03/07/2007
NWO-039-0006	702113-001-001-1/1	E39859D.D	03/07/2007
NWO-039-0007	702113-002-002-1/1	E39860D.D	03/07/2007
NWO-039-0008	702113-003-003-1/1	E39861D.D	03/07/2007
NWO-039-0009	702113-004-004-1/1	E39862D.D	03/07/2007
NWO-039-1005	702113-005-005-1/1	E39863D.D	03/07/2007
NWO-039-0010	702113-006-006-1/1	E39864D.D	03/07/2007
NWO-039-0013	702113-007-013-1/1	E39865D.D	03/07/2007

FORM IV SW8330

B. Sample Data

1. TCL Results
2. Chromatographs from Primary and Confirmatory Analyses
3. Integration Report for Primary and Confirmatory Analyses

GPL Laboratories

GPL Laboratories

GPL
FORM I
ANALYSIS DATA SHEET

SAMPLE NO
NWO-039-0006

Lab Name :	GPL Laboratories	Client. :	Shaw E&I, Inc
Lab Code :	GPL	SAS NO. :	
Case No. :		SDG NO :	702113
Matrix : (Soil / Water)	SOIL	Lab Sample ID :	702113-001-001-1/1
Sample Volume :	10	Lab File ID :	E39859D.D
% Moisture:		Date Received	02/23/2007
Extraction:	EXT_SW8330	Date Extracted:	02/27/2007
Extract Volume:	40 mL	Date Analyzed	03/07/2007
Injection Volume :	100 µ L	Dilution Factor :	1
GPC Clean up (Y/N):	pH:		

Concentration Units (ug/L or ug/kg dry weight) : mg/kg

CAS NO	COMPOUND		Q
78-11-5	Pentaerythritol Tetranitrate	0.20	U

FORM I SW8330

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCE\0307A07\E39859D.D Vial: 8
Acq On : 7 Mar 2007 21:20 Operator: SS
Sample : 702113-001-001-1/1 Inst : LCE
Misc : SOIL Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 8 10:05 2007 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Thu Mar 08 10:01:38 2007
Response via : Initial Calibration
DataAcq Meth : PETNCNE.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1) S 4-Nitroaniline	4.28	74930242	290.631	PPB	m
Spiked Amount 150.000		Recovery =	193.75%		
Target Compounds					
2) T PETN	0.00	0	N.D.	PPB	

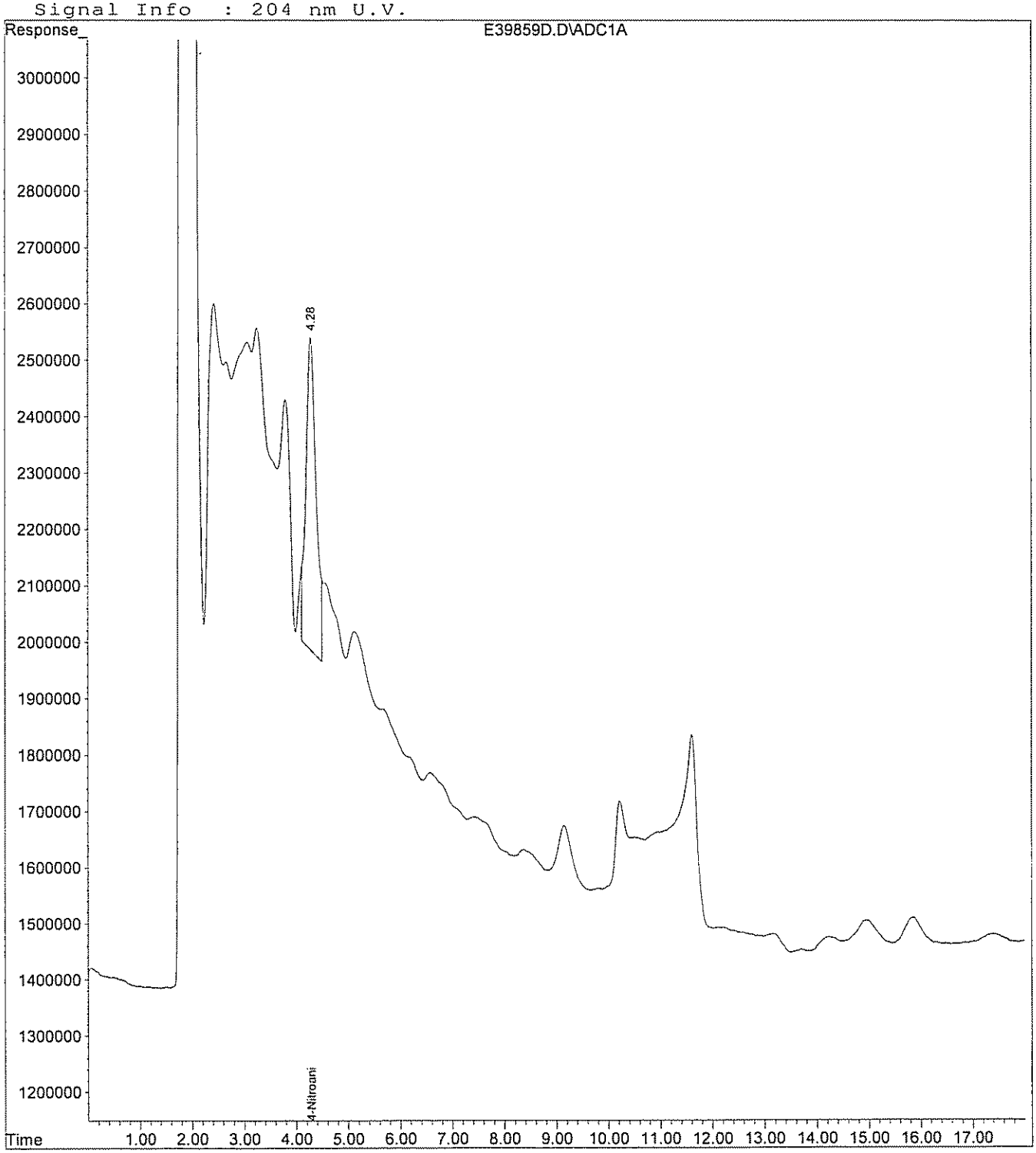
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCE\0307A07\E39859D.D Vial: 8
Acq On : 7 Mar 2007 21:20 Operator: SS
Sample : 702113-001-001-1/1 Inst : LCE
Misc : SOIL Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 8 10:05 2007 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Thu Mar 08 10:01:38 2007
Response via : Multiple Level Calibration
DataAcq Meth : PETNCNE.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.



GPL Laboratories

GPL
FORM 1
ANALYSIS DATA SHEET

SAMPLE NO
NWO-039-0007

Lab Name :	GPL Laboratories	Client. :	Shaw E&I, Inc
Lab Code :	GPL	SAS NO. :	
Case No. :		SDG NO :	702113
Matrix : (Soil / Water)	SOIL	Lab Sample ID :	702113-002-002-1/1
Sample Volume :	10.02	Lab File ID :	E39860D.D
% Moisture:		Date Received	02/23/2007
Extraction:	EXT_SW8330	Date Extracted:	02/27/2007
Extract Volume:	40 mL	Date Analyzed	03/07/2007
Injection Volume :	100 µ L	Dilution Factor :	1
GPC Clean up (Y/N):	pH:		

Concentration Units (ug/L or ug/kg dry weight) : mg/kg

CAS NO	COMPOUND		Q
78-11-5	Pentaerythritol Tetranitrate	0.20	U

FORM I SW8330

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCE\0307A07\E39860D.D Vial: 9
Acq On : 7 Mar 2007 21:40 Operator: SS
Sample : 702113-002-002-1/1 Inst : LCE
Misc : SOIL Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 8 10:06 2007 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Thu Mar 08 10:01:38 2007
Response via : Initial Calibration
DataAcq Meth : PETNCNE.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1) S 4-Nitroaniline	4.28	39978142	155.063	PPB	m
Spiked Amount 150.000		Recovery =	103.38%		
Target Compounds					
2) T PETN	0.00	0	N.D.	PPB	

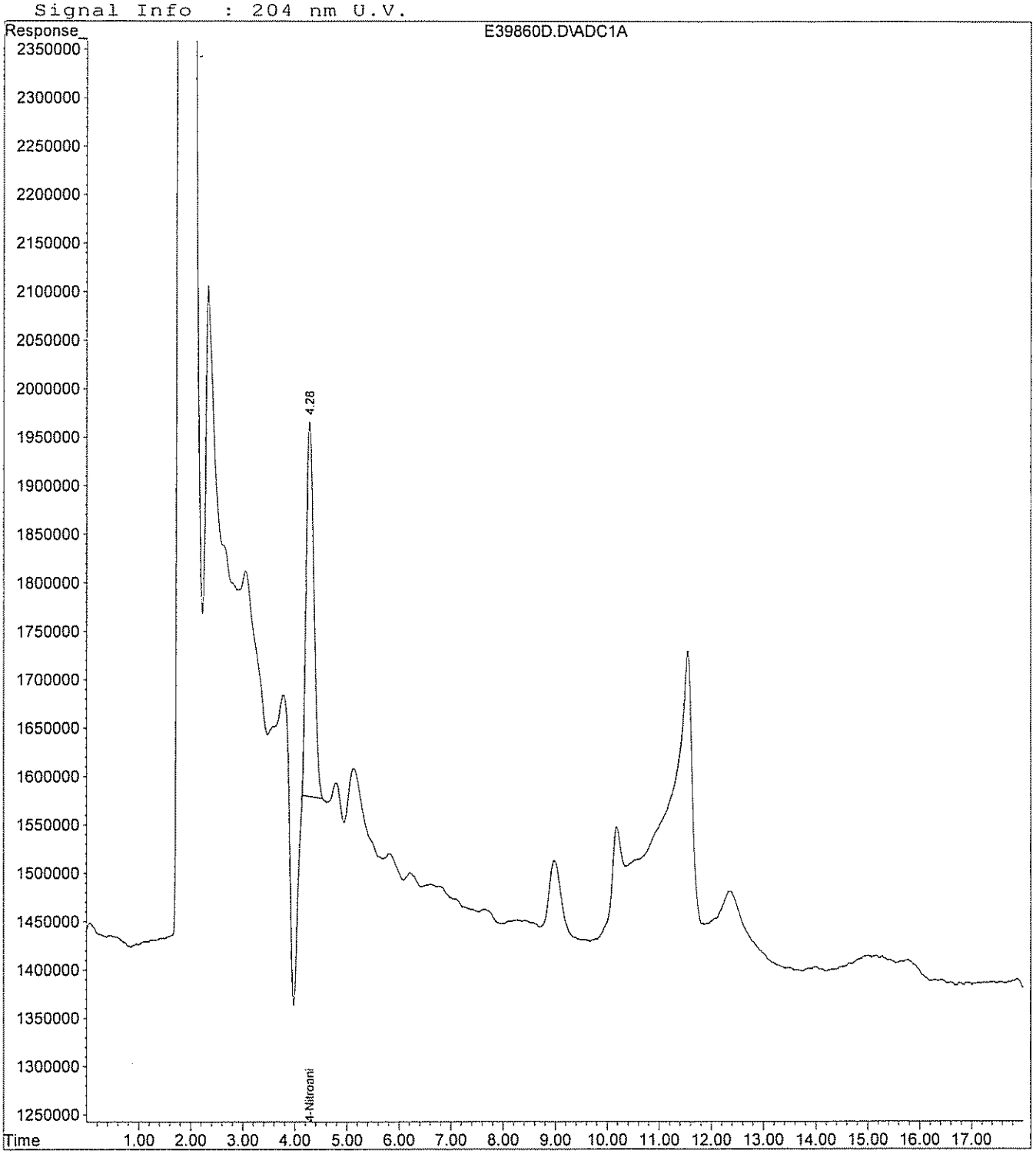
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCE\0307A07\E39860D.D Vial: 9
Acq On : 7 Mar 2007 21:40 Operator: SS
Sample : 702113-002-002-1/1 Inst : LCE
Misc : SOIL Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 8 10:06 2007 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Thu Mar 08 10:01:38 2007
Response via : Multiple Level Calibration
DataAcq Meth : PETNCNE.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.



GPL Laboratories

GPL
FORM 1
ANALYSIS DATA SHEET

SAMPLE NO
NWO-039-0008

Lab Name :	GPL Laboratories	Client. :	Shaw E&I, Inc
Lab Code :	GPL	SAS NO. :	
Case No. :		SDG NO :	702113
Matrix : (Soil / Water)	SOIL	Lab Sample ID :	702113-003-003-1/1
Sample Volume :	10.02	Lab File ID :	E39861D.D
% Moisture:		Date Received	02/23/2007
Extraction:	EXT_SW8330	Date Extracted:	02/27/2007
Extract Volume:	40 mL	Date Analyzed	03/07/2007
Injection Volume :	100 µ L	Dilution Factor :	1
GPC Clean up (Y/N):	pH:		

Concentration Units (ug/L or ug/kg dry weight) : mg/kg

CAS NO	COMPOUND		Q
78-11-5	Pentaerythritol Tetranitrate	0.20	U

FORM I SW8330

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCE\0307A07\E39861D.D Vial: 10
Acq On : 7 Mar 2007 21:59 Operator: SS
Sample : 702113-003-003-1/1 Inst : LCE
Misc : SOIL Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 8 10:06 2007 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Thu Mar 08 10:01:38 2007
Response via : Initial Calibration
DataAcq Meth : PETNCNE.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1) S 4-Nitroaniline	4.29	66531318	258.054	PPB	m
Spiked Amount 150.000		Recovery =	172.04%		
Target Compounds					
2) T PETN	0.00	0	N.D.	PPB	

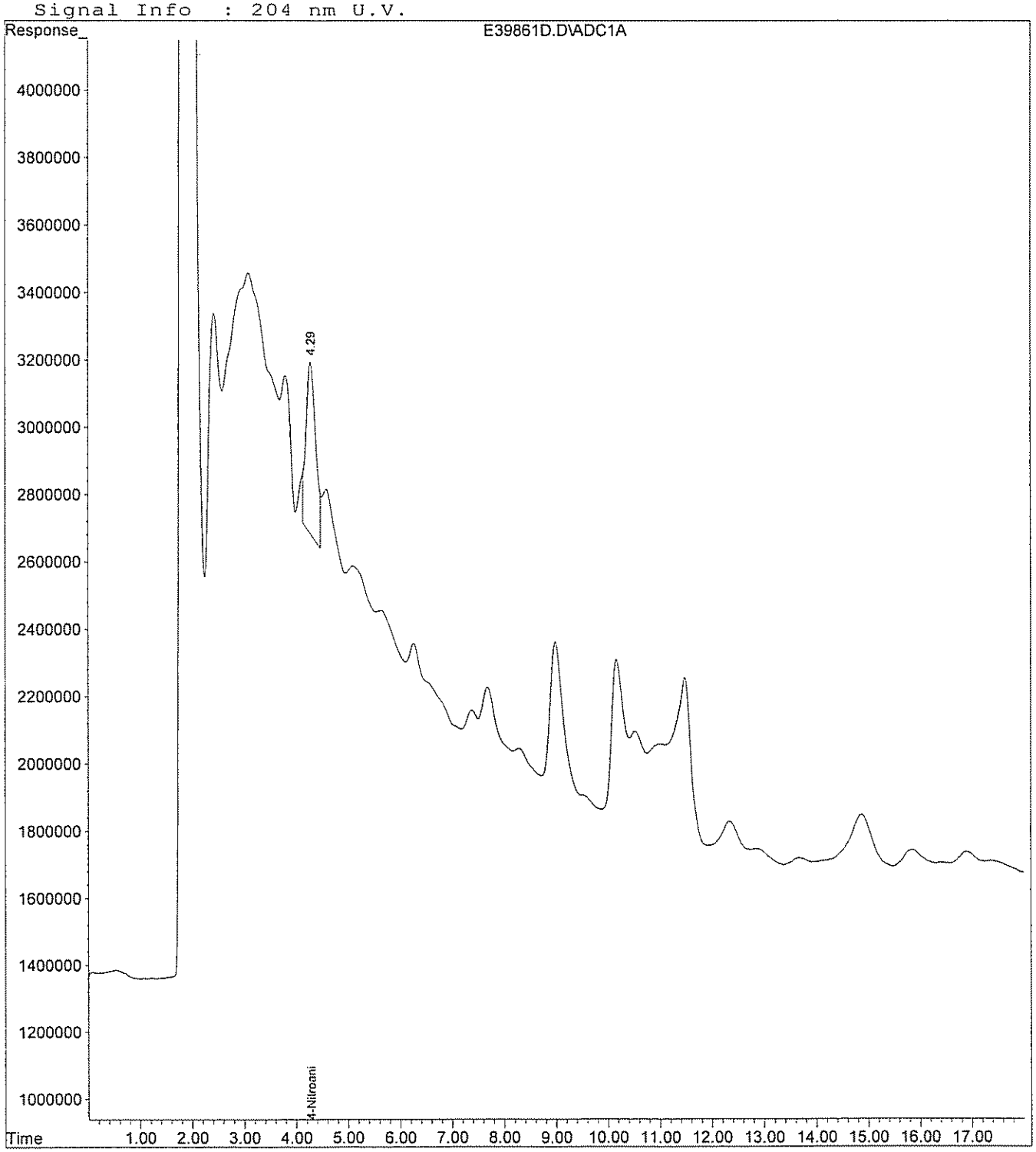
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCE\0307A07\E39861D.D Vial: 10
Acq On : 7 Mar 2007 21:59 Operator: SS
Sample : 702113-003-003-1/1 Inst : LCE
Misc : SOIL Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 8 10:06 2007 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Thu Mar 08 10:01:38 2007
Response via : Multiple Level Calibration
DataAcq Meth : PETNCNE.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.



GPL Laboratories

GPL
FORM 1
ANALYSIS DATA SHEET

SAMPLE NO
NWO-039-0009

Lab Name :	GPL Laboratories	Client. :	Shaw E&I, Inc
Lab Code :	GPL	SAS NO. :	
Case No. :		SDG NO :	702113
Matrix : (Soil / Water)	SOIL	Lab Sample ID :	702113-004-004-1/1
Sample Volume :	10.03	Lab File ID :	E39862D.D
% Moisture:		Date Received	02/23/2007
Extraction:	EXT_SW8330	Date Extracted:	02/27/2007
Extract Volume:	40 mL	Date Analyzed	03/07/2007
Injection Volume :	100 µ L	Dilution Factor :	1
GPC Clean up (Y/N):	pH:		

Concentration Units (ug/L or ug/kg dry weight) : mg/kg

CAS NO	COMPOUND		Q
78-11-5	Pentaerythritol Tetranitrate	0.20	U

FORM I SW8330

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCE\0307A07\E39862D.D Vial: 11
Acq On : 7 Mar 2007 22:18 Operator: SS
Sample : 702113-004-004-1/1 Inst : LCE
Misc : SOIL Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 8 10:06 2007 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Thu Mar 08 10:01:38 2007
Response via : Initial Calibration
DataAcq Meth : PETNCNE.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1) S 4-Nitroaniline	4.28	72996948	283.132	PPB	m
Spiked Amount 150.000		Recovery =	188.75%		
Target Compounds					
2) T PETN	0.00	0	N.D.	PPB	

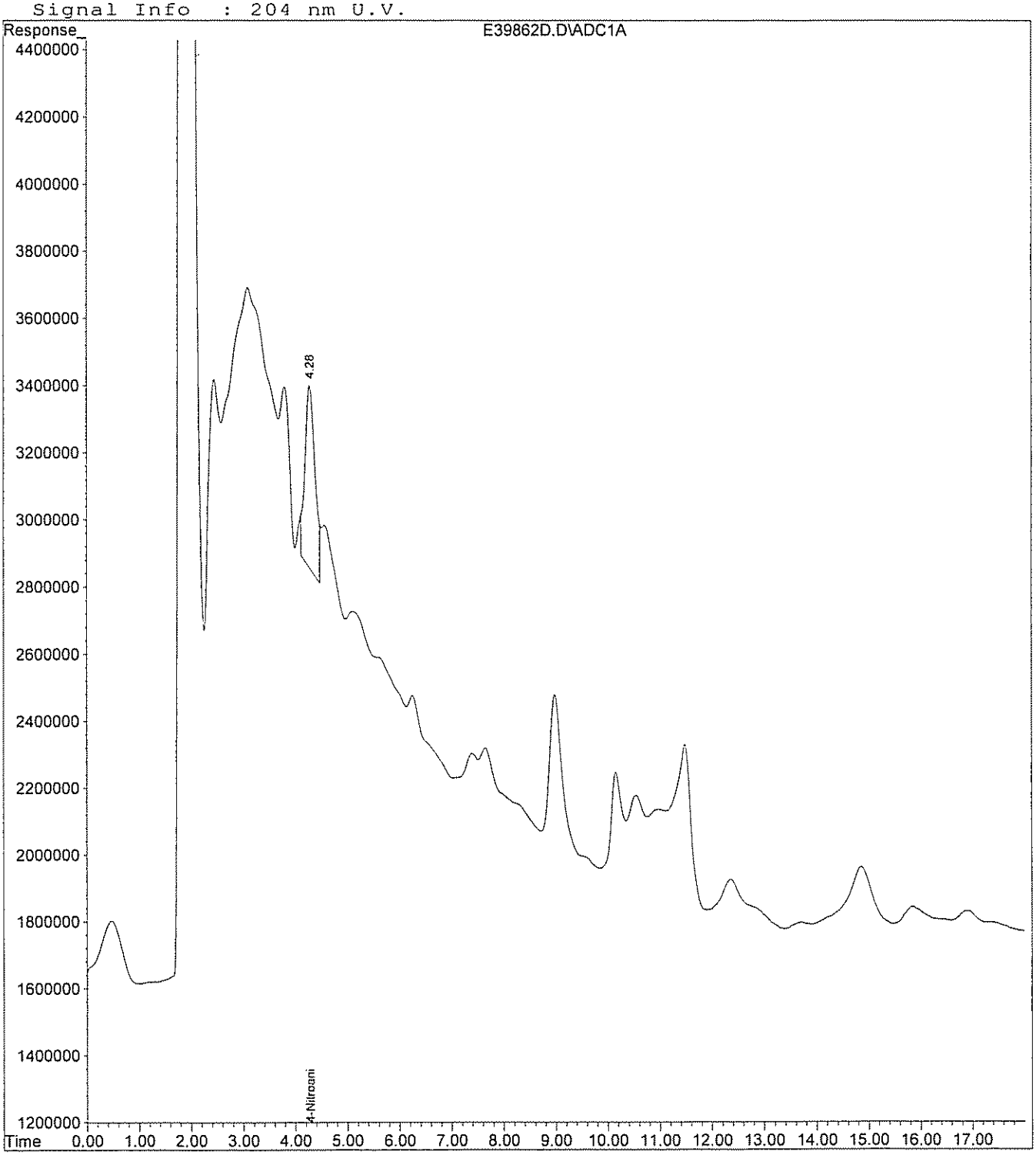
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCE\0307A07\E39862D.D Vial: 11
Acq On : 7 Mar 2007 22:18 Operator: SS
Sample : 702113-004-004-1/1 Inst : LCE
Misc : SOIL Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 8 10:06 2007 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Thu Mar 08 10:01:38 2007
Response via : Multiple Level Calibration
DataAcq Meth : PETNCNE.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.



GPL Laboratories

GPL
FORM 1
ANALYSIS DATA SHEET

SAMPLE NO
NWO-039-1005

Lab Name :	GPL Laboratories	Client. :	Shaw E&I, Inc
Lab Code :	GPL	SAS NO. :	
Case No. :		SDG NO :	702113
Matrix : (Soil / Water)	SOIL	Lab Sample ID :	702113-005-005-1/1
Sample Volume :	10	Lab File ID :	E39863D.D
% Moisture:		Date Received	02/23/2007
Extraction:	EXT_SW8330	Date Extracted:	02/27/2007
Extract Volume:	40 mL	Date Analyzed	03/07/2007
Injection Volume :	100 µ L	Dilution Factor :	1
GPC Clean up (Y/N):	pH:		

Concentration Units (ug/L or ug/kg dry weight) : mg/kg

CAS NO	COMPOUND		Q
78-11-5	Pentaerythritol Tetranitrate	0.20	U

FORM I SW8330

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCE\0307A07\E39863D.D Vial: 12
Acq On : 7 Mar 2007 22:38 Operator: SS
Sample : 702113-005-005-1/1 Inst : LCE
Misc : SOIL Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 8 10:07 2007 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Thu Mar 08 10:01:38 2007
Response via : Initial Calibration
DataAcq Meth : PETNCNE.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1) S 4-Nitroaniline	4.28	39004049	151.285	PPB	m
Spiked Amount 150.000		Recovery =	100.86%		
Target Compounds					
2) T PETN	0.00	0	N.D.	PPB	

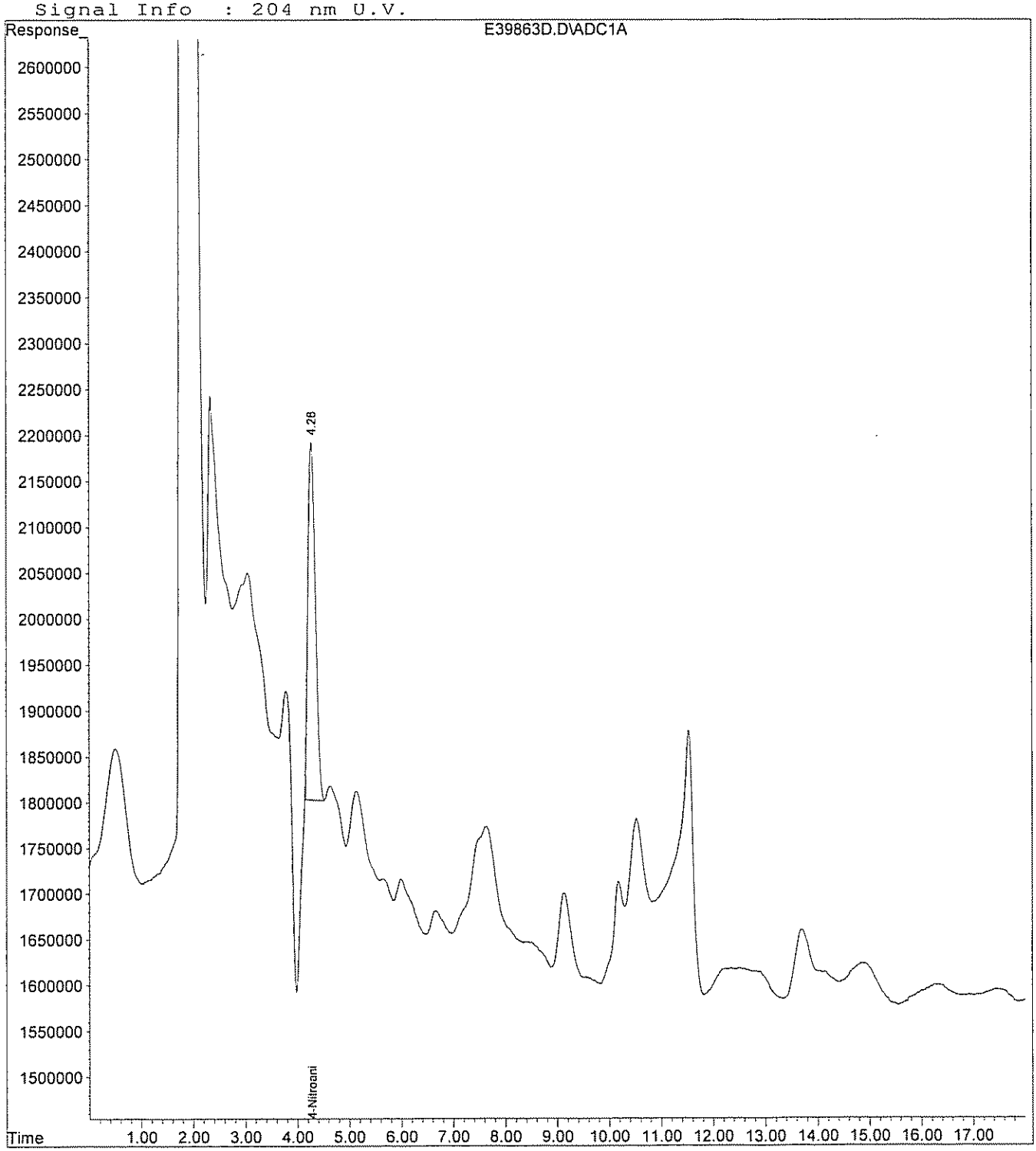
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCE\0307A07\E39863D.D Vial: 12
Acq On : 7 Mar 2007 22:38 Operator: SS
Sample : 702113-005-005-1/1 Inst : LCE
Misc : SOIL Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 8 10:07 2007 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Thu Mar 08 10:01:38 2007
Response via : Multiple Level Calibration
DataAcq Meth : PETNCNE.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.



GPL Laboratories

GPL
FORM 1
ANALYSIS DATA SHEET

SAMPLE NO
NWO-039-0010

Lab Name :	GPL Laboratories	Client. :	Shaw E&I, Inc
Lab Code :	GPL	SAS NO. :	
Case No. :		SDG NO :	702113
Matrix : (Soil / Water)	SOIL	Lab Sample ID :	702113-006-006-1/1
Sample Volume :	10.01	Lab File ID :	E39864D.D
% Moisture:		Date Received	02/23/2007
Extraction:	EXT_SW8330	Date Extracted:	02/27/2007
Extract Volume:	40 mL	Date Analyzed	03/07/2007
Injection Volume :	100 µ L	Dilution Factor :	1
GPC Clean up (Y/N):	pH:		

Concentration Units (ug/L or ug/kg dry weight) : mg/kg

CAS NO	COMPOUND		Q
78-11-5	Pentaerythritol Tetranitrate	0.20	U

FORM I SW8330

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCE\0307A07\E39864D.D Vial: 13
Acq On : 7 Mar 2007 22:57 Operator: SS
Sample : 702113-006-006-1/1 Inst : LCE
Misc : SOIL Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 8 10:07 2007 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Thu Mar 08 10:01:38 2007
Response via : Initial Calibration
DataAcq Meth : PETNCNE.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1) S 4-Nitroaniline	4.29	38567212	149.590	PPB	m
Spiked Amount 150.000		Recovery =	99.73%		
Target Compounds					
2) T PETN	0.00	0	N.D.	PPB	

(f)=RT Delta > 1/2 Window (m)=manual int.

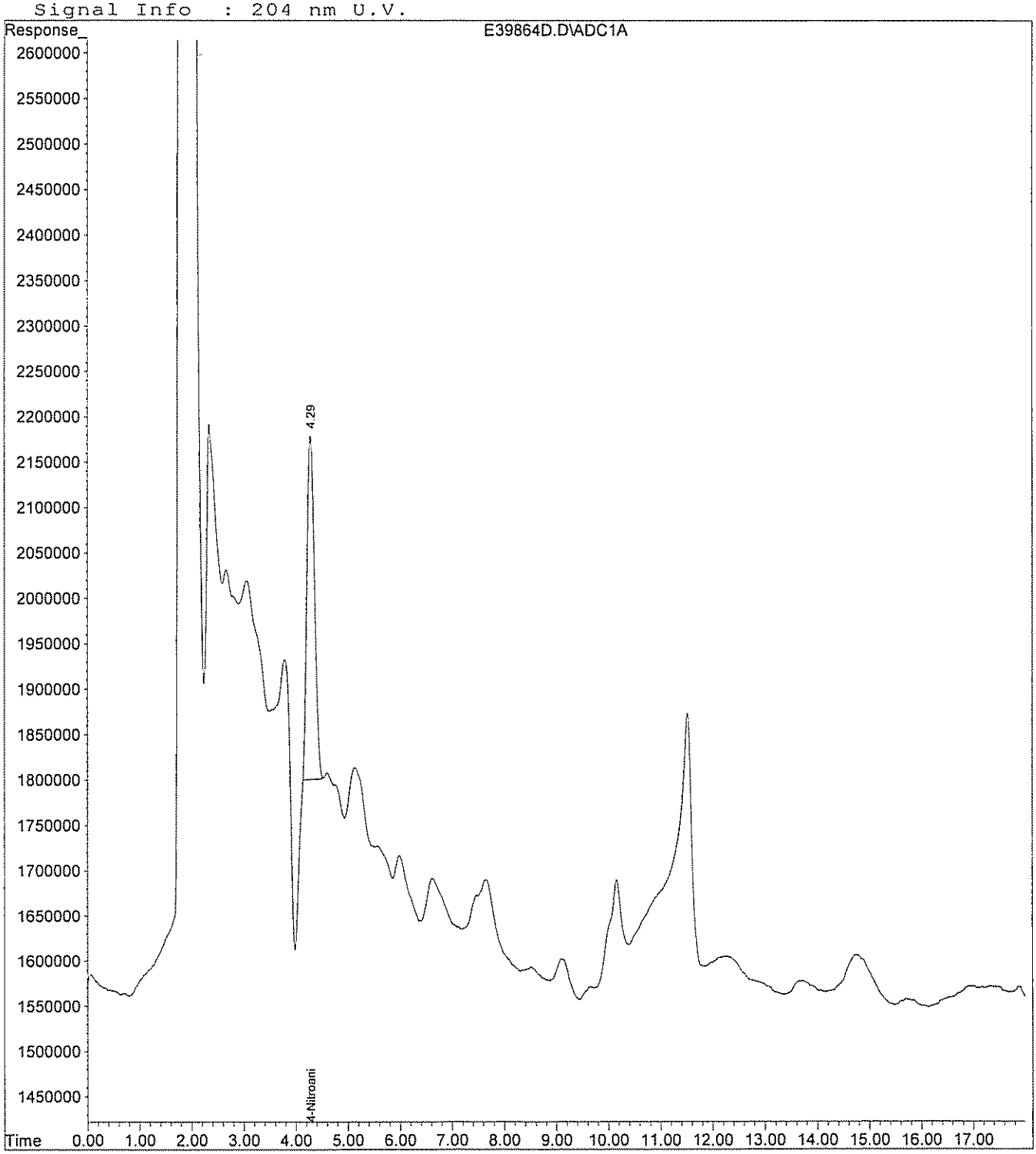
Thu Mar 08 10:11:52 2007 6920PETN.M

Quantitation Report

Data File : H:\LCDATA\LCE\0307A07\E39864D.D Vial: 13
Acq On : 7 Mar 2007 22:57 Operator: SS
Sample : 702113-006-006-1/1 Inst : LCE
Misc : SOIL Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 8 10:07 2007 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Thu Mar 08 10:01:38 2007
Response via : Multiple Level Calibration
DataAcq Meth : PETNCNE.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.



GPL Laboratories

GPL
FORM I
ANALYSIS DATA SHEET

SAMPLE NO
NWO-039-0013

Lab Name :	GPL Laboratories	Client. :	Shaw E&I, Inc
Lab Code :	GPL	SAS NO. :	
Case No. :		SDG NO :	702113
Matrix : (Soil / Water)	SOIL	Lab Sample ID :	702113-007-013-1/1
Sample Volume :	10	Lab File ID :	E39865D.D
% Moisture:		Date Received	02/23/2007
Extraction:	EXT_SW8330	Date Extracted:	02/27/2007
Extract Volume:	40 mL	Date Analyzed	03/07/2007
Injection Volume :	100 µ L	Dilution Factor :	1
GPC Clean up (Y/N):	pH:		

Concentration Units (ug/L or ug/kg dry weight) : mg/kg

CAS NO	COMPOUND		Q
78-11-5	Pentaerythritol Tetranitrate	0.20	U

FORM I SW8330

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCE\0307A07\E39865D.D Vial: 14
Acq On : 7 Mar 2007 23:16 Operator: SS
Sample : 702113-007-007-1/1 Inst : LCE
Misc : SOIL Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 8 10:08 2007 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Thu Mar 08 10:01:38 2007
Response via : Initial Calibration
DataAcq Meth : PETNCNE.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1) S 4-Nitroaniline	4.28	38847283	150.677	PPB	m
Spiked Amount 150.000		Recovery =	100.45%		
Target Compounds					
2) T PETN	0.00	0	N.D.	PPB	

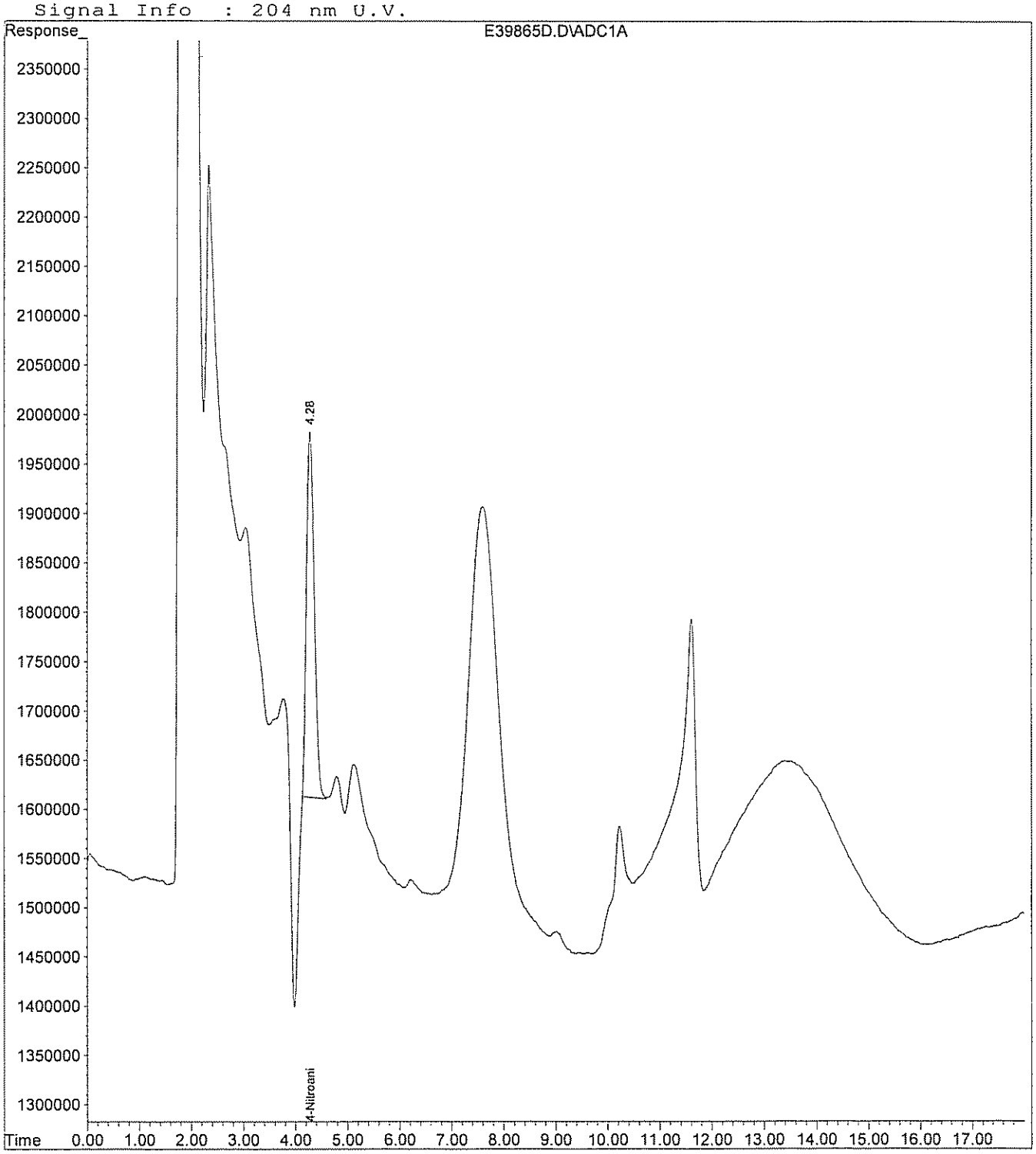
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCE\0307A07\E39865D.D Vial: 14
Acq On : 7 Mar 2007 23:16 Operator: SS
Sample : 702113-007-007-1/1 Inst : LCE
Misc : SOIL Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 8 10:08 2007 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Thu Mar 08 10:01:38 2007
Response via : Multiple Level Calibration
DataAcq Meth : PETNCNE.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.



C. Standards Data

1. Initial Calibration Data

2. Continuing Calibration Data

GPL Laboratories

Response Factor Report LCC-FL

Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Tue Aug 22 15:43:27 2006

Calibration Files
LEV1 =E37777.D LEV2 =E37778.D LEV3 =E37779.D
LEV4 =E37780.D LEV5 =E37781.D

	Compound	LEV1	LEV2	LEV3	LEV4	LEV5	Avg		%RSD
1) S	4-Nitroaniline	2.788	2.626	2.504	2.519	2.453	2.578	E5	5.17
2) T	PETN	1.715	1.938	1.936	1.967	2.054	1.922	E5	6.51

(#) = Out of Range

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCE\092006\E37776.D Vial: 1
Acq On : 20 Sep 2006 9:18 Operator: ST.
Sample : PETN BLK Inst : LCC-FL
Misc : CONT CAL Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 20 12:49 2006 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Tue Aug 22 15:43:27 2006
Response via : Initial Calibration
DataAcq Meth : PETN.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
1) S 4-Nitroaniline	0.00	0	N.D.	PPB
Spiked Amount 300.000		Recovery =	0.00%	
Target Compounds				
2) T PETN	0.00	0	N.D.	PPB

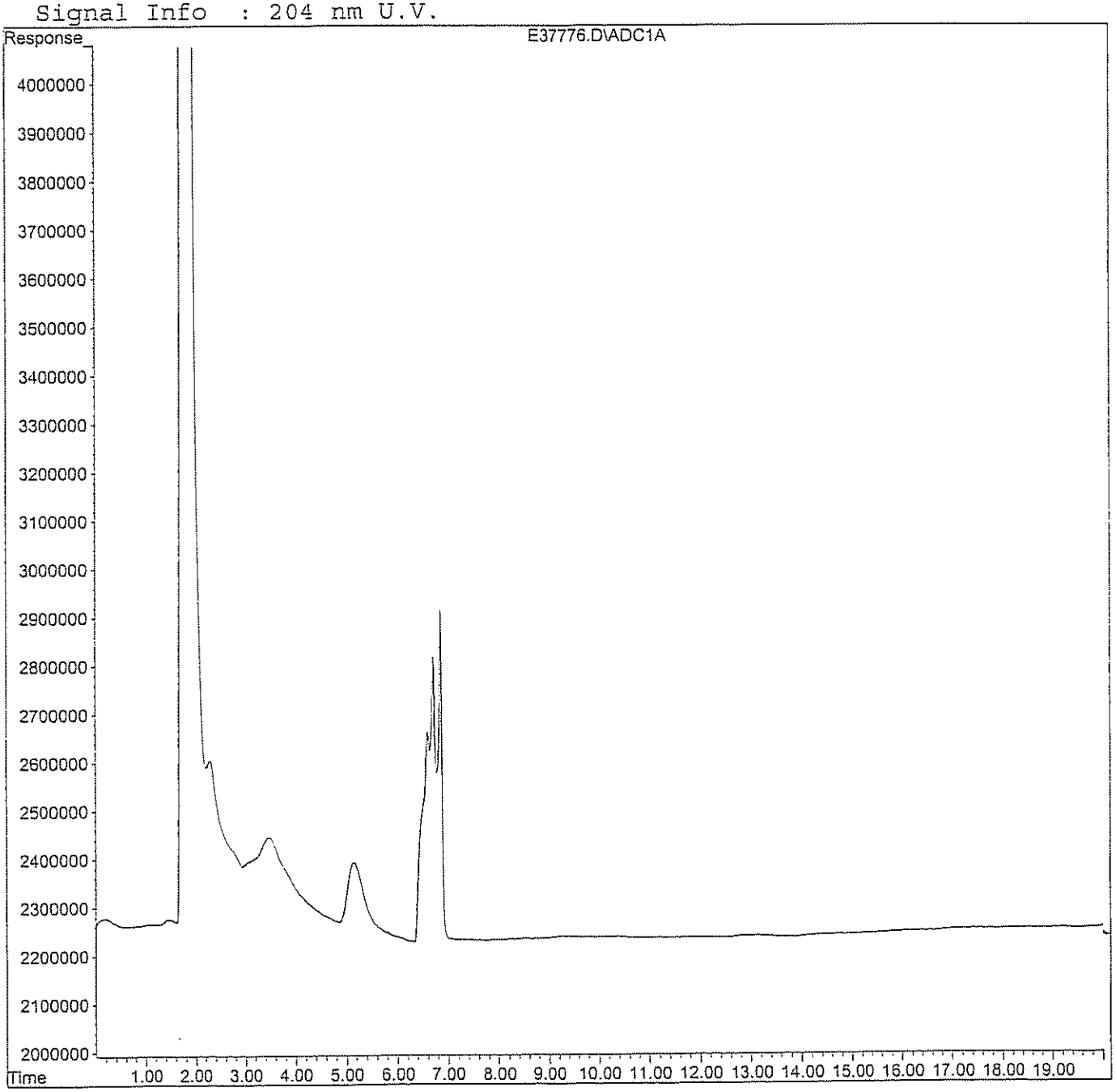
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCE\092006\E37776.D Vial: 1
Acq On : 20 Sep 2006 9:18 Operator: ST.
Sample : PETN BLK Inst : LCC-FL
Misc : CONT CAL Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 20 12:49 2006 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Tue Aug 22 15:43:27 2006
Response via : Multiple Level Calibration
DataAcq Meth : PETN.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.



Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCE\092006\E37777.D Vial: 2
Acq On : 20 Sep 2006 9:39 Operator: ST.
Sample : PETN LEVEL-1 50PPB Inst : LCC-FL
Misc : INIT CAL Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 20 12:59 2006 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Tue Aug 22 15:43:27 2006
Response via : Initial Calibration
DataAcq Meth : PETN.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S 4-Nitroaniline	4.28	13942372	42.949 PPB m
Spiked Amount 300.000		Recovery =	14.32%
Target Compounds			
2) T PETN	17.08	8574675	49.843 PPB m

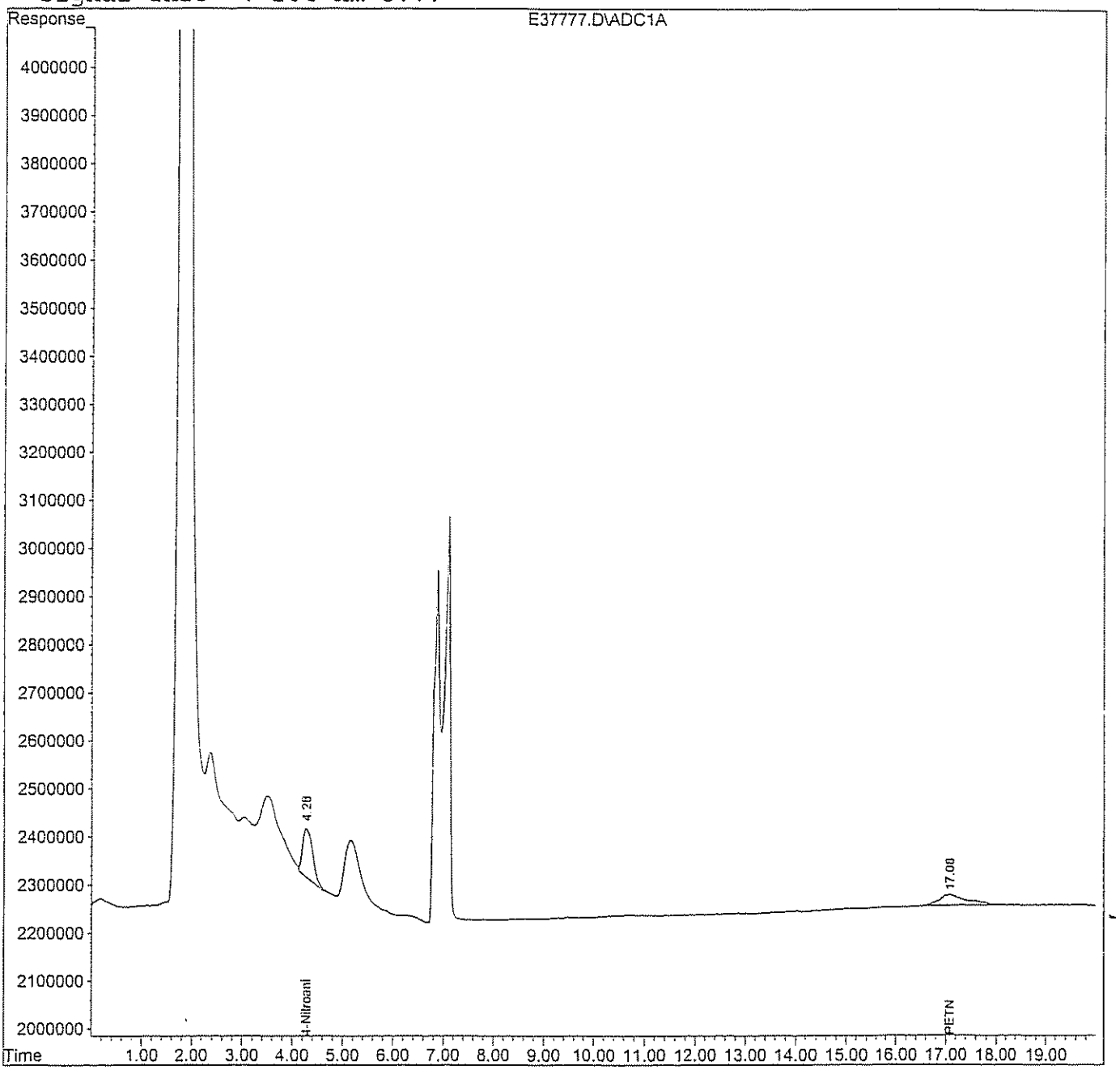
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCE\092006\E37777.D Vial: 2
Acq On : 20 Sep 2006 9:39 Operator: ST.
Sample : PETN LEVEL-1 50PPB Inst : LCC-FL
Misc : INIT CAL Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 20 12:59 2006 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Tue Aug 22 15:43:27 2006
Response via : Multiple Level Calibration
DataAcq Meth : PETN.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.



Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCE\092006\E37778.D Vial: 3
Acq On : 20 Sep 2006 10:00 Operator: ST.
Sample : PETN LEVEL-2 100PPB Inst : LCC-FL
Misc : INIT CAL Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 20 12:53 2006 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Tue Aug 22 15:43:27 2006
Response via : Initial Calibration
DataAcq Meth : PETN.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S 4-Nitroaniline	4.28	26263536	80.904 PPB
Spiked Amount 300.000		Recovery =	26.97%
Target Compounds			
2) T PETN	17.01	19383671	112.674 PPB m

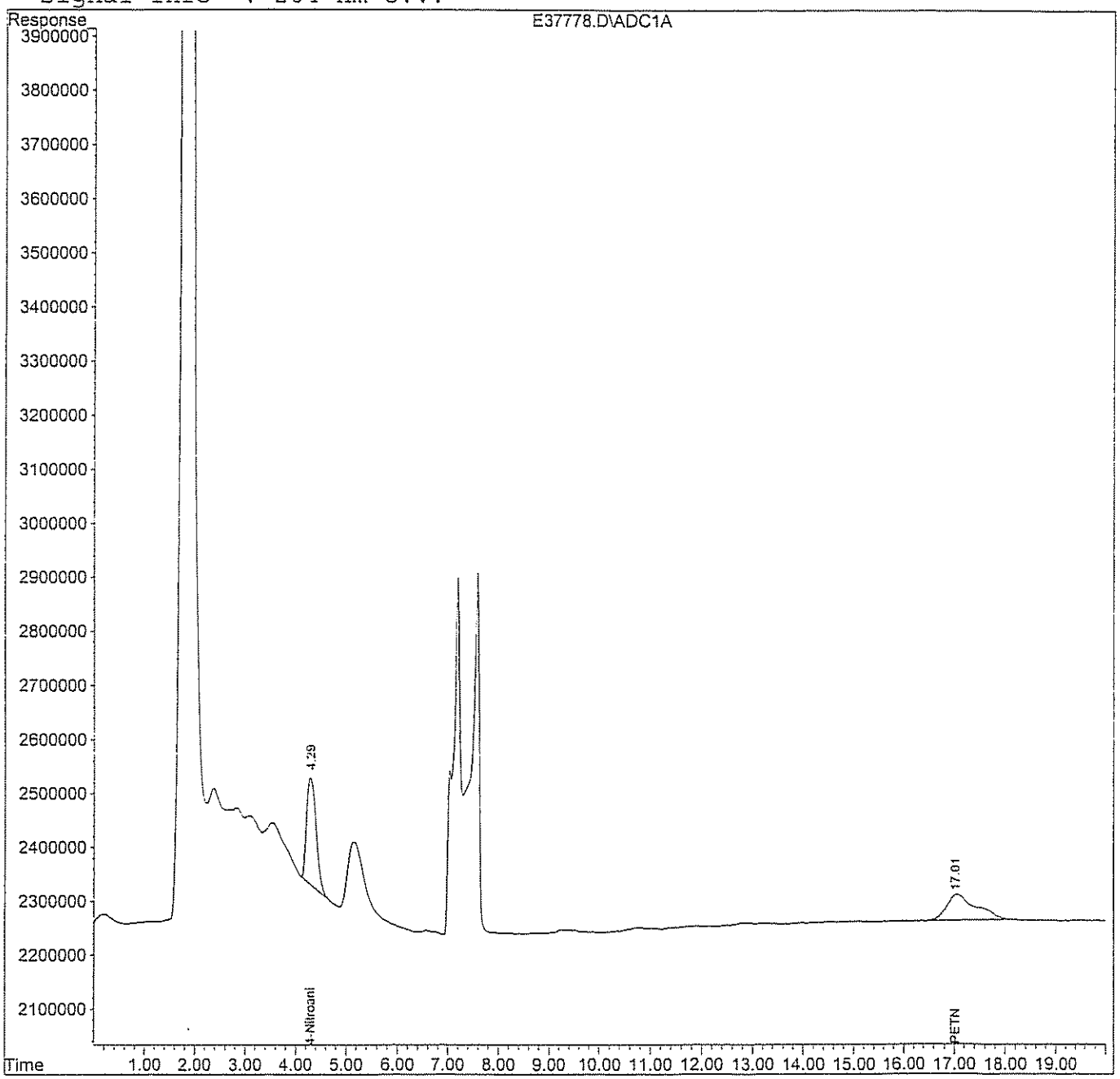
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCE\092006\E37778.D Vial: 3
Acq On : 20 Sep 2006 10:00 Operator: ST.
Sample : PETN LEVEL-2 100PPB Inst : LCC-FL
Misc : INIT CAL Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 20 12:53 2006 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Tue Aug 22 15:43:27 2006
Response via : Multiple Level Calibration
DataAcq Meth : PETN.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.



Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCE\092006\E37779.D Vial: 4
Acq On : 20 Sep 2006 10:22 Operator: ST.
Sample : PETN LEVEL-3 200PPB Inst : LCC-FL
Misc : INIT CAL Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 20 13:06 2006 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Tue Aug 22 15:43:27 2006
Response via : Initial Calibration
DataAcq Meth : PETN.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S 4-Nitroaniline	4.29	50070641	192.502 PPB m
Spiked Amount 300.000		Recovery =	64.17%
Target Compounds			
2) T PETN	17.05	38728102	201.268 PPB m

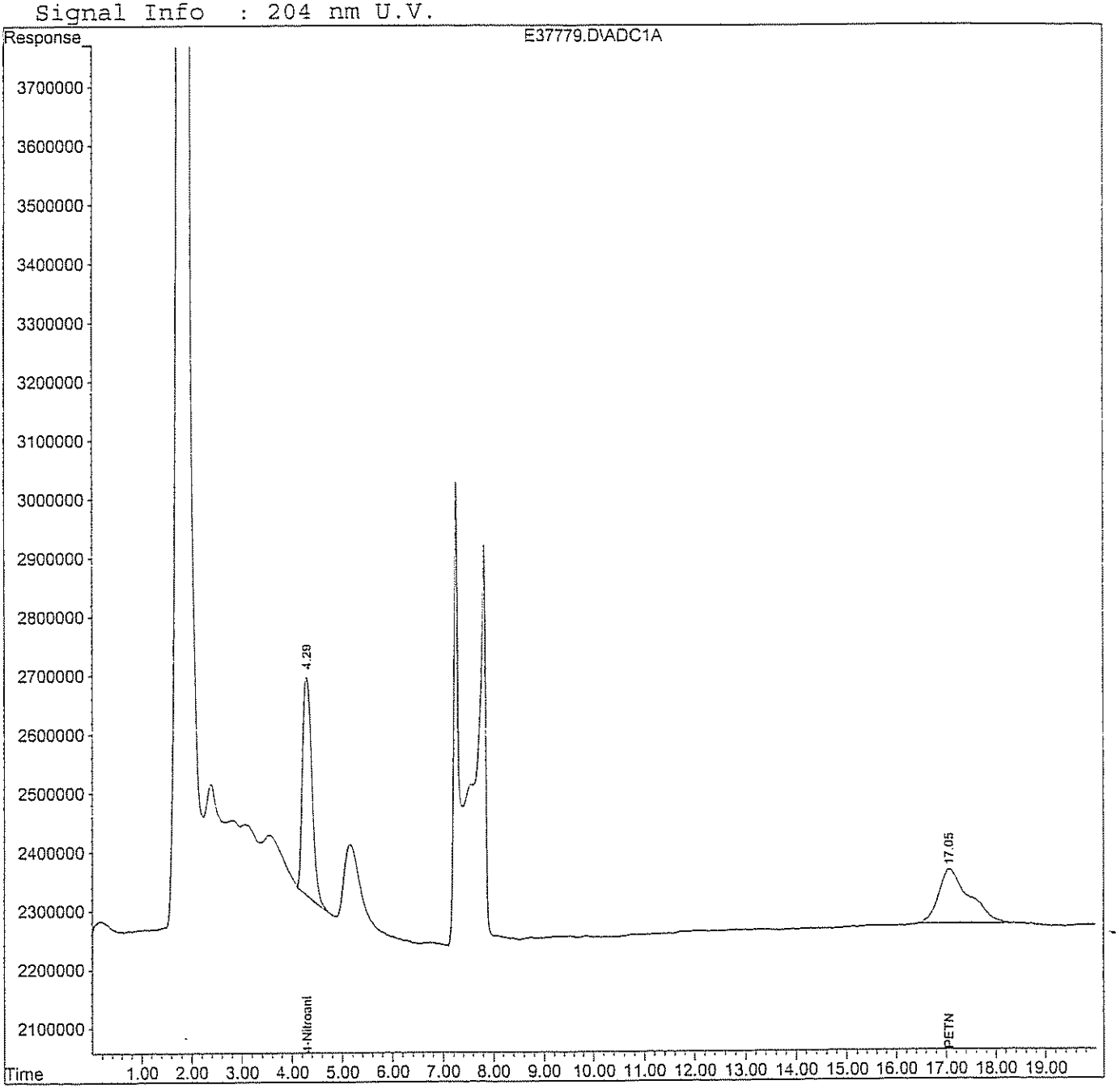
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCE\092006\E37779.D Vial: 4
Acq On : 20 Sep 2006 10:22 Operator: ST.
Sample : PETN LEVEL-3 200PPB Inst : LCC-FL
Misc : INIT CAL Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 20 13:06 2006 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Tue Aug 22 15:43:27 2006
Response via : Multiple Level Calibration
DataAcq Meth : PETN.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.



Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCE\092006\E37780.D Vial: 5
Acq On : 20 Sep 2006 10:43 Operator: ST.
Sample : PETN LEVEL-4 500PPB Inst : LCC-FL
Misc : INIT CAL Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 20 12:57 2006 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Tue Aug 22 15:43:27 2006
Response via : Initial Calibration
DataAcq Meth : PETN.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S 4-Nitroaniline	4.29	125966173	388.034 PPB m
Spiked Amount 300.000		Recovery =	129.34%
Target Compounds			
2) T PETN	17.07	98340090	571.636 PPB m

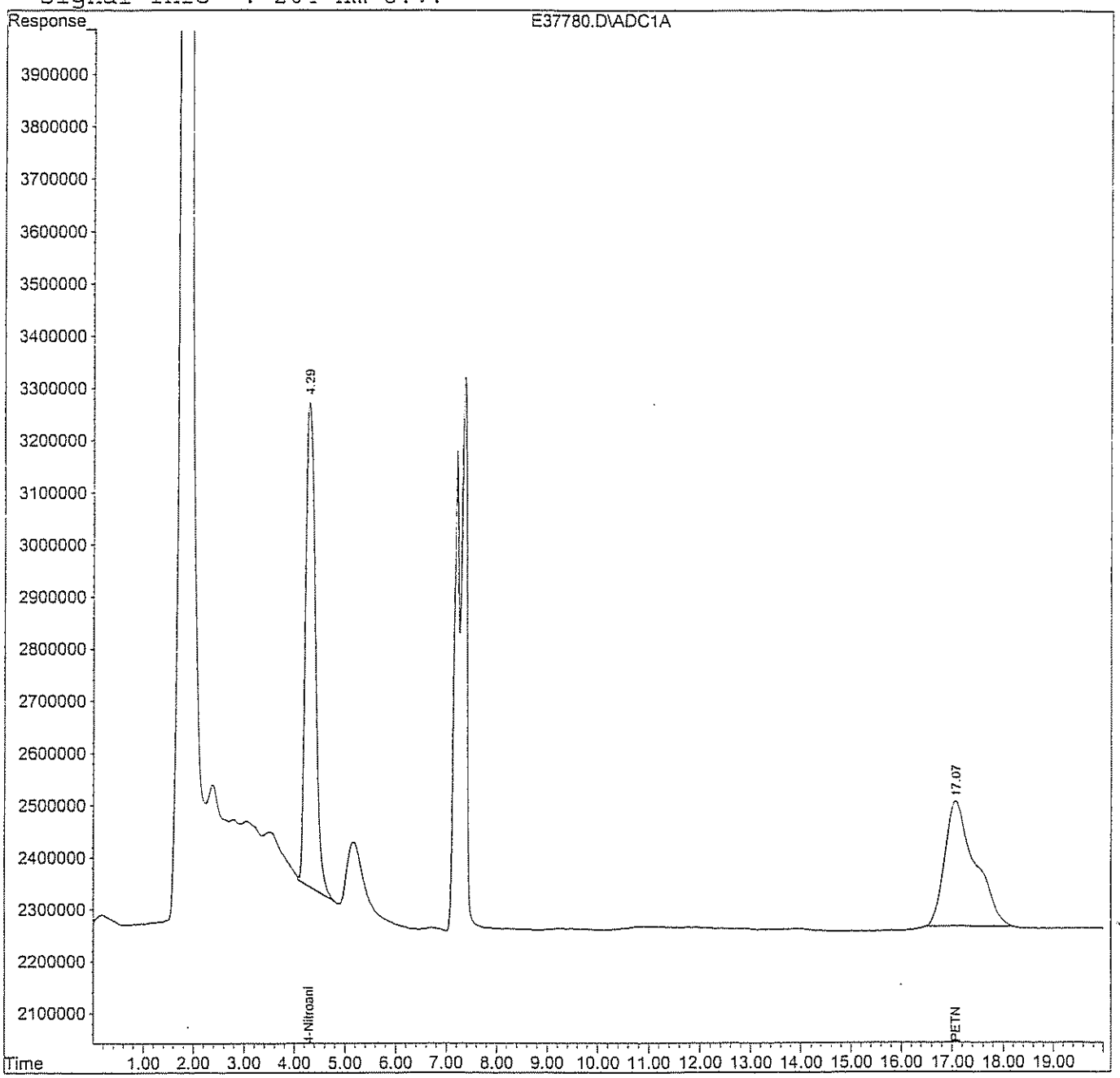
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCE\092006\E37780.D Vial: 5
Acq On : 20 Sep 2006 10:43 Operator: ST.
Sample : PETN LEVEL-4 500PPB Inst : LCC-FL
Misc : INIT CAL Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 20 12:57 2006 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Tue Aug 22 15:43:27 2006
Response via : Multiple Level Calibration
DataAcq Meth : PETN.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.



Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCE\092006\E37781.D Vial: 6
Acq On : 20 Sep 2006 11:04 Operator: ST.
Sample : PETN LEVEL-5 1000PPB Inst : LCC-FL
Misc : INIT CAL Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 20 12:59 2006 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Tue Aug 22 15:43:27 2006
Response via : Initial Calibration
DataAcq Meth : PETN.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1) S 4-Nitroaniline	4.30	245326842	755.720	PPB	m
Spiked Amount 300.000		Recovery = 251.91%			
Target Compounds					
2) T PETN	17.13f	203578311	1183.370	PPB	m

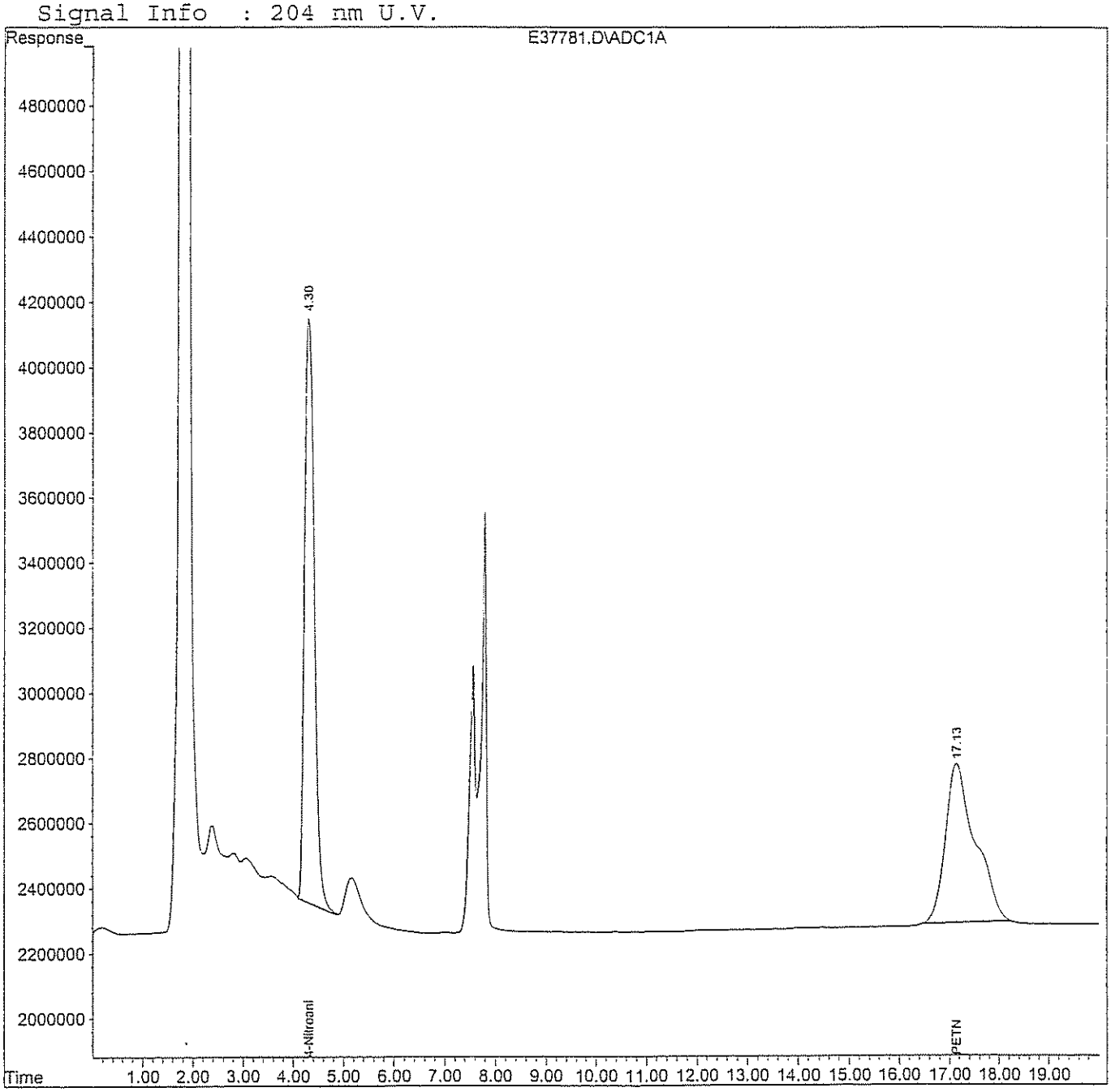
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCE\092006\E37781.D Vial: 6
Acq On : 20 Sep 2006 11:04 Operator: ST.
Sample : PETN LEVEL-5 1000PPB Inst : LCC-FL
Misc : INIT CAL Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 20 12:59 2006 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Tue Aug 22 15:43:27 2006
Response via : Multiple Level Calibration
DataAcq Meth : PETN.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.



Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCE\092006\E37782.D Vial: 7
Acq On : 20 Sep 2006 11:26 Operator: ST.
Sample : PETN ICV- 200PPB Inst : LCC-FL
Misc : INIT CAL Multiplr: 1.00
IntFile : events.e
Quant Time: Oct 10 16:17 2006 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Tue Aug 22 15:43:27 2006
Response via : Initial Calibration
DataAcq Meth : PETN.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1) S 4-Nitroaniline	4.30	56421658	218.842	PPB	m
Spiked Amount 300.000		Recovery =	72.95%		
Target Compounds					
2) T PETN	17.11	39345613	204.711	PPB	m

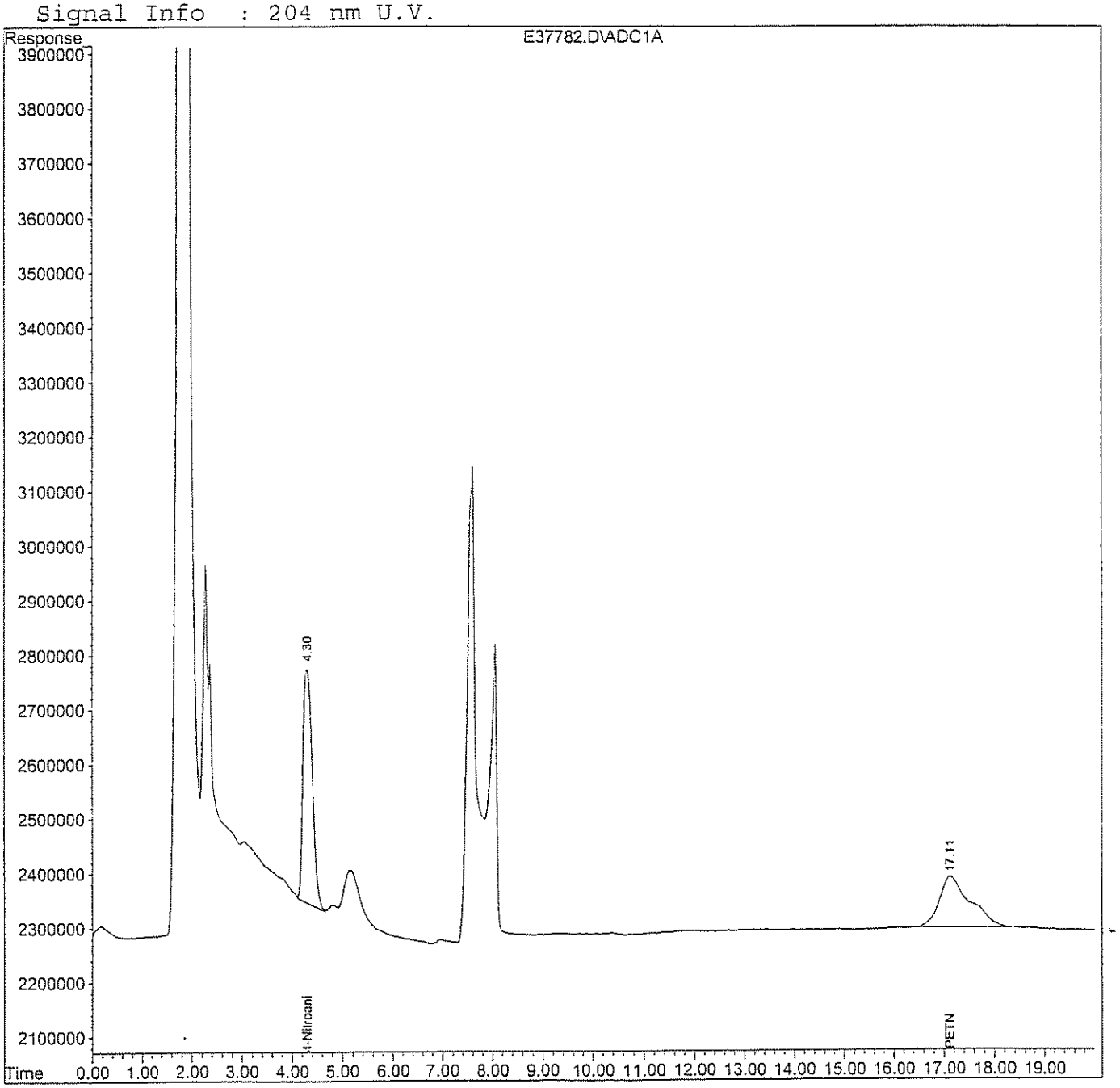
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCE\092006\E37782.D Vial: 7
Acq On : 20 Sep 2006 11:26 Operator: ST.
Sample : PETN ICV- 200PPB Inst : LCC-FL
Misc : INIT CAL Multiplr: 1.00
IntFile : events.e
Quant Time: Oct 10 16:17 2006 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Tue Aug 22 15:43:27 2006
Response via : Multiple Level Calibration
DataAcq Meth : PETN.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.



PETN RETENTION TIME WINDOW ESTABLISHMENT**

INTRUMENT: LCE
COLUMN: LC-18 ANALYST ST
DATE: 09/20/06

	E37783D		E337784D		E37841D					
COMPOUND	RT1	PW1	RT2	PW2	RT3	PW3	Avg RT	3x RT Std Dev	Avg PW	RT Window
PETN	17.09	0.71	17.18	0.74	17.21	0.69	17.16	0.187	0.72	0.375

Advisory Retention Time Windows are based on three daily calibration check standards
Run within a 72 hour window

Windows are the greater of 1/2 the average peak width,
or +/- 3 times the retention time standard deviation

Continuing Calibration Report LCE

Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Tue Aug 22 15:43:27 2006
Response via : Initial Calibration

Continuing Calibration File: E39853D.D

Min. RRF : 0.000 Min. Rel. Area : 50%
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF		%Dev	Area%
1	S	4-Nitroaniline	257.819	269.431	E3	-4.5	108
2	T	PETN	192.201	177.314	E3	7.7	92

(#) = Out of Range SPCC's out = 0 CCC's out = 0
E39853D.D 6920PETN.M Thu Mar 08 09:35:18 2007 A Page 1

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCE\0307A07\E39853D.D Vial: 2
Acq On : 7 Mar 2007 19:25 Operator: SS
Sample : PETN ST. Inst : LCE
Misc : C CAL Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 8 8:22 2007 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Tue Aug 22 15:43:27 2006
Response via : Initial Calibration
DataAcq Meth : PETNCNE.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1) S 4-Nitroaniline	4.28	53886239	209.008	PPB	m
Spiked Amount 300.000		Recovery =	69.67%		
Target Compounds					
2) T PETN	16.09	35462800	184.509	PPB	

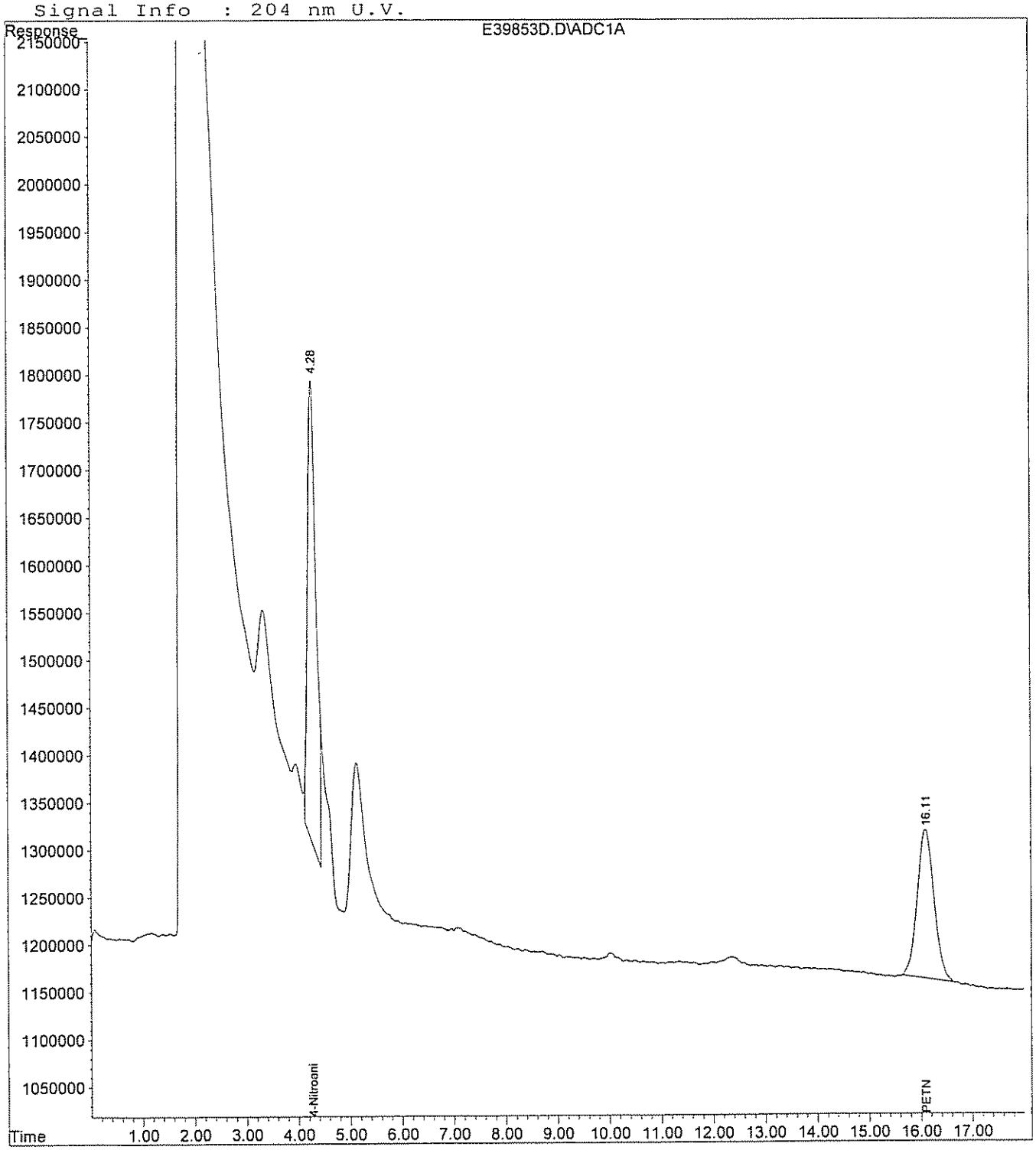
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCE\0307A07\E39853D.D Vial: 2
Acq On : 7 Mar 2007 19:25 Operator: SS
Sample : PETN ST. Inst : LCE
Misc : C CAL Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 8 8:22 2007 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Tue Aug 22 15:43:27 2006
Response via : Multiple Level Calibration
DataAcq Meth : PETNCNE.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.



Continuing Calibration Report LCE

Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Tue Aug 22 15:43:27 2006
Response via : Initial Calibration

Continuing Calibration File: E39866D.D

Min. RRF : 0.000 Min. Rel. Area : 50%
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF		%Dev	Area%
1	S	4-Nitroaniline	257.819	235.621	E3	8.6	94
2	T	PETN	192.201	171.296	E3	10.9	88

(#) = Out of Range SPCC's out = 0 CCC's out = 0
E39866D.D 6920PETN.M Thu Mar 08 09:35:47 2007 A Page 1

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCE\0307A07\E39866D.D Vial: 15
Acq On : 7 Mar 2007 23:36 Operator: SS
Sample : PETN ST. Inst : LCE
Misc : C CAL Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 8 8:23 2007 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Tue Aug 22 15:43:27 2006
Response via : Initial Calibration
DataAcq Meth : PETNCNE.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S 4-Nitroaniline	4.28	47124155	182.780 PPB
Spiked Amount 300.000		Recovery =	60.93%
Target Compounds			
2) T PETN	16.11	34259252	178.247 PPB m

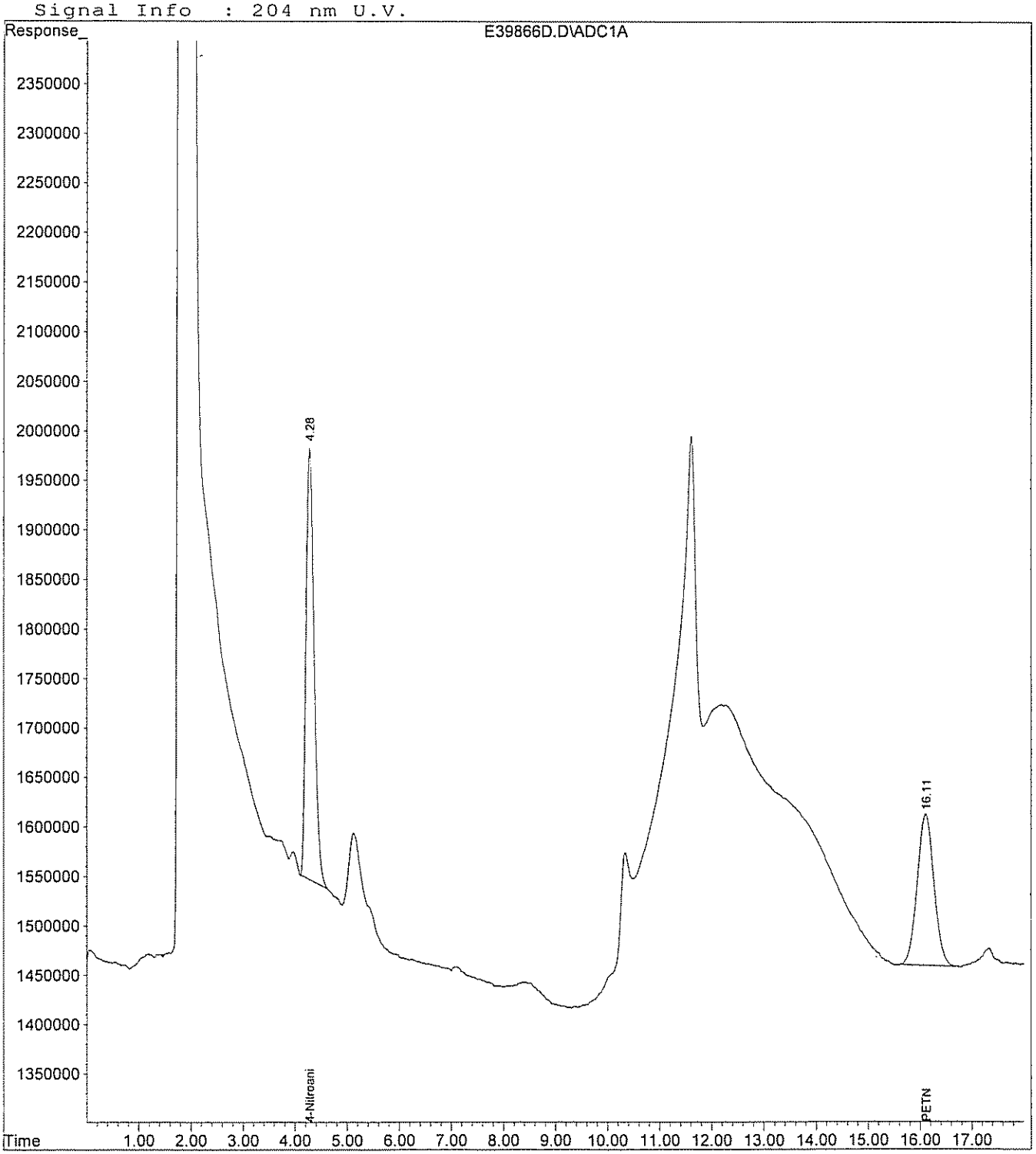
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCE\0307A07\E39866D.D Vial: 15
Acq On : 7 Mar 2007 23:36 Operator: SS
Sample : PETN ST. Inst : LCE
Misc : C CAL Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 8 8:23 2007 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Tue Aug 22 15:43:27 2006
Response via : Multiple Level Calibration
DataAcq Meth : PETNCNE.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.



D. Raw QC Data

1. Blank Data
2. Matrix Spike Data
3. Matrix Spike Duplicate Data
4. Laboratory Control Standard Data (where applicable)
5. Extraction Logsheet
6. Injection Logsheet

GPL Laboratories

GPL Laboratories

GPL
FORM I
ANALYSIS DATA SHEET

SAMPLE NO
BLK96631

Lab Name :	GPL Laboratories	Client. :	Shaw E&I, Inc
Lab Code :	GPL	SAS NO. :	
Case No. :		SDG NO :	702113
Matrix : (Soil / Water)	SOIL	Lab Sample ID :	BLK96631
Sample Volume :	10	Lab File ID :	E39855D.D
% Moisture:		Date Received	
Extraction:	EXT_SW8330	Date Extracted:	02/27/2007
Extract Volume:	40 mL	Date Analyzed	03/07/2007
Injection Volume :	100 µ L	Dilution Factor :	1
GPC Clean up (Y/N):	pH:		

Concentration Units (ug/L or ug/kg dry weight) : mg/kg

CAS NO	COMPOUND		Q
78-11-5	Pentaerythritol Tetranitrate	0.20	U

FORM I SW8330

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCE\0307A07\E39855D.D Vial: 4
Acq On : 7 Mar 2007 20:03 Operator: SS
Sample : BLK96631 Inst : LCE
Misc : SOIL Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 8 10:02 2007 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Thu Mar 08 10:01:38 2007
Response via : Initial Calibration
DataAcq Meth : PETNCNE.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1) S 4-Nitroaniline	4.28	43661550	169.350	PPB	m
Spiked Amount 150.000		Recovery =	112.90%		
Target Compounds					
2) T PETN	0.00	0	N.D.	PPB	

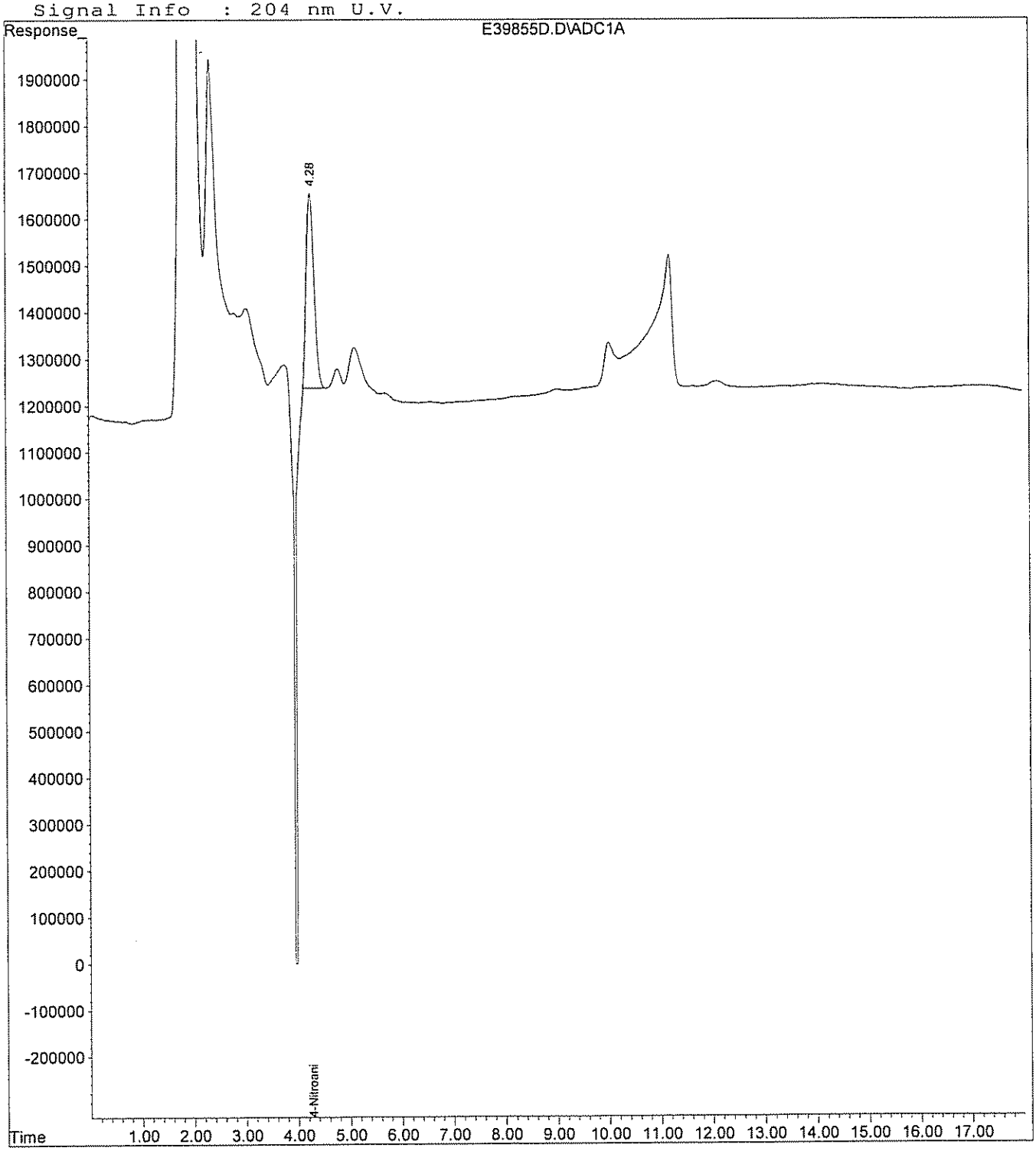
(f)=RT Delta > 1/2 Window (m)=manual int.
E39855D.D 6920PETN.M Thu Mar 08 10:11:35 2007 A Page 1

Quantitation Report

Data File : H:\LCDATA\LCE\0307A07\E39855D.D Vial: 4
Acq On : 7 Mar 2007 20:03 Operator: SS
Sample : BLK96631 Inst : LCE
Misc : SOIL Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 8 10:02 2007 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Thu Mar 08 10:01:38 2007
Response via : Multiple Level Calibration
DataAcq Meth : PETNCNE.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.



GPL Laboratories

GPL
FORM I
ANALYSIS DATA SHEET

SAMPLE NO
BKS96631

Lab Name :	GPL Laboratories	Client. :	Shaw E&I, Inc
Lab Code :	GPL	SAS NO. :	
Case No. :		SDG NO :	702113
Matrix : (Soil / Water)	SOIL	Lab Sample ID :	BKS96631
Sample Volume :	10	Lab File ID :	E39856D.D
% Moisture:		Date Received	
Extraction:	EXT_SW8330	Date Extracted:	02/27/2007
Extract Volume:	40 mL	Date Analyzed	03/07/2007
Injection Volume :	100 µ L	Dilution Factor :	1
GPC Clean up (Y/N):	pH:		

Concentration Units (ug/L or ug/kg dry weight) : mg/kg

CAS NO	COMPOUND		Q
78-11-5	Pentaerythritol Tetranitrate	0.42	

FORM I SW8330

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCE\0307A07\E39856D.D
Vial: 5
Acq On : 7 Mar 2007 20:23
Operator: SS
Sample : BKS96631
Inst : LCE
Misc : SOIL
Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 8 10:03 2007 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Thu Mar 08 10:01:38 2007
Response via : Initial Calibration
DataAcq Meth : PETNCNE.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1) S 4-Nitroaniline	4.28	43702862	169.510	PPB	m
Spiked Amount 150.000		Recovery = 113.01%			
Target Compounds					
2) T PETN	16.11	20423673	106.262	PPB	m

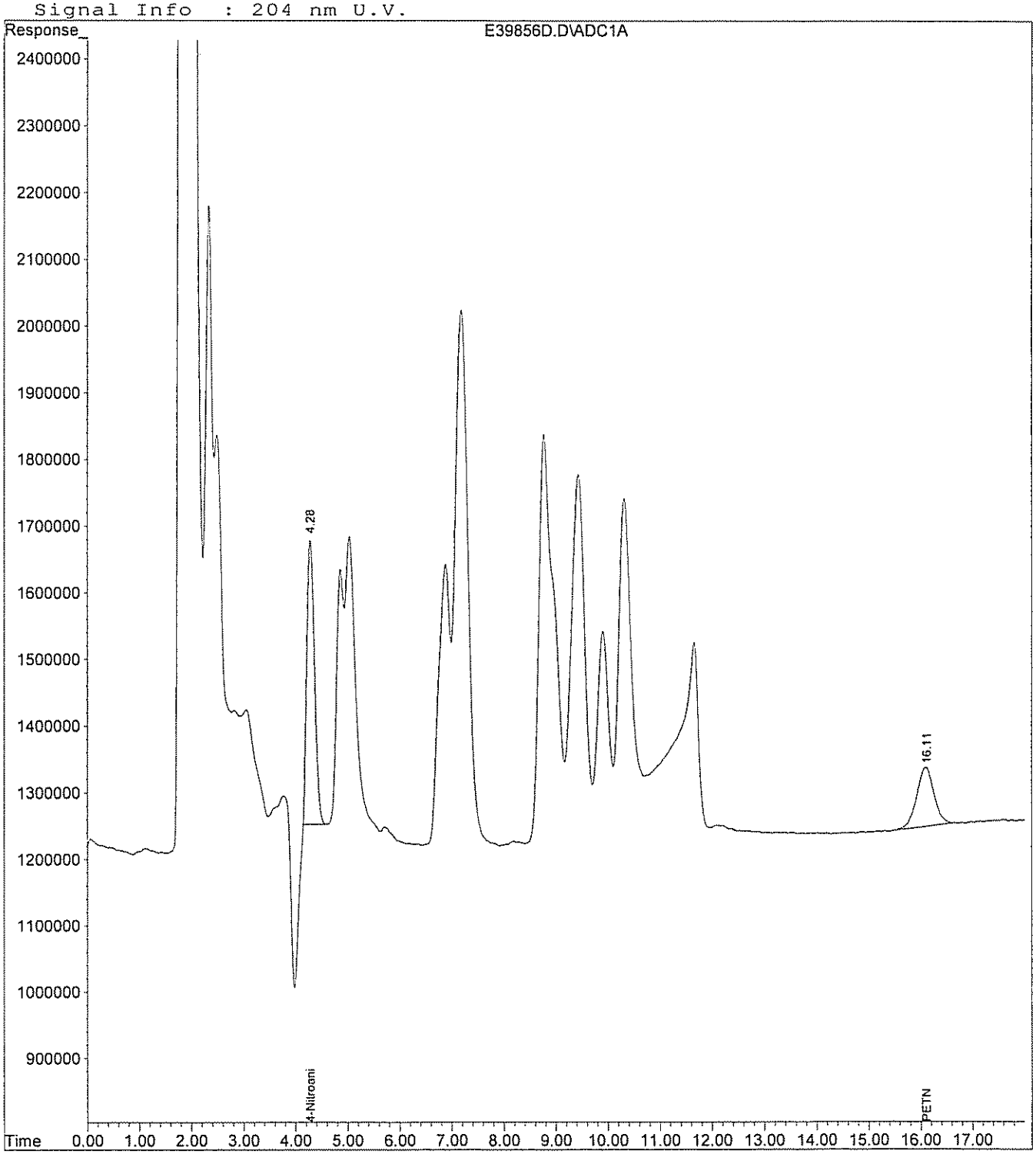
(f)=RT Delta > 1/2 Window
(m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCE\0307A07\E39856D.D Vial: 5
Acq On : 7 Mar 2007 20:23 Operator: SS
Sample : BKS96631 Inst : LCE
Misc : SOIL Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 8 10:03 2007 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Thu Mar 08 10:01:38 2007
Response via : Multiple Level Calibration
DataAcq Meth : PETNCNE.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.



GPL Laboratories

GPL
FORM I
ANALYSIS DATA SHEET

SAMPLE NO
NWO-039-0006MS

Lab Name :	GPL Laboratories	Client. :	Shaw E&I, Inc
Lab Code :	GPL	SAS NO. :	
Case No. :		SDG NO :	702113
Matrix : (Soil / Water)	SOIL	Lab Sample ID :	702113-001-001-1/1MS
Sample Volume :	10.02	Lab File ID :	E39857D.D
% Moisture:		Date Received	02/23/2007
Extraction:	EXT_SW8330	Date Extracted:	02/27/2007
Extract Volume:	40 mL	Date Analyzed	03/07/2007
Injection Volume :	100 µ L	Dilution Factor :	1
GPC Clean up (Y/N):	pH:		

Concentration Units (ug/L or ug/kg dry weight) : mg/kg

CAS NO	COMPOUND		Q
78-11-5	Pentaerythritol Tetranitrate	0.70	

FORM I SW8330

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCE\0307A07\E39857D.D Vial: 6
Acq On : 7 Mar 2007 20:42 Operator: SS
Sample : 702113-001-001-1/1MS Inst : LCE
Misc : SOIL Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 8 11:50 2007 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Thu Mar 08 10:01:38 2007
Response via : Initial Calibration
DataAcq Meth : PETNCNE.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S 4-Nitroaniline	4.29	57817501	224.256 PPB m
Spiked Amount 150.000		Recovery =	149.50%
Target Compounds			
2) T PETN	16.06	33615563	174.898 PPB

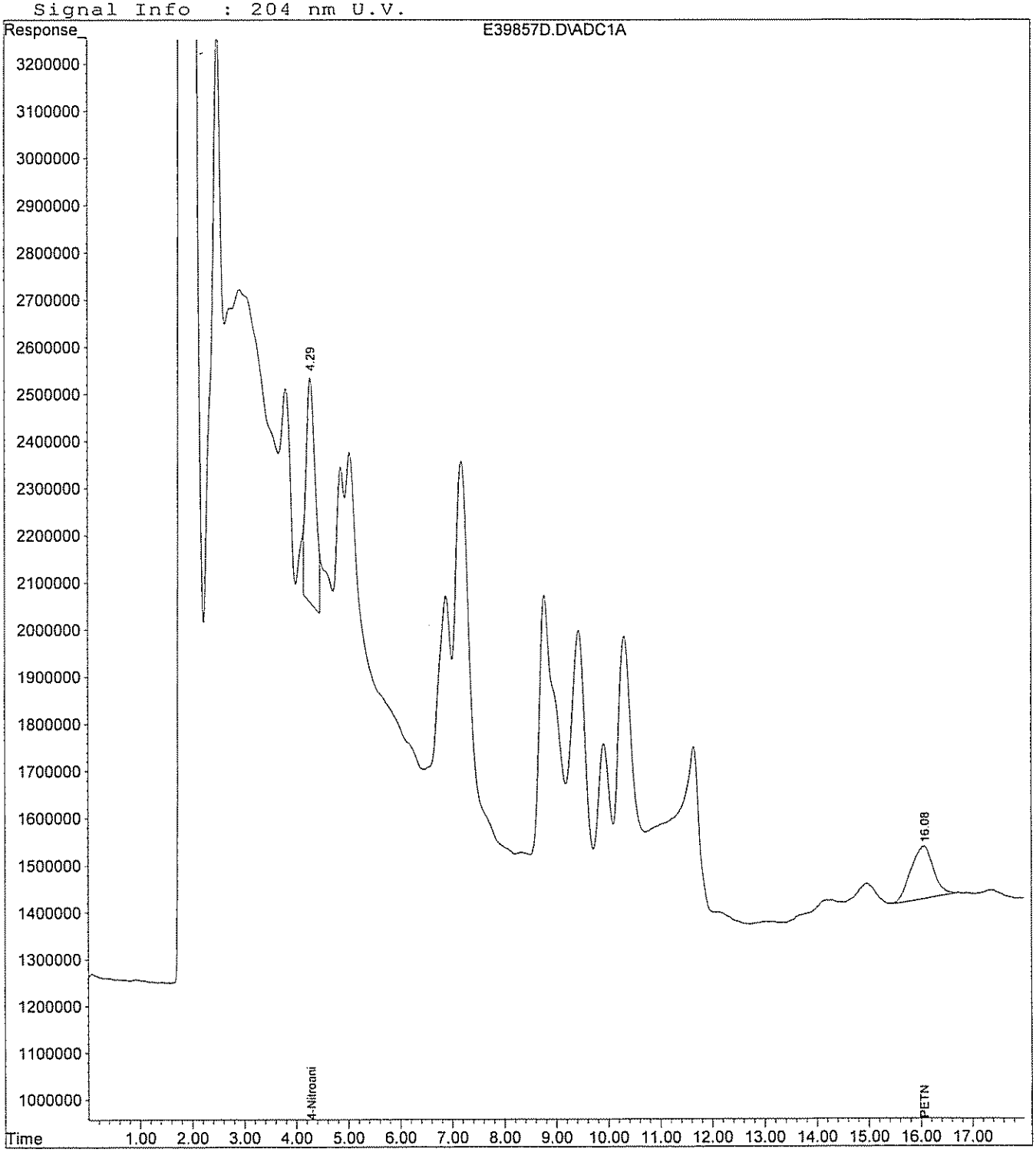
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCE\0307A07\E39857D.D Vial: 6
Acq On : 7 Mar 2007 20:42 Operator: SS
Sample : 702113-001-001-1/1MS Inst : LCE
Misc : SOIL Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 8 11:50 2007 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Thu Mar 08 10:01:38 2007
Response via : Multiple Level Calibration
DataAcq Meth : PETNCNE.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.



GPL Laboratories

GPL
FORM I
ANALYSIS DATA SHEET

SAMPLE NO
NWO-039-0006MSD

Lab Name :	GPL Laboratories	Client. :	Shaw E&I, Inc
Lab Code :	GPL	SAS NO. :	
Case No. :		SDG NO :	702113
Matrix : (Soil / Water)	SOIL	Lab Sample ID :	702113-001-001-1/1MSD
Sample Volume :	10	Lab File ID :	E39858D.D
% Moisture:		Date Received	02/23/2007
Extraction:	EXT_SW8330	Date Extracted:	02/27/2007
Extract Volume:	40 mL	Date Analyzed	03/07/2007
Injection Volume :	100 µL	Dilution Factor :	1
GPC Clean up (Y/N):	pH:		

Concentration Units (ug/L or ug/kg dry weight) : mg/kg

CAS NO	COMPOUND		Q
78-11-5	Pentaerythritol Tetranitrate	0.65	

FORM I SW8330

Quantitation Report (QT Reviewed)

Data File : H:\LCDATA\LCE\0307A07\E39858D.D Vial: 7
Acq On : 7 Mar 2007 21:01 Operator: SS
Sample : 702113-001-001-1/1MSD Inst : LCE
Misc : SOIL Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 8 10:04 2007 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Thu Mar 08 10:01:38 2007
Response via : Initial Calibration
DataAcq Meth : PETNCNE.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S 4-Nitroaniline	4.29	62646740	242.987 PPB m
Spiked Amount 150.000		Recovery =	161.99%
Target Compounds			
2) T PETN	16.07	31160273	162.123 PPB

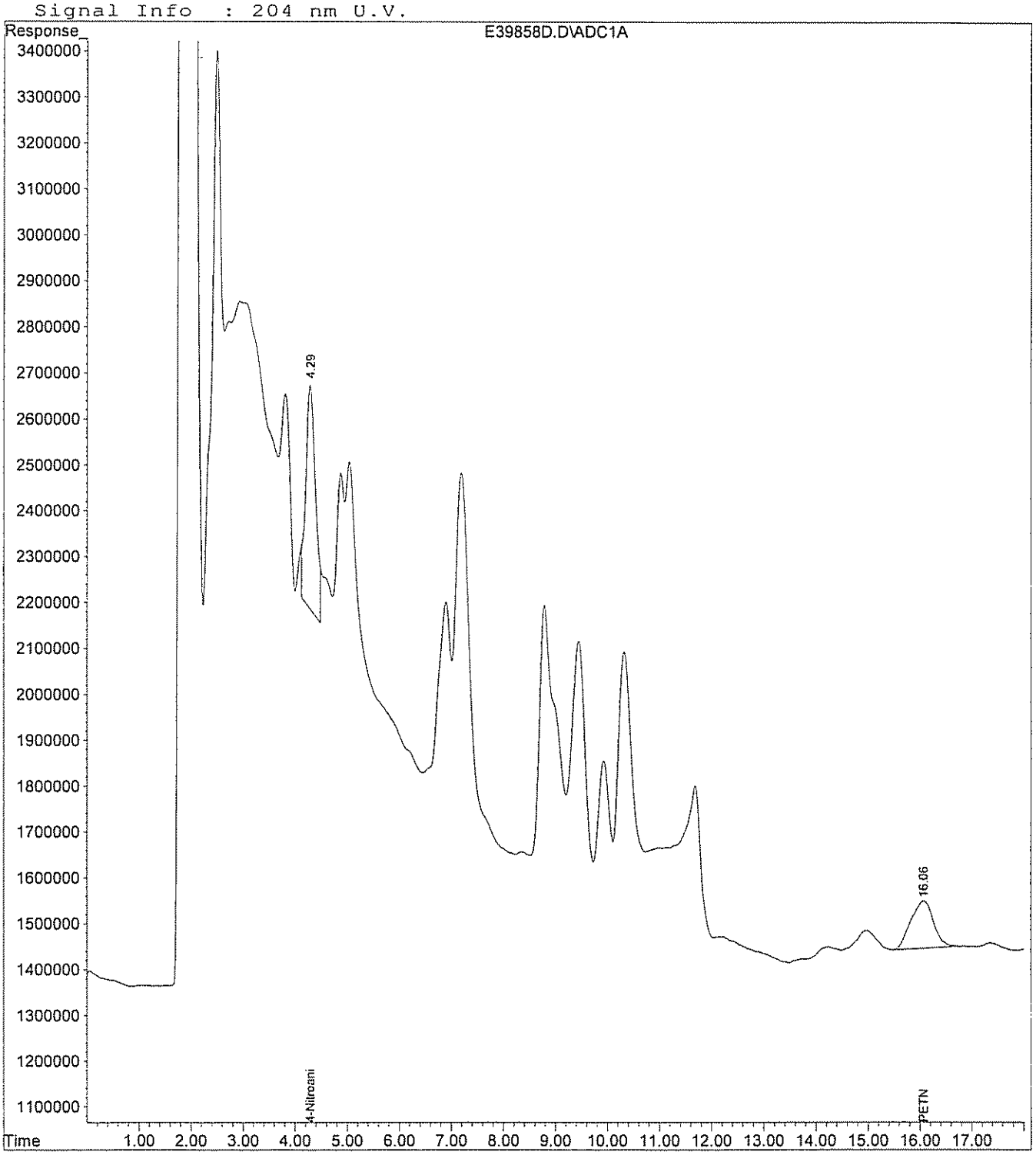
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : H:\LCDATA\LCE\0307A07\E39858D.D Vial: 7
Acq On : 7 Mar 2007 21:01 Operator: SS
Sample : 702113-001-001-1/1MSD Inst : LCE
Misc : SOIL Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 8 10:04 2007 Quant Results File: 6920PETN.RES

Quant Method : H:\LCDATA\LCE\METHODS\6920PETN.M (Chemstation Integrator)
Title : PETN 5 POINT INITCAL
Last Update : Thu Mar 08 10:01:38 2007
Response via : Multiple Level Calibration
DataAcq Meth : PETNCNE.M

Volume Inj. : 100 uL
Signal Phase : LC-18
Signal Info : 204 nm U.V.



EXPLOSIVES /NITROGUANIDINE /NITROGLYCERINE /PICRIC ACID /PETN EXTRACTION LOG

SOIL / WATER / WIPES

Approval / Date: DS 02/27/07

Client: Shaw E & I, Inc and USACE

Analysis Method: 8330 + PETN + NG (S)

Extraction Chemist: NP Date: 02-27-07 Spike Witness: VT

Work Order	Fraction	Sample Amount gram/mL	Surrogate Added, mL	Spike Added, mL	Final Volume, mL
702113	BLK	10.00	1.0	—	40.0
	BKS1	10.00		1.0 + 0.4 PETN	
	001 MS1	10.02			
	001 MSD1	10.00			
	BKS2	10.00		1.0 (NG)	
	001 MS2	10.01			
	001 MSD2	10.03			
	001	10.00		—	
	002	10.02			
	003	10.02			
	004	10.03			
	005	10.00			
	006	10.01			
	007	10.00			
702104	001	10.03			
	002	10.00			
	003	10.00			

DS 02/27/07

Solvent: Acetonitrile / DI Water

Solvent Lot #: 065280 Matrix Spike #: 38712 Matrix Spike Conc.: 5 PPm

Surrogate Solution #: 39183 Matrix Spike #: 39085 PETN Matrix Spike Conc.: 10 PPm

Surrogate Conc.(s): 6 PPm Matrix Spike #: 38451 NG Matrix Spike Conc.: 100 PPm

Calcium Chloride#: 040676 Sodium Sulfate#: — Sand#: 43007309

Sodium Chloride#: —

Comments & Observations: Xenco for S... #96629

Xenco for 8330 Pet. #96631

Xenco for 8330 NG #96632

HPLC ANALYSIS LOGBOOK

Instrument ID: LC # E (WATERS)

Method File: h:\lcdata\lce\methods	Data File Path: h:\lcdata\lce\092006
Detector/ Wavelength: UV	Mobile Phase: PETN-L49-62-13
Injection Volume: 100 uL	Flow Rate: 1.2 ml/min.

ICAL: 6920 PETN Analyst: ST. Reviewed by: S.S Date: 09/20/06

Injection Log

Directory: h:\lcdata\lce\092006

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	e37776.d	1.	PETN BLK	CONT CAL	20 Sep
2	2	e37777.d	1.	PETN LEVEL-1 50PPB	INIT CAL	20 Sep
3	3	e37778.d	1.	PETN LEVEL-2 100PPB	INIT CAL	20 Sep
4	4	e37779.d	1.	PETN LEVEL-3 200PPB	INIT CAL	20 Sep
5	5	e37780.d	1.	PETN LEVEL-4 500PPB	INIT CAL	20 Sep
6	6	e37781.d	1.	PETN LEVEL-5 1000PPB	INIT CAL	20 Sep
7	7	e37782.d	1.	PETN ICV- 200PPB	INIT CAL	20 Sep
8	8	e37783.d	1.	PETN STD 200PPB	CONT CAL	20 Sep
9	1	e37784.d	1.	PETN STD 200PPB	CONT CAL	20 Sep

LCE							
LCE							
LCE							
LCE							
LCE							
LCE							
LCE							
LCE							
LCE							
LCE							
LCE							
LCE							

ST. 09/20/06

Remarks	Standard	Solution ID	Conc.	Date Prep.
# 91965	8330 PETN STD	#38042	10 ppm	09/04/06
	4-Nitroanaline	#37558	10 ppm	07/27/06
OK				

Pls. See pg 156 for 09/20/06 sequence. ST.

HPLC ANALYSIS LOGBOOK

Instrument ID: LC # E (WATERS)

Method File: h:\lcdata\lce\methods	Data File Path: h:\lcdata\lce\0307A07
Detector/ Wavelength: UV 204 nm	Mobile Phase: PETN-L49-74-01
Injection Volume: 100 ul	Flow Rate: 1.2 ml/min

ICAL: 692aPETN Analyst: S.S. Reviewed by: JCSA Date: 3/8/07

Injection Log

Directory: h:\lcdata\lce\0307a07

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injecte	Comments
1	1	e39852d.d	1.	RAINSE	ACN	7 Mar	
2	2	e39853d.d	1.	PETN ST.	C CAL	7 Mar	
3	3	e39854d.d	1.	PETN ST.	C CAL	7 Mar	
4	4	e39855d.d	1.	BLK96631	SOIL	7 Mar	
5	5	e39856d.d	1.	BKS96631	SOIL	7 Mar	
6	6	e39857d.d	1.	702113-001-001-1/1MS	SOIL	7 Mar	
7	7	e39858d.d	1.	702113-001-001-1/1MSD	SOIL	7 Mar	
8	8	e39859d.d	1.	702113-001-001-1/1	SOIL	7 Mar	
9	9	e39860d.d	1.	702113-002-002-1/1	SOIL	7 Mar	
10	10	e39861d.d	1.	702113-003-003-1/1	SOIL	7 Mar	
11	11	e39862d.d	1.	702113-004-004-1/1	SOIL	7 Mar	
12	12	e39863d.d	1.	702113-005-005-1/1	SOIL	7 Mar	
13	13	e39864d.d	1.	702113-006-006-1/1	SOIL	7 Mar	
14	14	e39865d.d	1.	702113-007-007-1/1	SOIL	7 Mar	
15	15	e39866d.d	1.	PETN ST.	C CAL	7 Mar	
16	16	e39867d.d	1.	PETN ST.	C CAL	7 Mar	
17	17	e39868d.d	1.	702104-001-004-1/1	SOIL	8 Mar	
18	18	e39869d.d	1.	702104-002-005-1/1	SOIL	8 Mar	
19	19	e39870d.d	1.	702104-003-006-1/1	SOIL	8 Mar	
20	20	e39871d.d	1.	BLK96751	SOIL	8 Mar	
21	21	e39872d.d	1.	BKS96751	SOIL	8 Mar	
22	22	e39873d.d	1.	703007-002-013-1/2MS	SOIL	8 Mar	
23	23	e39874d.d	1.	703007-002-013-1/2MSD	SOIL	8 Mar	
24	24	e39875d.d	1.	703007-001-009-1/1	SOIL	8 Mar	
25	25	e39876d.d	1.	703007-002-013-1/2	SOIL	8 Mar	
26	26	e39877d.d	1.	703007-003-006-1/1	SOIL	8 Mar	
27	27	e39878d.d	1.	PETN ST.	C CAL	8 Mar	
28	28	e39879d.d	1.	PETN ST.	C CAL	8 Mar	
29	29	e39880d.d	1.	703007-004-007-1/1	SOIL	8 Mar	
30	30	e39881d.d	1.	703007-012-010-1/1	SOIL	8 Mar	
31	31	e39882d.d	1.	PETN ST.	C CAL	8 Mar	
32	32	e39883d.d	1.	PETN ST.	C CAL	8 Mar	
33	33	e39884d.d	1.	PETN ST.	C CAL	8 Mar	

Remarks	Standard	Solution ID	Conc.	Date Prep.
	PETN	38697	10ppm	11/21/06
	4-Nitroaniline	39206	10ppm	01/09/07

TRACE METALS

GPL Laboratories

USEPA - CLP

COVER PAGE

Lab Name: GPL LABORATORIES, LLLP Contract: _____

Lab Code: _____ Case No.: _____ NRAS No.: _____ SDG No.: 702113

SOW No.: SW846

EPA Sample No.	Lab Sample ID
NWO-039-0006	S 702113-001-007-1/1
NWO-039-0006 MS	SP702113-001-007-1/1
NWO-039-0006 MSD	SD702113-001-007-1/1
NWO-039-0007	S 702113-002-008-1/1
NWO-039-0008	S 702113-003-009-1/1
NWO-039-0009	S 702113-004-010-1/1
NWO-039-0010	S 702113-006-012-1/1
NWO-039-1005	S 702113-005-011-1/1

		ICP-AES	ICP-MS
Were ICP-AES and ICP-MS interelement corrections applied?	(Yes/No)	YES	YES
Were ICP-AES and ICP-MS background corrections applied?	(Yes/No)	YES	YES
if yes, were raw data generated before application of background corrections?	(Yes/No)	NO	YES

Comments:

I certify that this Sample Data Package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy Sample Data Package and in the computer-readable data submitted on diskette (or via an alternate means of electronic transmission, if approved in advance by USEPA) has been authorized by the Laboratory Manager or the Manager's designee, as referred by the following signature.

Signature: [signature] Name: Kelvin K-C. CHOI

Date: 3/7/2007 Title: Chemist

GPL Laboratories, LLLP

Sample Results

Project:	702113	Matrix:	Soil
Lab Sample ID:	S 702113-001-007-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-0006	Prep Batch:	96782
Analysis Method:	6020 ICPMS Analysis	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Aluminum	27	2.2	82.6	8470	D	10	03/06/07 17:16
Chromium	52	0.23	1.7	25.9	DB	10	03/06/07 17:16
Copper	65	0.17	1.7	9.3	DB	10	03/06/07 17:16
Iron	56	2.6	41.3	13200	D	10	03/06/07 17:16
Lead	208	0.065	1.7	4.3	D	10	03/06/07 17:16
Manganese	55	0.047	1.7	218	ND	10	03/06/07 17:16
Molybdenum	95	0.24	4.1	0.47	JD	10	03/06/07 17:16
Nickel	60	0.073	0.83	38.3	DB	10	03/06/07 17:16

U = The analyte concentration was less than the MDL

J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Sample Results

Project:	702113	Matrix:	Soil
Lab Sample ID:	S 702113-002-008-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-0007	Prep Batch:	96782
Analysis Method:	6020 ICPMS Analysis	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Aluminum	27	2.2	80.6	9470	D	10	03/06/07 17:42
Chromium	52	0.23	1.6	23.4	DB	10	03/06/07 17:42
Copper	65	0.16	1.6	7.9	DB	10	03/06/07 17:42
Iron	56	2.6	40.3	13600	D	10	03/06/07 17:42
Lead	208	0.064	1.6	3.0	D	10	03/06/07 17:42
Manganese	55	0.046	1.6	245	ND	10	03/06/07 17:42
Molybdenum	95	0.23	4.0	0.23	UD	10	03/06/07 17:42
Nickel	60	0.071	0.81	42.2	DB	10	03/06/07 17:42

U = The analyte concentration was less than the MDL
J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Sample Results

Project:	702113	Matrix:	Soil
Lab Sample ID:	S 702113-003-009-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-0008	Prep Batch:	96782
Analysis Method:	6020 ICPMS Analysis	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Aluminum	27	2.3	84.0	8060	D	10	03/06/07 17:47
Chromium	52	0.24	1.7	17.9	DB	10	03/06/07 17:47
Copper	65	0.17	1.7	10.8	DB	10	03/06/07 17:47
Iron	56	2.7	42.0	11500	D	10	03/06/07 17:47
Lead	208	0.066	1.7	17.3	D	10	03/06/07 17:47
Manganese	55	0.048	1.7	998	ND	10	03/06/07 17:47
Molybdenum	95	0.24	4.2	0.28	JD	10	03/06/07 17:47
Nickel	60	0.074	0.84	27.9	DB	10	03/06/07 17:47

U = The analyte concentration was less than the MDL

J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Sample Results

Project:	702113	Matrix:	Soil
Lab Sample ID:	S 702113-004-010-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-0009	Prep Batch:	96782
Analysis Method:	6020 ICPMS Analysis	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Aluminum	27	2.3	84.0	8210	D	10	03/06/07 17:52
Chromium	52	0.24	1.7	19.9	DB	10	03/06/07 17:52
Copper	65	0.17	1.7	10.3	DB	10	03/06/07 17:52
Iron	56	2.7	42.0	11600	D	10	03/06/07 17:52
Lead	208	0.066	1.7	15.9	D	10	03/06/07 17:52
Manganese	55	0.048	1.7	950	ND	10	03/06/07 17:52
Molybdenum	95	0.24	4.2	0.28	JD	10	03/06/07 17:52
Nickel	60	0.074	0.84	27.2	DB	10	03/06/07 17:52

U = The analyte concentration was less than the MDL

J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Sample Results

Project:	702113	Matrix:	Soil
Lab Sample ID:	S 702113-005-011-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-1005	Prep Batch:	96782
Analysis Method:	6020 ICPMS Analysis	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Aluminum	27	2.2	80.6	7860	D	10	03/06/07 18:08
Chromium	52	0.23	1.6	25.5	DB	10	03/06/07 18:08
Copper	65	0.16	1.6	8.0	DB	10	03/06/07 18:08
Iron	56	2.6	40.3	13100	DB	10	03/06/07 18:08
Lead	208	0.064	1.6	3.6	DB	10	03/06/07 18:08
Manganese	55	0.046	1.6	175	NDB	10	03/06/07 18:08
Molybdenum	95	0.23	4.0	0.25	JD	10	03/06/07 18:08
Nickel	60	0.071	0.81	37.7	DB	10	03/06/07 18:08

U = The analyte concentration was less than the MDL

J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Sample Results

Project:	702113	Matrix:	Soil
Lab Sample ID:	S 702113-006-012-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-0010	Prep Batch:	96782
Analysis Method:	6020 ICPMS Analysis	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Aluminum	27	2.2	82.0	12200	D	10	03/06/07 18:13
Chromium	52	0.23	1.6	36.3	DB	10	03/06/07 18:13
Copper	65	0.16	1.6	7.6	DB	10	03/06/07 18:13
Iron	56	2.6	41.0	16700	DB	10	03/06/07 18:13
Lead	208	0.065	1.6	10.0	DB	10	03/06/07 18:13
Manganese	55	0.047	1.6	562	NDB	10	03/06/07 18:13
Molybdenum	95	0.24	4.1	0.24	UD	10	03/06/07 18:13
Nickel	60	0.072	0.82	85.8	DB	10	03/06/07 18:13

U = The analyte concentration was less than the MDL

J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Preparation Blank Results

Project:	702113	Matrix:	Soil
Lab Sample ID:	BLK96782	Percent Moisture:	0.0
Client Sample ID:	NA	Prep Batch:	96782
Analysis Method:	6020 ICPMS Analysis	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Aluminum	27	2.7	100	2.7	UD	10	03/06/07 17:06
Chromium	52	0.28	2.0	0.28	UD	10	03/06/07 17:06
Copper	65	0.20	2.0	0.20	UD	10	03/06/07 17:06
Iron	56	3.2	50.0	3.2	UD	10	03/06/07 17:06
Lead	208	0.079	2.0	0.079	UD	10	03/06/07 17:06
Manganese	55	0.057	2.0	0.057	UND	10	03/06/07 17:06
Molybdenum	95	0.29	5.0	0.29	UD	10	03/06/07 17:06
Nickel	60	0.088	1.0	0.088	UD	10	03/06/07 17:06

U = The analyte concentration was less than the MDL

J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Initial Calibration Verification

Project:	702113	Instrument:	3050X
Units:	ug/L	Data File Name:	070306MS.csv
Standard Source:	AB.ST.	Standard ID:	

Analyte	True	ICV 3/6/2007 3:53:41 PM							
		Found	%R	Found	%R	Found	%R	Found	%R
Aluminum	500.0	498.03	100						
Chromium	40.0	42.94	107						
Copper	40.0	42.87	107						
Iron	500.0	532.00	106						
Lead	40.0	43.01	108						
Manganese	40.0	43.49	109						
Molybdenum	40.0	42.36	106						
Nickel	40.0	43.34	108						

URIT Version 4.3.4 SW846

GPL Laboratories, LLLP

Continuing Calibration Verification

Project:	702113	Instrument:	3050X
Units:	ug/L	Data File Name:	070306MS.csv
Standard Source:	H.P.	Standard ID:	

Analyte	True	CCV1 3/6/2007 4:09:15 PM		CCV2 3/6/2007 4:55:47 PM		CCV3 3/6/2007 5:58:04 PM		CCV4 3/6/2007 7:00:23 PM	
		Found	%R	Found	%R	Found	%R	Found	%R
Aluminum	5000.0	4894.33	98	5141.67	103	5100.00	102	5124.67	102
Chromium	50.0	51.10	102	49.70	99	49.52	99	50.68	101
Copper	50.0	48.93	98	47.26	95	47.20	94	48.24	96
Iron	5000.0	4885.67	98	4971.67	99	4949.67	99	5067.67	101
Lead	50.0	50.08	100	50.49	101	50.29	101	50.96	102
Manganese	50.0	49.53	99	49.45	99	49.33	99	50.37	101
Molybdenum	50.0	49.68	99	49.57	99	48.78	98	49.85	100
Nickel	50.0	48.54	97	47.15	94	46.49	93	48.40	97

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Low Level Check Standard

Project:	702113	Instrument:	3050X
Units:	ug/L	Data File Name:	070306MS.csv
Standard Source:	H.P.	Standard ID:	

Analyte	True	PQL 3/6/2007 4:19:38 PM							
		Found	%R	Found	%R	Found	%R	Found	%R
Aluminum	100.0	98.49	98						
Chromium	2.0	1.83	91						
Copper	2.0	2.09	105						
Iron	50.0	46.99	94						
Lead	2.0	1.95	98						
Manganese	2.0	1.96	98						
Molybdenum	5.0	5.01	100						
Nickel	1.0	1.01	101						

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Initial Calibration Blanks

Project:	702113	Instrument:	3050X
Units:	ug/L	Data File Name:	070306MS.csv
Standard Source:		Standard ID:	

Analyte	RL	ICB 3/6/2007 4:04:04 PM							
		Found	Flag	Found	Flag	Found	Flag	Found	Flag
Aluminum	100.00	2.70	U						
Chromium	2.00	0.28	U						
Copper	2.00	0.20	U						
Iron	50.00	3.20	U						
Lead	2.00	0.08	U						
Manganese	2.00	0.06	U						
Molybdenum	5.00	0.29	U						
Nickel	1.00	0.09	U						

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Continuing Calibration Blanks

Project:	702113	Instrument:	3050X
Units:	ug/L	Data File Name:	070306MS.csv
Standard Source:		Standard ID:	

Analyte	RL	CCB1 3/6/2007 4:14:27 PM		CCB2 3/6/2007 5:00:59 PM		CCB3 3/6/2007 6:03:16 PM		CCB4 3/6/2007 7:05:34 PM	
		Found	Flag	Found	Flag	Found	Flag	Found	Flag
Aluminum	100.00	2.70	U	2.70	U	2.70	U	3.97	J
Chromium	2.00	0.28	U	0.28	U	0.28	U	0.28	U
Copper	2.00	0.20	U	0.20	U	0.20	U	0.20	U
Iron	50.00	3.20	U	3.20	U	5.37	J	7.17	J
Lead	2.00	0.08	U	0.08	U	0.13	J	0.16	J
Manganese	2.00	0.06	U	0.06	U	0.06	U	0.14	J
Molybdenum	5.00	0.29	U	0.29	U	0.29	U	0.29	U
Nickel	1.00	0.09	U	0.09	U	0.09	U	0.09	U

URIT Version 4.3.4 SW846

GPL Laboratories, LLLP

Interference Check Standards

Project:	702113	Instrument:	3050X
Units:	ug/L	Data File Name:	070306MS.csv
Standard Source:	H.P. /AB.ST.	Standard ID:	

Analyte	RL	True		Initial Found				Final Found			
		Sol. A	Sol. B	ICSA 03/06/07 16:24	%R	ICSAB 03/06/07 16:35	%R		%R		%R
Aluminum	100		100000	98200	98	99600	100				
Chromium	2		20	0.60		20.9	105				
Copper	2		20	0.44		17.5	87				
Iron	50		250000	238000	95	240000	96				
Lead	2		20	0.12		21.9	110				
Manganese	2		20	-0.098		20.0	100				
Molybdenum	5		2000	2020	101	2000	100				
Nickel	1		20	0.24		17.8	89				

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Matrix Spike Recovery

Client ID:	NWO-039-0006 MS	Lab Sample ID:	SP702113-001-007-1/1
Project:	702113	Instrument:	3050X
Units:	mg/kg	Data File Name:	070306MS.csv
Standard Source:	H.P.	Standard ID:	

Analyte	Spiked Sample Result 03/06/07 17:21		Sample Result 03/06/07 17:16		Spike Added	%R
Aluminum	10948.51		8471.07		813.01	305
Chromium	70.24		25.91		40.65	109
Copper	50.78		9.26		40.65	102
Iron	14674.80		13198.35		813.01	182
Lead	93.58		4.26		81.30	110
Manganese	315.96		217.69		81.30	121
Molybdenum	43.66		0.47	J	40.65	106
Nickel	81.21		38.32		40.65	106

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Matrix Spike Duplicate Recovery

Client ID:	NWO-039-0006 MSD	Lab Sample ID:	SD702113-001-007-1/1
Project:	702113	Instrument:	3050X
Units:	mg/kg	Data File Name:	070306MS.csv
Standard Source:	H.P.	Standard ID:	

Analyte	Spiked Sample Result 03/06/07 17:26		Sample Result 03/06/07 17:16		Spike Added	%R
Aluminum	10897.64		8471.07		787.40	308
Chromium	72.33		25.91		39.37	118
Copper	50.75		9.26		39.37	105
Iron	14832.02		13198.35		787.40	207
Lead	92.49		4.26		78.74	112
Manganese	319.42		217.69		78.74	129
Molybdenum	43.35		0.47	J	39.37	109
Nickel	80.81		38.32		39.37	108

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Post Digestion Spike Recovery

Client ID:	NWO-039-0006	Lab Sample ID:	PS702113-001-007-1/1
Project:	702113	Instrument:	3050X
Units:	ug/L	Data File Name:	070306MS.csv
Standard Source:	H.P.	Standard ID:	

Analyte	Spiked Sample Result 03/06/07 17:32	Sample Result 03/06/07 17:16	Spike Added	%R
Manganese	331.67	263.40	80	85

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Duplicates RPD

Client ID:	NWO-039-0006 MSD	Lab Sample ID:	SD702113-001-007-1/1
Project:	702113	Instrument:	3050X
Units:	mg/kg	Data File Name:	070306MS.csv

Analyte	Matrix Spike ~~Original~~ Sample Results RA 3-7		Matrix Spike ~~Duplicate~~ Sample Results		RPD	Control Limit	Q
Aluminum	10948.51		10897.64		0	20	D
Chromium	70.24		72.33		3	20	D
Copper	50.78		50.75		0	20	D
Iron	14674.80		14832.02		1	20	D
Lead	93.58		92.49		1	20	D
Manganese	315.96		319.42		1	20	ND
Molybdenum	43.66		43.35		1	20	D
Nickel	81.21		80.81		0	20	D

URIT Version 4.3.4 SW846

GPL Laboratories, LLLP

Laboratory Control Sample

Project:	702113	Lab Sample ID:	BKS96782
Units:	mg/kg	Instrument:	3050X
		Data File Name:	070306MS.csv
Standard Source:	H.P.	Standard ID:	

Analyte	Spiked Sample Result 03/06/07 17:11		Spike Added	%R
Aluminum	1050.67		1000.00	105
Chromium	57.68		50.00	115
Copper	55.33		50.00	111
Iron	1077.33		1000.00	108
Lead	112.63		100.00	113
Manganese	112.90		100.00	113
Molybdenum	56.62		50.00	113
Nickel	54.50		50.00	109

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Serial Dilutions

Client ID:	NWO-039-0006	Lab Sample ID:	SE702113-001-007-1/1
Project:	702113	Instrument:	3050X
Units:	ug/L	Data File Name:	070306MS.csv

Analyte	Sample Result 03/06/07 17:16		Serial Dilution Result 03/06/07 17:37		Percent Difference	Flag
Aluminum	10250.00		9713.33		5	
Chromium	31.35		32.35		3	
Copper	11.20		11.22		0	
Iron	15970.00		15481.67		3	
Lead	5.15		4.92	J	5	
Manganese	263.40		260.58		1	
Molybdenum	0.57	J	1.45	U	100	
Nickel	46.37		44.80		3	

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Detection Limits

Project: 702113 Instrument: 3050X

Units: ug/L

Analyte	Wavelength/Mass	Reporting Limit	Method Detection Limit	Date of MDL
Aluminum	27	100	2.7	04/14/06
Chromium	52	2.0	0.28	04/14/06
Copper	65	2.0	0.20	04/14/06
Iron	56	50.0	3.2	04/14/06
Lead	208	2.0	0.079	04/14/06
Manganese	55	2.0	0.057	04/14/06
Molybdenum	95	5.0	0.29	04/14/06
Nickel	60	1.0	0.088	04/14/06

URIT Version 4.3.4 SW846

GPL Laboratories, LLLP

Linear Dynamic Ranges

Project: 702113 Instrument: 3050X

Units: ug/L

Analyte	Wavelength/Mass	Linear Dynamic Range	Date of LDR
Aluminum	27	110000	~~04/14/06~~ 3/6/07
Chromium	52	5500	04/14/06
Copper	65	5500	04/14/06
Iron	56	275000	04/14/06
Lead	208	11000	04/14/06
Manganese	55	5500	04/14/06
Molybdenum	95	5500	04/14/06
Nickel	60	4125	~~04/14/06~~

RA 3-7

URIT Version 4.3.4 SW846

GPL Laboratories, LLLP

Preparation Log

Project: 702113 Instrument: 3050X

Prep Method: Batch Number: 96782

Lab Sample ID	Client ID	Preparation Date	Initial Weight (grams)	Final Volume (ml)
BLK96782	BLK96782	02/28/2007	1.00	100
BKS96782	BKS96782	02/28/2007	1.00	100
S 702113-001-007-1/1	NWO-039-0006	02/28/2007	1.21	100
SP702113-001-007-1/1	NWO-039-0006 MS	02/28/2007	1.23	100
S 702113-002-008-1/1	NWO-039-0007	02/28/2007	1.24	100
S 702113-003-009-1/1	NWO-039-0008	02/28/2007	1.19	100
S 702113-004-010-1/1	NWO-039-0009	02/28/2007	1.19	100
S 702113-006-012-1/1	NWO-039-0010	02/28/2007	1.22	100
S 702113-005-011-1/1	NWO-039-1005	02/28/2007	1.24	100
SD702113-001-007-1/1	NWO-039-0006 MSD	02/28/2007	1.27	100

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP
Analysis Run Log

Project: 702113 Instrument: 3050X

Data File Name: 070306MS.csv

Sample Name	Client ID	Analysis Date	Analysis Time
BLANK		03/06/07	3:17 PM
STD1		03/06/07	3:22 PM
STD2		03/06/07	3:27 PM
STD3		03/06/07	3:32 PM
STD4		03/06/07	3:37 PM
STD5		03/06/07	3:43 PM
STD6		03/06/07	3:48 PM
ICV		03/06/07	3:53 PM
ICB		03/06/07	4:04 PM
CCV1		03/06/07	4:09 PM
CCB1		03/06/07	4:14 PM
PQL		03/06/07	4:19 PM
ICSA		03/06/07	4:24 PM
ICSAB		03/06/07	4:35 PM
CCV2		03/06/07	4:55 PM
CCB2		03/06/07	5:00 PM
BLK96782	BLK96782	03/06/07	5:06 PM
BKS96782	BKS96782	03/06/07	5:11 PM
S 702113-001-007-1/1	NWO-039-0006	03/06/07	5:16 PM
SP702113-001-007-1/1	NWO-039-0006 MS	03/06/07	5:21 PM
SD702113-001-007-1/1	NWO-039-0006 MSD	03/06/07	5:26 PM
PS702113-001-007-1/1	NWO-039-0006	03/06/07	5:32 PM
SE702113-001-007-1/1	NWO-039-0006	03/06/07	5:37 PM
S 702113-002-008-1/1	NWO-039-0007	03/06/07	5:42 PM
S 702113-003-009-1/1	NWO-039-0008	03/06/07	5:47 PM
S 702113-004-010-1/1	NWO-039-0009	03/06/07	5:52 PM
CCV3		03/06/07	5:58 PM
CCB3		03/06/07	6:03 PM
S 702113-005-011-1/1	NWO-039-1005	03/06/07	6:08 PM
S 702113-006-012-1/1	NWO-039-0010	03/06/07	6:13 PM
CCV4		03/06/07	7:00 PM
CCB4		03/06/07	7:05 PM

URIT Version 4.3.4 SW846

ICPMS ANALYSIS LOG

Instrument ID: ICPMS (X0206) Inst. Method: 6020A Nebulizer: CONIKAL

Analytical Batch No: 070306MS

Workorder	Project/SDG #	Prep. Seq.	Batch #	Matrix s/w/e	Prep. Date	Method	Comments / Dilution
702113	SHAW	96782	146	S	2.28.07	6020A	10x ON ALL
702114	↓	↓	↓	↓	↓	↓	↓
MDL			083	W	2.7.07	↓	
		3.7.07					

Source Solution Numbers				Post Digestion Spikes
Stds.	Number	Stds.	Number	Spike 9.9 mls of sample with 0.1 mls of 38352
S0	129-134-02	ICV	39297	Samples:
S1	39279	CCV	39532	702113-001-007-1/1
S2	39280	ICSA	39300	
S3	39281	ICSAB	39303	
S4	39282	Low Ck	39305	
S5	39283	LR	39306	
S6	39284	IS	39533	

Analyst: [signature] Date: 3.7.07 Reviewed: RA Date: 3-7-07

ICP ANALYSIS LOG

GPL - Maryland Laboratory | ICPMS Analysis Log | Data File: 070306MS.csv

Seq	Sample Name	Dil	Date	Time	Seq	Sample Name	Dil	Date	Time	Seq	Sample Name	Dil	Date	Time	Seq	Sample Name	Dil	Date	Time	Seq	Sample Name	Dil	Date	Time
1	BLANK	1	3/6/2007	15:17	31	S 702113-005-011-1/1	10	3/6/2007	18:08															
2	STD1	1	3/6/2007	15:22	32	S 702113-006-012-1/1	10	3/6/2007	18:13															
3	STD2	1	3/6/2007	15:27	33	S 702114-001-001-1/1	10	3/6/2007	18:18															
4	STD3	1	3/6/2007	15:32	34	S 702114-002-002-1/1	10	3/6/2007	18:24															
5	STD4	1	3/6/2007	15:37	35	S 702114-003-003-1/1	10	3/6/2007	18:29															
6	STD5	1	3/6/2007	15:43	36	S 702114-004-004-1/1	10	3/6/2007	18:34															
7	STD6	1	3/6/2007	15:48	37	S 702114-005-005-1/1	10	3/6/2007	18:39															
8	ICV	1	3/6/2007	15:53	38	S 702114-006-006-1/1	10	3/6/2007	18:44															
9	ICV(Cd)	1	3/6/2007	15:58	39	S 702114-007-007-1/1	10	3/6/2007	18:50															
10	ICB	1	3/6/2007	16:04	40	S 702114-008-008-1/1	10	3/6/2007	18:55															
11	CCV	1	3/6/2007	16:09	41	CCV	1	3/6/2007	19:00															
12	CCB	1	3/6/2007	16:14	42	CCB	1	3/6/2007	19:05															
13	PQL	1	3/6/2007	16:19	43	S 702114-009-009-1/1	10	3/6/2007	19:10															
14	ICSA	1	3/6/2007	16:24	44	S 702114-010-010-1/1	10	3/6/2007	19:15															
15	ICSAB	1	3/6/2007	16:35	45	ICSA	1	3/6/2007	19:26															
16	LR	1	3/6/2007	16:40	46	ICSAB	1	3/6/2007	19:31															
17	CCV	1	3/6/2007	16:55	47	CCV	1	3/6/2007	19:36															
18	CCB	1	3/6/2007	17:00	48	CCB	1	3/6/2007	19:47															
19	BLK(146)	10	3/6/2007	17:06	49	BLK(083)	1	3/6/2007	19:52															
20	BKS(146)	10	3/6/2007	17:11	50	S MDL(3010)-1	1	3/6/2007	19:57															
21	S 702113-001-007-1/1	10	3/6/2007	17:16	51	S MDL(3010)-2	1	3/6/2007	20:02															
22	SP702113-001-007-1/	10	3/6/2007	17:21	52	S MDL(3010)-3	1	3/6/2007	20:07															
23	SD702113-001-007-1/	10	3/6/2007	17:26	53	S MDL(3010)-4	1	3/6/2007	20:13															
24	PS702113-001-007-1/	10	3/6/2007	17:32	54	S MDL(3010)-5	1	3/6/2007	20:18															
25	SE702113-001-007-1/	50	3/6/2007	17:37	55	S MDL(3010)-6	1	3/6/2007	20:23															
26	S 702113-002-008-1/1	10	3/6/2007	17:42	56	S MDL(3010)-7	1	3/6/2007	20:28															
27	S 702113-003-009-1/1	10	3/6/2007	17:47	57	CCV	1	3/6/2007	20:33															
28	S 702113-004-010-1/1	10	3/6/2007	17:52	58	CCB	1	3/6/2007	20:39															
29	CCV	1	3/6/2007	17:58																				
30	CCB	1	3/6/2007	18:03																				

Analyst Signature: [signature] Date: 3-7-07 Analyst Signature: Date:

[signature] 3-7-07

Sample Dilutions:

IS okay
LR okay

USEPA - CLP

15 - IN

ICP-MS Internal Standards Relative Intensity Summary

Lab Name: GPL LABORATORIES, LLLP Contract:

Lab Code: Case No.: NRAS No.: SDG No.: DHJK

ICP-MS Instrument ID: SEDI Start Date: 03/06/2007 End Date: 03/06/2007

EPA Sample No.	Time	Internal Standards %RI For:									
		Bi (209)	Q	In (115)	Q	Li (6)	Q	Sc (45)	Q	Tb (159)	Q
BLANK	15:17	100		100		100		100		100	
STD1	15:22	105		104		107		106		104	
STD2	15:27	105		103		107		105		103	
STD3	15:32	103		99		102		101		99	
STD4	15:37	98		96		103		99		96	
STD5	15:43	95		96		108		102		97	
STD6	15:48	93		95		108		100		96	
ICV	15:53	95		93		104		97		95	
ICV(Cd)	15:58	94		93		103		96		94	
ICB	16:04	95		94		103		96		95	
CCV	16:09	95		92		95		93		95	
CCB	16:14	96		93		94		93		95	
PQL	16:19	98		93		96		94		95	
ICSA	16:24	79		82		75		80		85	
ICSAB	16:35	79		81		68		76		86	
LR	16:40	97		90		79		87		96	
CCV	16:55	101		96		83		91		101	
CCB	17:00	103		97		85		92		101	
BLK(146)	17:06	105		99		87		94		103	
BKS(146)	17:11	105		99		87		94		103	
S 702113-001-007-1/1	17:16	108		102		87		99		105	
SP702113-001-007-1/1	17:21	106		101		88		98		105	
SD702113-001-007-1/1	17:26	105		100		86		97		104	
PS702113-001-007-1/1	17:32	103		97		84		94		102	
SE702113-001-007-1/1	17:37	111		105		90		100		108	
S 702113-002-008-1/1	17:42	108		103		90		100		106	
S 702113-003-009-1/1	17:47	109		103		88		100		106	
S 702113-004-010-1/1	17:52	109		103		89		101		107	
CCV	17:58	101		96		82		90		100	
CCB	18:03	103		98		87		94		101	
S 702113-005-011-1/1	18:08	105		101		92		99		104	
S 702113-006-012-1/1	18:13	106		102		92		102		105	
S 702114-001-001-1/1	18:18	106		101		92		100		104	
S 702114-002-002-1/1	18:24	107		103		91		101		105	
S 702114-003-003-1/1	18:29	106		101		90		101		105	
S 702114-004-004-1/1	18:34	105		102		93		102		105	
S 702114-005-005-1/1	18:39	104		100		90		100		103	
S 702114-006-006-1/1	18:44	106		102		94		103		105	

FORM XV - IN SW846

USEPA - CLP

15 - IN

ICP-MS Internal Standards Relative Intensity Summary

Lab Name: GPL LABORATORIES, LLLP Contract:

Lab Code: Case No.: NRAS No.: SDG No.: DHJK

ICP-MS Instrument ID: SEDI Start Date: 03/06/2007 End Date: 03/06/2007

EPA Sample No.	Time	Internal Standards %RI For:									
		Bi (209)	Q	In (115)	Q	Li (6)	Q	Sc (45)	Q	Tb (159)	Q
S 702114-007-007-1/1	18:50	105		101		93		101		103	
S 702114-008-008-1/1	18:55	104		101		94		101		104	
CCV	19:00	97		92		86		89		96	
CCB	19:05	101		97		88		93		100	
S 702114-009-009-1/1	19:10	106		101		92		100		104	
S 702114-010-010-1/1	19:15	104		99		90		98		102	
ICSA	19:26	80		81		69		76		86	
ICSAB	19:31	80		80		65		73		85	
CCV	19:36	101		92		76		84		99	
CCB	19:47	102		94		79		86		99	
BLK(083)	19:52	102		94		81		88		100	
S MDL(3010)-1	19:57	102		94		82		89		100	
S MDL(3010)-2	20:02	102		94		83		88		100	
S MDL(3010)-3	20:07	102		95		83		89		101	
S MDL(3010)-4	20:13	101		93		85		87		98	
S MDL(3010)-5	20:18	101		94		85		89		100	
S MDL(3010)-6	20:23	101		92		85		88		98	
S MDL(3010)-7	20:28	101		92		84		87		98	
CCV	20:33	99		92		80		85		98	
CCB	20:39	101		93		82		87		98	

FORM XV - IN SW846

USEPA - CLP

15 - IN

ICP-MS Internal Standards Relative Intensity Summary

Lab Name: GPL LABORATORIES, LLLP Contract:

Lab Code: Case No.: NRAS No.: SDG No.: DHJK

ICP-MS Instrument ID: SEDI Start Date: 03/06/2007 End Date: 03/06/2007

EPA Sample No.	Time	Internal Standards %RI For:									
		Y (89)	Q								
BLANK	15:17	100									
STD1	15:22	104									
STD2	15:27	103									
STD3	15:32	100									
STD4	15:37	97									
STD5	15:43	97									
STD6	15:48	97									
ICV	15:53	94									
ICV(Cd)	15:58	93									
ICB	16:04	94									
CCV	16:09	93									
CCB	16:14	93									
PQL	16:19	93									
ICSA	16:24	80									
ICSAB	16:35	78									
LR	16:40	90									
CCV	16:55	94									
CCB	17:00	95									
BLK(146)	17:06	98									
BKS(146)	17:11	97									
S 702113-001-007-1/1	17:16	104									
SP702113-001-007-1/1	17:21	103									
SD702113-001-007-1/1	17:26	102									
PS702113-001-007-1/1	17:32	99									
SE702113-001-007-1/1	17:37	104									
S 702113-002-008-1/1	17:42	105									
S 702113-003-009-1/1	17:47	104									
S 702113-004-010-1/1	17:52	105									
CCV	17:58	94									
CCB	18:03	96									
S 702113-005-011-1/1	18:08	103									
S 702113-006-012-1/1	18:13	105									
S 702114-001-001-1/1	18:18	103									
S 702114-002-002-1/1	18:24	104									
S 702114-003-003-1/1	18:29	103									
S 702114-004-004-1/1	18:34	106									
S 702114-005-005-1/1	18:39	104									
S 702114-006-006-1/1	18:44	106									

FORM XV - IN SW846

USEPA - CLP

15 - IN

ICP-MS Internal Standards Relative Intensity Summary

Lab Name: GPL LABORATORIES, LLLP Contract:

Lab Code: Case No.: NRAS No.: SDG No.: DHJK

ICP-MS Instrument ID: SEDI Start Date: 03/06/2007 End Date: 03/06/2007

EPA Sample No.	Time	Internal Standards %RI For:									
		Y (89)	Q								
S 702114-007-007-1/1	18:50	105									
S 702114-008-008-1/1	18:55	105									
CCV	19:00	91									
CCB	19:05	95									
S 702114-009-009-1/1	19:10	104									
S 702114-010-010-1/1	19:15	103									
ICSA	19:26	79									
ICSAB	19:31	77									
CCV	19:36	90									
CCB	19:47	91									
BLK(083)	19:52	92									
S MDL(3010)-1	19:57	92									
S MDL(3010)-2	20:02	92									
S MDL(3010)-3	20:07	93									
S MDL(3010)-4	20:13	91									
S MDL(3010)-5	20:18	92									
S MDL(3010)-6	20:23	91									
S MDL(3010)-7	20:28	91									
CCV	20:33	90									
CCB	20:39	91									

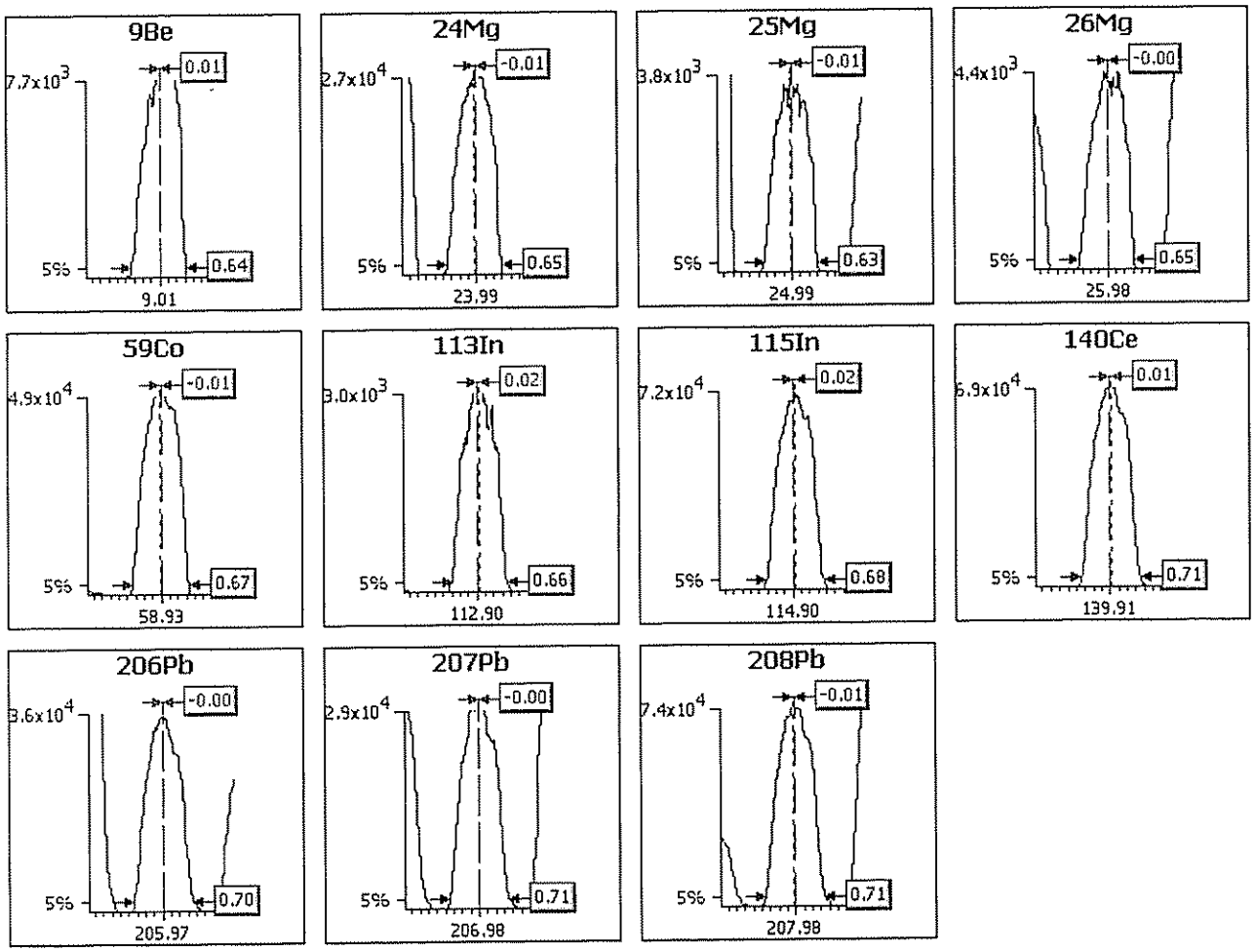
FORM XV - IN SW846

Performance Report

Sample details
Acquired at : 03/06/2007 12:20:49 PM
Report name : EPA 6020A 2.1A [05/30/2006 01:04:54 PM]

Mass Calibration verification

Acquisition parameters
Sweeps : 25
Dwell : 2.0 mSecs
Point spacing : 0.01 amu
Peak width measured at 5% of the peak maximum



Analyte	Limits			Results	
	Max. width	Min. width	Max. error	Peak width	Peak error

9Be	0.90	0.45	0.10	0.64	0.01
24Mg	0.90	0.45	0.10	0.65	-0.01
25Mg	0.90	0.45	0.10	0.63	-0.01
26Mg	0.90	0.45	0.10	0.65	-0.00
59Co	0.90	0.45	0.10	0.67	-0.01
113In	0.90	0.45	0.10	0.66	0.02
115In	0.90	0.45	0.10	0.68	0.02
140Ce	0.90	0.45	0.10	0.71	0.01
206Pb	0.90	0.45	0.10	0.70	-0.00
207Pb	0.90	0.45	0.10	0.71	-0.00
208Pb	0.90	0.45	0.10	0.71	-0.01

Sample details
Acquired at : 03/06/2007 12:20:49 PM
Report name : EPA 6020A 2.1A [05/30/2006 01:04:54 PM]

Tune conditions

Major	
Extraction	-141
Lens 1	2.9
Focus	23.3
D1	-47.8
Pole Bias	4.0
Hexapole Bias	-3.0
Nebuliser	0.89
Sampling Depth	130

Minor	
Lens 2	-30.6
Lens 3	-184.3
Forward power	1404
Horizontal	100
Vertical	480
D2	-160
DA	-40.0
Cool	13.0
Auxiliary	0.90

Global	
Standard resolution	125
High resolution	105
Analogue Detector	2110
PC Detector	3480

Add. Gases

Sensitivity and stability results

Acquisition parameters
Sweeps : 180

Run	Time	5Bkg	9Be	24Mg	25Mg	26Mg	59Co	113In	115In	140Ce
Dwell (mSecs)		100.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Limits	%RSD	-	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
	Countrate	-	>4000	>5000	>1000	>1000	>10000	>1000	>50000	>50000
1	12:22:22 PM	0.056	8325.347	28920.848	3661.178	4293.981	51985.175	3069.492	70731.673	71732.385
2	12:23:33 PM	0.111	8262.008	28455.159	3640.622	4389.541	51598.864	3107.270	70810.061	71279.839
3	12:24:44 PM	0.333	8502.584	28863.054	3720.069	4343.428	52107.461	3137.827	71215.349	71648.436
4	12:25:54 PM	0.056	8222.005	28546.852	3659.511	4337.316	51365.411	3133.938	70935.150	71349.889
5	12:27:05 PM	0.056	8167.000	28076.719	3602.287	4303.982	50949.643	3062.825	71058.571	71490.545
x		0.122	8295.789	28572.526	3656.734	4333.649	51601.311	3102.270	70950.161	71500.219
σ		0.12	129.24	341.32	42.61	37.70	470.07	35.08	193.43	191.79
%RSD		98.543	1.558	1.195	1.165	0.870	0.911	1.131	0.273	0.268

Run	Time	156Ce O	206Pb	207Pb	208Pb	220Bkg
Dwell (mSecs)		30.0	10.0	10.0	10.0	100.0
Limits	%RSD	-	2.0%	2.0%	2.0%	-
	Countrate	-	>10000	>10000	>25000	<2
1	12:22:22 PM	802.225	35940.346	29917.252	76113.956	0.222
2	12:23:33 PM	820.559	35757.503	30191.779	75991.084	0.056
3	12:24:44 PM	783.151	35863.652	30087.303	76286.309	0.056
4	12:25:54 PM	813.892	35751.390	30124.537	76722.754	0.111
5	12:27:05 PM	843.707	36182.100	30503.541	76009.432	0.500
x		812.707	35898.998	30164.882	76224.707	0.189
σ		22.40	176.72	214.70	302.09	0.19
%RSD		2.757	0.492	0.712	0.396	98.869

Ratio results

Run	Time	156Ce O/140Ce
Ratio limits		<0.0200
1	12:22:22 PM	0.011

2	12:23:33 PM	0.012
3	12:24:44 PM	0.011
4	12:25:54 PM	0.011
5	12:27:05 PM	0.012
x		0.0114
σ		0.00
%RSD		2.9035

Result : The performance report passed.

Dilution Corrected Concentrations

BLANK 03/06/2007 03:17:23 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		100.000%	0.000	-0.000	-0.000	-0.000	-0.000	0.000	0.000	100.000%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.000	0.000	-0.000	-0.000	-0.000	-0.000	0.000	-0.000	-0.000

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.000	0.000	0.000	0.105	0.000	100.000%	0.000	0.000	-0.000

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.000	-0.000	100.000%	0.000	0.000	-0.000	-0.000	0.000	100.000%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.000	0.000	0.000	100.000%

STD1 03/06/2007 03:22:30 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		107.420%	4.887	0.053	0.018	0.017	τ4923.000	0.468	26.630	106.087%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		50.190	49.150	51.680	-13060.000	49.190	τ4916.000	49.430	50.150	50.370

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		49.140	49.990	-0.072	49.890	49.550	103.851%	49.830	49.760	-1.330

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		49.570	48.570	103.908%	50.830	49.280	49.790	49.610	0.043	103.890%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		49.740	50.320	49.520	104.676%

STD2 03/06/2007 03:27:37 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		107.328%	10.130	3.143	0.254	0.290	TM 10040.000	2.284	57.460	104.965%
Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		101.900	M 100.400	105.400	-19170.000	M 100.400	TM 10040.000	M 100.300	100.900	101.400
Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		101.300	100.500	0.106	99.950	100.600	103.409%	100.400	M 100.100	-3.447
Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 100.200	100.500	103.182%	104.000	100.800	102.400	101.100	0.083	103.383%
Run	Time	203Tl	205Tl	208Pb	209Bi					
		ppb	ppb	ppb	ppb					
x		102.300	102.800	M 100.200	104.600%					

STD3 03/06/2007 03:32:45 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		101.992%	M 49.990	2.566	0.445	0.343	2.909	4.316	101.200	101.390%
Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 999.800	M 933.000	M 999.400	-47570.000	TM 971.900	TM 49210.000	TM 961.500	M 749.900	M 999.800
Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 499.800	M 199.700	0.171	M 200.100	M 199.800	99.599%	M 1000.000	M 101.100	-9.629
Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 100.300	M 200.100	98.904%	M 999.600	M 499.900	M 499.500	M 999.900	0.861	98.892%
Run	Time	203Tl	205Tl	208Pb	209Bi					
		ppb	ppb	ppb	ppb					
x		198.900	198.500	TM 1925.000	102.605%					

STD4 03/06/2007 03:37:52 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		102.724%	0.004	τ983.300	956.100	1029.000	1.032	971.200	1013.000	99.390%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.197	1.023	0.739	-29300.000	0.035	1.311	0.016	0.047	0.088

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.769	0.235	-0.050	-0.270	0.058	96.762%	0.553	0.002	-0.179

Run	Time	109Ag	110Cd	115In	118Sn	121Sb12	3Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.006	0.066	96.033%	0.572	0.048	0.046	0.317	0.001	95.901%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		1.182	1.190	0.088	97.774%

STD5 03/06/2007 03:43:06 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		107.825%	0.002	τ10070.000	τ10090.000	τ10040.000	0.163	τ10050.000	10140.000	101.555%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.120	1.215	0.131	-62060.000	0.238	4.808	0.008	0.067	0.070

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.775	0.819	-0.071	0.257	0.173	97.355%	0.221	0.009	-0.023

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.010	0.016	96.116%	0.340	0.019	0.016	0.302	0.001	96.688%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.486	0.477	0.137	95.281%

STD6 03/06/2007 03:48:30 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		107.834%	-0.003	TM 19970.000	TM 19960.000	TM 19980.000	0.248	TM 19980.000	M 19930.000	100.315%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.099	0.151	0.138	-66800.000	0.485	5.724	0.001	0.144	0.082

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.895	0.641	0.173	0.493	0.285	96.893%	0.126	0.013	-0.045

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.014	0.023	94.603%	0.265	0.027	0.032	0.356	0.005	96.014%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.283	0.291	0.240	93.223%

ICV 03/06/2007 03:53:41 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		104.288%	4.274	T 4954.000	T 4953.000	5053.000	498.000	T 4896.000	5062.000	97.082%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		42.800	42.680	42.940	-18640.000	43.490	532.000	43.280	43.340	42.870

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		42.890	42.030	0.081	42.500	42.440	93.755%	42.360	42.460	-0.553

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		42.450	4.640	93.274%	43.480	42.530	42.370	43.890	0.028	94.559%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		43.650	43.950	43.010	95.064%

ICV(Cd) 03/06/2007 03:58:51 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		103.268%	0.001	0.099	0.013	0.009	0.171	-0.167	1.534	95.984%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.209	-0.013	0.205	-553.600	0.061	7.551	0.078	0.055	0.111

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		1.021	0.062	0.048	-0.387	0.085	92.619%	0.272	0.024	-0.203

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.018	4.056	92.643%	0.350	0.023	0.015	0.374	-0.001	93.543%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.478	0.500	0.465	93.967%

ICB 03/06/2007 04:04:04 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		102.799%	-0.004	-0.677	-0.001	0.013	-0.067	-0.002	1.429	95.826%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.021	0.101	0.166	-3141.000	-0.009	-1.948	-0.000	-0.003	0.004

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.379	0.225	0.048	-0.558	-0.002	93.820%	0.016	-0.002	-0.089

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.000	0.028	94.021%	0.100	-0.026	-0.028	-0.015	-0.002	94.711%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.209	0.220	-0.001	95.290%

CCV 03/06/2007 04:09:15 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		94.529%	4.984	τ9836.000	τ9791.000	9802.000	τ4894.000	τ9747.000	10030.000	92.846%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		50.310	48.690	51.100	-48620.000	49.530	τ4886.000	48.990	48.540	48.930

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		49.150	48.970	-0.015	48.690	49.650	92.542%	49.680	48.940	-1.907

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		48.750	49.360	92.427%	50.530	49.860	50.480	49.260	0.032	95.027%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		50.470	50.960	50.080	94.737%

CCB 03/06/2007 04:14:27 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		93.935%	-0.001	0.326	0.232	0.246	0.025	0.805	1.842	93.429%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.003	0.419	-0.112	-17200.000	-0.017	-2.149	-0.001	-0.001	0.013

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.492	0.915	-0.079	0.028	-0.002	92.562%	0.015	0.001	-0.088

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.000	0.032	93.415%	0.104	-0.009	-0.011	0.007	0.003	95.210%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.469	0.457	0.001	96.082%

PQL 03/06/2007 04:19:38 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		95.984%	0.211	T 946.500	95.030	100.500	98.490	945.400	987.100	94.202%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		2.314	10.220	1.828	-42730.000	1.962	46.990	0.987	1.005	2.094

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		10.140	5.359	-0.091	4.491	1.945	92.963%	5.006	0.304	-0.006

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.309	0.543	93.330%	5.186	1.115	1.032	5.437	-0.001	95.052%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		2.128	2.171	1.953	97.557%

ICSA 03/06/2007 04:24:47 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		74.526%	-0.005	TM 244900.000	TM 97140.000	TM 97940.000	TM 98240.000	TM 98900.000	TM 300500.000	79.827%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		H 2141.000	0.884	0.596	-125600.000	-0.098	TM 238100.000	0.050	0.237	0.442

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		1.521	0.713	0.405	1.339	4.380	80.083%	H 2021.000	0.085	1.331

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.095	0.029	82.134%	0.232	0.204	0.194	0.634	0.051	85.342%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.271	0.270	0.124	78.509%

ICSAB 03/06/2007 04:35:08 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		68.301%	17.120	TM 246100.000	TM 99030.000	TM 99520.000	TM 99580.000	TM 99900.000	TM 305100.000	76.025%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 2111.000	21.660	20.950	-133700.000	20.030	TM 240400.000	18.820	17.770	17.480

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		19.180	19.660	0.193	18.500	26.080	78.040%	M 2005.000	17.460	0.756

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		17.670	17.640	80.840%	21.500	19.870	19.780	21.350	0.059	86.173%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		22.460	22.820	21.900	79.287%

LR 03/06/2007 04:40:18 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		79.495%	M 225.200	40.610	16.870	17.590	18.470	14.430	2303.000	87.354%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 4732.000	TM 4775.000	TM 5049.000	-88680.000	TM 4938.000	TM 247900.000	TM 4772.000	M 3418.000	TM 4582.000

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 2380.000	M 933.000	-0.867	M 925.900	TM 6023.000	89.726%	M 4610.000	M 475.300	-30.100

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 477.900	M 964.000	89.563%	TM 4883.000	484.900	487.200	TM 5089.000	3.718	95.594%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		M 980.800	TM 1032.000	TM 9822.000	97.321%

CCV 03/06/2007 04:55:47 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		82.610%	4.752	τ 10060.000	τ 10280.000	10090.000	τ 5141.000	τ 9995.000	9977.000	91.214%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		48.810	50.510	49.700	-99350.000	49.450	τ 4972.000	47.530	47.150	47.260

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		49.150	49.010	-0.288	49.130	50.140	94.029%	49.570	48.170	-1.751

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		48.850	49.310	95.652%	51.060	50.040	51.130	49.500	0.035	101.077%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		51.010	52.050	50.490	101.437%

CCB 03/06/2007 05:00:59 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		85.016%	-0.002	4.149	1.568	1.673	0.714	3.058	5.087	91.887%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.083	0.343	-0.108	-78220.000	-0.013	-0.466	0.011	0.015	0.029

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.331	0.864	-0.159	0.798	0.019	95.493%	0.193	0.007	-0.050

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.006	0.020	97.393%	0.424	-0.008	-0.038	0.024	-0.002	101.097%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.745	0.745	0.038	102.661%

BLK(146) 03/06/2007 05:06:10 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		86.736%	-0.008	4.019	0.680	0.628	0.552	3.968	5.686	94.485%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.175	0.983	-0.015	-75030.000	-0.020	-0.236	0.013	0.018	0.050

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.377	1.056	-0.112	2.012	0.026	97.685%	0.118	0.002	-0.059

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.002	0.026	99.218%	3.196	-0.059	-0.060	0.016	-0.000	103.322%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.474	0.450	0.040	105.000%

BKS(146) 03/06/2007 05:11:21 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		86.511%	5.259	T 1047.000	1024.000	1107.000	1051.000	1019.000	1137.000	93.836%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		229.600	53.540	57.680	-52430.000	M 112.900	T 1077.000	54.720	54.500	55.330

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		111.500	10.870	0.055	11.390	112.900	96.791%	56.620	10.810	-0.644

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		10.820	11.150	99.393%	62.450	11.340	11.730	111.500	0.066	102.968%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		11.670	11.870	M 112.600	105.231%

S 702113-001-007-1/1 03/06/2007 05:16:32 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		86.610%	0.132	172.800	T 6628.000	6541.000	TH 10250.000	T 680.300	3659.000	99.027%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		772.900	36.360	31.350	-67290.000	H 263.400	TH 15970.000	6.943	46.370	11.200

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		35.000	2.907	0.058	1.063	18.590	103.678%	0.568	0.023	-0.140

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.026	0.129	102.065%	2.427	0.065	0.069	38.430	1.386	105.448%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.363	0.359	5.154	107.952%

SP702113-001-007-1/1 03/06/2007 05:21:43 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		87.557%	5.424	T 1276.000	T 8092.000	7928.000	TH 13460.000	T 1869.000	5765.000	98.163%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		H 1176.000	94.550	86.390	-59580.000	H 388.600	TH 18050.000	59.530	99.900	62.450

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		142.400	13.430	0.021	11.540	128.900	102.974%	53.700	10.410	-0.722

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		10.410	10.880	100.843%	59.790	7.384	7.721	153.400	1.723	104.564%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		11.390	11.510	H 115.100	106.017%

SD702113-001-007-1/1 03/06/2007 05:26:54 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		86.334%	5.379	T 1307.000	T 8222.000	8120.000	TH 13840.000	T 1911.000	6110.000	96.807%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		H 1219.000	H 96.430	91.860	-57160.000	H 405.700	TH 18840.000	60.880	102.600	64.460

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		144.000	13.500	0.047	11.020	132.800	102.136%	55.050	10.530	-0.717

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		10.710	11.120	99.631%	61.420	7.483	7.834	158.000	1.745	103.779%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		11.510	11.760	H 117.500	105.192%

PS702113-001-007-1/1 03/06/2007 05:32:05 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		83.968%	10.120	T 5353.000	T 11550.000	T 11360.000	TH 10730.000	T 5811.000	8602.000	93.766%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		754.700	55.230	50.980	-48890.000	H 331.700	TH 17380.000	36.050	82.220	39.900

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		113.700	81.210	-0.080	67.780	38.210	98.947%	30.760	35.190	-5.580

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		35.000	23.440	97.280%	112.100	82.620	85.840	57.980	1.277	102.426%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		108.700	109.500	88.990	102.930%

SE702113-001-007-1/1 03/06/2007 05:37:17 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		89.569%	0.010	33.830	1170.000	1275.000	T 1943.000	132.500	709.200	100.062%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		150.000	8.759	6.469	-60720.000	52.120	T 3096.000	1.333	8.959	2.243

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		8.086	1.369	-0.066	0.962	3.616	103.844%	0.110	0.005	-0.029

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.005	0.038	105.060%	0.587	0.092	0.096	7.622	0.263	107.751%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.330	0.326	0.983	110.811%

S 702113-002-008-1/1 03/06/2007 05:42:29 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		89.696%	0.165	136.500	T 6916.000	6831.000	TH 11740.000	722.700	3415.000	99.518%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		790.700	38.150	28.950	-65020.000	M 303.700	TH 16920.000	7.770	52.280	9.803

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		35.230	2.258	0.119	0.397	18.090	104.835%	0.181	0.035	-0.141

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.024	0.139	103.188%	2.277	0.086	0.071	48.520	1.188	106.353%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.241	0.244	3.712	107.651%

S 702113-003-009-1/1 03/06/2007 05:47:41 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		88.490%	0.162	157.100	T 3280.000	3299.000	T 9595.000	721.000	5244.000	99.693%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		619.100	30.200	21.250	-65950.000	TM 1187.000	TM 13640.000	6.799	33.190	12.830

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		54.080	4.942	0.053	1.086	41.460	104.438%	0.329	0.082	-0.100

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.082	0.230	103.203%	2.274	0.231	0.262	148.800	0.959	106.495%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.204	0.185	20.600	108.756%

S 702113-004-010-1/1 03/06/2007 05:52:52 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		89.457%	0.158	166.100	T 3278.000	3266.000	TM 9775.000	794.900	5487.000	100.751%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		644.500	31.950	23.670	-66660.000	TM 1130.000	TM 13780.000	6.484	32.390	12.280

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		53.330	3.412	0.112	1.053	42.860	104.705%	0.332	0.086	-0.106

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.075	0.245	103.397%	2.245	0.211	0.185	154.900	1.035	107.058%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.153	0.151	18.900	109.258%

CCV 03/06/2007 05:58:04 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		81.640%	4.727	↹9977.000	↹10180.000	9991.000	↹5100.000	↹9904.000	9966.000	90.105%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		50.030	49.550	49.520	-91820.000	49.330	↹4950.000	47.360	46.490	47.210

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		49.700	48.700	-0.284	50.370	49.820	93.577%	48.780	47.170	-1.544

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		47.560	48.410	95.544%	50.010	49.540	49.860	48.990	0.033	100.083%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		49.170	50.160	50.300	100.899%

CCB 03/06/2007 06:03:16 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		87.301%	0.002	7.265	3.363	3.274	2.143	4.632	10.040	93.914%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.076	1.523	-0.206	-66970.000	0.048	5.373	0.069	0.052	0.095

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.251	0.804	-0.151	0.584	0.076	96.286%	0.130	0.012	-0.018

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.011	0.024	97.817%	0.224	-0.017	-0.026	0.040	-0.001	101.138%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.472	0.452	0.131	102.710%

S 702113-005-011-1/1 03/06/2007 06:08:30 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		92.072%	0.134	T 693.200	T 7009.000	6961.000	T 9746.000	881.200	3191.000	99.469%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		832.900	38.440	31.640	-58410.000	H 216.900	TM 16260.000	6.737	46.800	9.929

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		32.690	2.791	0.036	0.721	15.060	102.818%	0.312	0.025	-0.154

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.022	0.096	100.710%	2.600	0.065	0.067	16.670	1.165	103.963%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.303	0.314	4.508	105.019%

S 702113-006-012-1/1 03/06/2007 06:13:42 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		92.358%	0.217	162.700	T 7602.000	7452.000	TM 14920.000	493.700	5168.000	101.838%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		897.200	42.450	44.250	-58230.000	H 685.900	TM 20430.000	12.040	104.700	9.283

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		52.280	4.990	0.051	0.664	29.710	104.772%	0.271	0.036	-0.128

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.035	0.165	102.411%	2.582	0.156	0.130	128.000	1.195	104.685%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.217	0.222	12.250	106.399%

S 702114-001-001-1/1 03/06/2007 06:18:51 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		92.277%	0.222	247.600	T 5402.000	5332.000	TM 15730.000	806.700	6508.000	100.177%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		H 971.000	45.200	31.840	-56660.000	N 643.100	TM 19240.000	8.312	48.330	11.600

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		62.760	5.649	0.159	1.073	42.030	103.405%	0.273	0.073	-0.125

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.069	0.321	101.363%	2.389	0.175	0.190	118.000	1.175	104.181%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.174	0.165	16.550	106.054%

S 702114-002-002-1/1 03/06/2007 06:24:02 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		91.458%	0.202	315.700	T 3686.000	3695.000	TM 11980.000	676.000	6214.000	101.176%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		748.100	34.360	23.120	-57760.000	TM 1045.000	TM 14690.000	6.796	41.300	11.160

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		73.700	8.032	0.130	0.835	52.180	103.540%	0.289	0.072	-0.112

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.071	0.360	102.512%	2.280	0.381	0.415	228.200	1.069	104.776%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.144	0.140	24.730	107.179%

S 702114-003-003-1/1 03/06/2007 06:29:14 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		89.909%	0.213	401.500	T 5242.000	5243.000	TM 13500.000	834.000	7236.000	100.946%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		819.900	39.760	28.510	-57070.000	M 772.900	TM 17060.000	8.290	42.250	19.080

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		93.660	4.141	0.108	1.097	60.480	103.447%	0.274	0.052	-0.052

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.055	0.242	101.407%	3.257	0.167	0.163	187.600	1.223	104.553%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.119	0.131	48.490	105.891%

S 702114-004-004-1/1 03/06/2007 06:34:26 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		93.435%	0.214	214.000	T 5988.000	5889.000	TM 13450.000	1028.000	5058.000	101.529%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 987.600	46.060	36.480	-61950.000	M 407.700	TM 18180.000	9.358	44.760	11.950

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		47.710	3.620	0.038	1.267	36.890	106.204%	0.198	0.095	-0.073

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.090	0.227	101.563%	2.488	0.135	0.108	75.480	2.332	104.554%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.136	0.138	8.497	105.350%

S 702114-005-005-1/1 03/06/2007 06:39:37 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		89.962%	0.295	194.200	T 5613.000	5589.000	TM 16180.000	T 1502.000	6120.000	99.567%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		978.400	46.200	34.760	-57280.000	H 507.800	TM 18720.000	9.207	40.950	14.080

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		65.730	3.404	0.172	1.017	47.880	103.703%	0.246	0.144	-0.094

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.162	0.285	100.019%	2.312	0.117	0.121	113.900	1.883	103.323%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.155	0.149	11.270	104.486%

S 702114-006-006-1/1 03/06/2007 06:44:49 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		94.392%	0.318	225.600	T 4660.000	4600.000	TM 18420.000	677.000	2516.000	102.888%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		H 999.500	45.270	40.330	-64560.000	H 156.500	TM 17980.000	7.013	43.250	24.410

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		48.990	2.709	0.225	1.179	19.050	105.622%	0.239	0.102	-0.099

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.115	0.136	102.180%	2.256	0.170	0.184	99.340	1.799	104.796%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.145	0.153	34.370	105.646%

S 702114-007-007-1/1 03/06/2007 06:50:00 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		92.817%	0.371	251.000	T 5268.000	5205.000	TM 20910.000	704.300	2962.000	101.274%

Run	Time	47Ti	51V	52Cr	53Cl O55	Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		H 1050.000	48.570	44.510	-60100.000	H 163.200	TM 19650.000	8.023	47.900	24.480

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		53.860	3.255	0.229	1.127	22.940	105.123%	0.215	0.143	-0.130

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.163	0.189	101.118%	2.780	0.156	0.144	120.200	2.178	103.486%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.156	0.139	29.720	104.600%

S 702114-008-008-1/1 03/06/2007 06:55:11 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		93.949%	0.166	223.700	T 8727.000	8589.000	TM 11030.000	808.400	4339.000	101.051%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		891.300	42.490	34.400	-60510.000	H 343.400	TM 18390.000	9.130	57.100	23.690

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		37.860	2.761	0.061	0.382	22.830	105.191%	0.161	0.034	-0.222

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.038	0.191	101.138%	5.631	0.268	0.265	57.390	1.956	103.894%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.088	0.087	H 298.200	103.991%

CCV 03/06/2007 07:00:23 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		85.818%	4.863	τ 10200.000	τ 10330.000	10110.000	τ 5125.000	τ 10010.000	10070.000	88.776%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		50.290	50.760	50.680	-85510.000	50.370	τ 5067.000	48.510	48.400	48.240

Run	Time	66Zn75	As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		50.390	49.150	-0.201	48.840	50.270	91.305%	49.850	48.460	-1.763

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		48.770	49.630	92.006%	51.270	50.150	50.550	50.540	0.037	96.491%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		50.260	50.810	50.960	97.171%

CCB 03/06/2007 07:05:34 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		88.392%	-0.003	7.700	4.992	5.067	3.969	5.697	11.600	92.915%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.311	1.288	-0.173	-55810.000	0.140	7.166	0.070	0.069	0.100

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.185	0.369	-0.082	0.494	0.102	94.836%	0.098	0.014	-0.028

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.018	0.049	96.689%	0.170	-0.008	0.004	0.072	-0.001	99.831%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.422	0.413	0.158	101.416%

S 702114-009-009-1/1 03/06/2007 07:10:46 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		92.014%	0.155	181.200	T 6786.000	6704.000	T 9210.000	759.900	4088.000	100.281%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		800.300	37.420	26.530	-54930.000	M 307.800	TM 15240.000	7.448	43.950	23.920

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		94.440	3.321	0.027	0.533	21.630	103.772%	0.193	0.062	-0.096

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.068	0.143	100.645%	4.529	5.534	5.621	38.410	1.561	103.758%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.237	0.240	H 681.400	106.342%

S 702114-010-010-1/1 03/06/2007 07:15:58 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		90.231%	0.162	T 557.700	T 8661.000	8505.000	TM 11790.000	958.900	4926.000	98.271%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		893.400	44.010	36.840	-51660.000	M 282.400	TM 18560.000	8.432	62.340	45.310

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		42.190	3.891	0.046	0.755	30.860	103.199%	0.173	0.053	-0.113

Run	Time	109Ag	110Cd11	5In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.047	0.146	99.323%	5.711	0.373	0.393	36.930	1.880	102.433%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.153	0.169	M 275.900	103.993%

ICSA 03/06/2007 07:26:18 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		69.255%	-0.001	TM 245200.000	TM 99080.000	TM 100100.000	TM 100300.000	TM 100300.000	TM 306100.000	76.124%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 2088.000	1.723	0.564	-124500.000	-0.138	TM 241100.000	0.045	0.091	0.354

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		2.222	0.737	0.308	1.708	4.266	79.071%	M 1959.000	0.086	1.442

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.089	-0.008	81.248%	0.188	0.206	0.217	0.564	0.031	86.190%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.154	0.142	0.149	80.202%

ICSAB 03/06/2007 07:31:29 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		65.346%	18.400	TM 249100.000	TM 100500.000	TM 100800.000	TM 100400.000	TM 101000.000	TM 309200.000	73.482%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 2091.000	21.960	22.140	-125400.000	21.150	TM 241000.000	19.850	18.700	18.260

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		20.670	21.060	0.124	20.530	26.950	76.987%	M 1979.000	18.190	0.700

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		18.450	19.430	79.846%	22.670	21.540	21.950	22.420	0.061	85.351%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		23.120	23.560	22.800	79.972%

CCV 03/06/2007 07:36:41 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		75.696%	4.724	τ 10180.000	τ 10440.000	10220.000	τ 5184.000	τ 10120.000	10070.000	84.424%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		50.230	50.140	49.830	-96660.000	50.100	τ 5034.000	47.510	46.660	47.450

Run	Time	66Zn75	As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		50.280	49.020	-0.293	50.760	49.880	89.798%	49.870	47.800	-1.580

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		48.080	49.180	92.166%	50.990	50.470	51.250	49.500	0.047	98.995%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		50.030	50.600	50.550	101.253%

CCB 03/06/2007 07:47:02 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		78.618%	-0.004	14.460	7.381	7.896	6.650	7.418	17.740	86.144%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.412	1.627	-0.326	-81720.000	0.185	9.099	0.072	0.080	0.107

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.026	0.535	-0.164	0.803	0.099	91.381%	0.206	0.026	0.035

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.024	0.023	94.213%	0.132	-0.010	-0.009	0.101	-0.001	99.308%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.245	0.239	0.175	102.452%

BLK(083) 03/06/2007 07:52:15 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		80.860%	-0.013	67.150	2.337	2.406	20.410	8.809	39.650	87.930%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.438	0.844	0.017	-58730.000	0.002	-0.510	0.002	0.061	0.701

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		3.429	0.145	-0.013	-0.858	0.140	91.903%	0.079	0.016	-0.014

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.016	0.012	94.212%	0.162	-0.005	-0.012	0.507	-0.002	99.872%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.167	0.179	0.202	101.834%

S MDL(3010)-1 03/06/2007 07:57:28 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		82.365%	0.178	416.800	96.170	102.900	75.710	90.390	557.600	88.745%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		2.736	2.740	3.215	-62430.000	0.791	112.000	2.965	7.801	4.172

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		22.080	11.500	-0.041	7.932	0.983	92.068%	1.886	3.014	0.056

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		2.980	0.810	94.188%	5.986	9.886	9.831	1.913	-0.001	99.998%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		20.760	21.030	3.346	101.886%

S MDL(3010)-2 03/06/2007 08:02:40 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		83.142%	0.173	420.100	104.100	110.900	74.020	83.060	500.800	88.306%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		2.553	3.025	3.261	-58190.000	0.817	113.100	3.016	7.934	4.107

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		16.230	10.130	0.081	7.212	0.889	92.139%	1.966	2.962	-0.077

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		2.986	0.836	94.088%	6.005	9.681	9.811	1.950	0.001	99.652%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		20.730	21.020	3.470	102.072%

S MDL(3010)-3 03/06/2007 08:07:50 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		83.358%	0.192	414.300	99.350	106.800	75.670	90.630	491.500	89.429%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		2.226	3.295	2.970	-77710.000	0.783	112.100	2.931	7.805	3.884

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		15.550	11.300	-0.242	8.212	0.828	92.563%	1.966	2.865	0.012

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		2.901	0.922	95.373%	5.777	9.735	9.798	1.851	0.001	100.655%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		20.850	21.030	3.297	102.217%

S MDL(3010)-4 03/06/2007 08:13:02 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		84.516%	0.183	428.200	108.600	115.100	74.630	87.580	760.000	86.853%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		2.302	3.081	3.279	-47670.000	0.834	115.800	2.998	7.809	4.696

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		25.520	10.810	0.081	7.932	1.291	90.759%	1.998	2.997	-0.030

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		2.963	0.806	92.543%	6.073	9.787	9.899	2.104	0.000	98.150%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		21.000	21.200	3.431	100.914%

S MDL(3010)-5 03/06/2007 08:18:14 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		84.675%	0.199	424.000	111.300	118.500	73.540	88.330	501.900	88.876%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		2.434	3.357	3.064	-70770.000	0.844	115.500	2.904	8.044	4.243

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		15.440	10.340	-0.152	7.822	0.931	91.958%	1.873	2.938	-0.001

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		2.914	0.926	94.077%	5.951	9.759	9.604	2.128	0.000	99.515%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		20.750	21.110	3.489	101.295%

S MDL(3010)-6 03/06/2007 08:23:24 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		84.893%	0.178	432.700	115.800	123.200	73.980	90.990	501.700	87.734%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		2.566	2.632	3.394	-38150.000	0.861	116.200	3.022	8.147	4.293

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		14.120	10.730	0.120	7.629	0.920	90.597%	1.933	3.011	-0.003

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		3.003	0.863	92.484%	6.193	10.230	10.120	2.137	0.001	97.909%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		20.700	21.200	3.664	100.518%

S MDL(3010)-7 03/06/2007 08:28:37 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		83.745%	0.157	437.600	110.200	115.500	75.630	97.110	493.500	87.324%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		3.030	1.395	3.351	-35620.000	0.869	115.900	2.919	8.005	4.092

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		14.610	11.120	0.101	7.728	0.933	90.870%	2.005	2.941	0.004

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		2.984	0.914	92.398%	6.015	10.040	9.940	2.057	-0.001	98.363%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		20.730	21.020	3.364	100.869%

CCV 03/06/2007 08:33:48 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		79.706%	4.612	τ 10250.000	τ 10390.000	10080.000	τ 5245.000	τ 10240.000	10210.000	85.158%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		50.660	49.750	50.280	-68230.000	50.090	τ 5125.000	47.310	46.450	46.650

Run	Time	66Zn75	As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		50.150	48.740	-0.135	48.040	50.130	89.656%	49.300	47.710	-1.486

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		47.990	49.110	91.581%	51.070	50.300	50.840	49.160	0.038	97.595%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		50.120	50.760	50.540	99.218%

CCB 03/06/2007 08:39:00 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		82.171%	-0.004	28.150	16.840	17.740	14.060	17.000	36.530	86.973%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.517	1.010	-0.223	-56530.000	0.208	25.750	0.096	0.113	0.124

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.017	0.580	-0.152	1.136	0.135	90.573%	0.288	0.045	-0.011

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.038	0.072	93.118%	0.147	0.024	0.014	0.114	0.000	97.986%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.503	0.515	0.195	101.052%

Metals Preparation & Sample Description Log

Date: 2-28-07 Prep: 200.7 / 3005A / 3020A / 3050B (Sieved) / 3010A / ILC03.1 / ILM04.1 / ILM05.3 Batch No: 187- 146

Analyst: MI Comments: MOD BLOCK DIGESTION (Soil)

Reviewed by: RA Date: 3-7-07 Spike Witness: D-SS Pep. Seq: 96782

	GPL Work Order No.	Sample	Frac	Size mL (g)	Final Vol. (mL)	Matrix S, W Other	Color Before	Color After	Clarity Before or Soil Texture	Clarity After Clear, Cloudy, Opaque	Soil Artifacts or Water pH
							R, Bl, Y, G, O, V, W, Colorless, Br, Grey, Bk.				
1	BLK	146		1.00	100	S				clear	
2	BKS	146		1.00							
3	702113	001	-007-i	1.21		Soil	Brown	Yellow	Moist		
4		MS		1.23							
5		MSD		1.27							
6		002	-008-i	1.24							
7		003	-009-i	1.19							
8		004	-010-i	1.19							
9		005	-011-i	1.24							
10		006	-012-i	1.22							
11	702114	001	-001-i	1.20							
12		002	-002-i	1.33							
13		003	-003-i	1.20							
14		004	-004-i	1.27							
15		005	-005-i	1.32							
16		006	-006-i	1.21							
17		007	-007-i	1.35							
18		008	-008-i	1.27							
19		009	-009-i	1.16							
20		010	-010-i	1.26							
21	702086	002	-002-i	2.13		Liquid					
22		003	-003-i	2.17							
23					MI		2-8-07				
24											

LCS ID/ Amt. Added (ml ,g): 0.2 ml (38355, 38356, 38357)

Spiking ID / Amt. Added (ml): 0.2 ml (38355, 38356, 38357)

10ML HNO3, 10ML Nel CNC, 7ML Peroxide, 10ML HCL CNC

Temperature C: 94°C

HNO3(1+1) ID: GP-057-142-02

HNO3(conc) ID: GP-129-09-16

HCl(conc) ID: GP-129-09-06

HCl(1+1) ID: -

Peroxide ID: GP-129-09-10

SHAW SOIL DRYING LOGBOOK

BALANCE ID: SARTORIUS - BL - 610 REVIEWED BY: RA 3-7-07

Work Order	Fraction	Starting Date	Initials	Wet Weight(g)	2nd Weighing(g)	Confirming Weighing(g)	After 10 mesh seive Weighing(g)	Date	Initials
702081	002	2-19-07	DSS	257.13	202.25	202.25	180.16	2-21-07	ovP
	003			204.39	171.44	171.44	163.85		
	004			252.13	206.34	206.34	192.43		
	005			193.78	156.92	156.92	154.55		
	006			276.94	233.35	233.35	225.04		
	007			221.87	173.15	173.18	167.16		
	008			219.52	179.11	179.11	176.95		
	009			305.79	248.62	248.62	240.03		
	010			286.14	239.19	239.19	205.81		
702112	001	2-26-07	ovP.	209.32	~~166.24~~ 168.03	168.03	112.38	2-28-07	D.S.S.
	002			192.31	154.71	154.71	149.14		
	003			177.58	128.56	128.56	112.58		
	004			131.67 DSS	~~112.58~~ 81.94	~~112.58~~ 81.94	73.63		
	005			147.92	110.44	110.44	101.91		
	006			176.88	128.85	128.85	126.01		
	007			156.37	151.60	151.60	126.43		
	008			207.09	176.68	176.68	142.35		
	009			169.78	122.55	122.55	119.38		
	010			208.62	154.32	154.32	151.55		
	011			207.04	152.24	152.24	150.73		
	012			203.00	164.81	164.81	162.45		
	013			379.36	336.66	336.66	315.47		
702113	001			206.34	166.24	166.24	134.05	2-27-07	ovP
	002			223.86	191.46	191.46	162.43		
	003			156.30	120.62	120.62	90.69		
	004			157.08	121.72	121.72	93.42		
	005			196.46	171.26	171.25	152.28		

COMMENTS:

SHAW SOIL DRYING LOGBOOK

REVIEWED BY: RA 3-7-07

BALANCE ID: _____

Work Order	Fraction	Starting Date	Initials	Wet Weight(g)	2nd Weighing(g)	Confirming Weighing(g)	After 10 mesh seive Weighing(g)	Date	Initials
702113	006	2-26-07	N.P.	190.46	159.19	159.19	108.54	2-27-06	N.P
↓	007	↓	↓	295.22	255.56	255.55	192.11	↓	↓
702114	001	2-26-07	N.P	170.98	132.06	132.06	120.00	2-28-06	D.S.S
↓	002	↓	↓	134.51	91.68	91.68	87.31	↓	↓
	003			183.22	124.90	124.90	123.08		
	004			273.42	170.97	170.97	168.22		
	005			189.44	127.03	127.03	125.70		
	006			212.72	149.40	149.40	148.25		
	007			170.94	118.14	118.14	117.17		
	008			236.91	213.80	213.80	203.21		
	009			N.P. ~~188.40~~ 183.55	155.84	155.84	140.01		
	010			267.49	193.37	193.37	177.89	↓	↓
703019	001								
	002								
	003								
	*004								
	005								
	006								
	*007								
	008								
	009								
	010								
	011								
	*012								
	013								
	014								
	015								

COMMENTS: _____

Analytical Report For 702114

for

Shaw E&I, Inc

Project Manager: Tim Roth

Project Name: Fort Flagler Military Reservation - 039

GPL

Laboratories

GPL Laboratories, LLLP certifies that the test results meet all requirements of the NELAC Standards unless otherwise noted.

Reviewed By,
Project Manager

Approved By,
Laboratory Director

Case Narrative

Shaw E&I, Inc

Fort Flagler Military Reservation - 039

Work Order: 702114

Reviewed By

The Case Narrative, Chain of Custody, Sample Receipt Checklist, and the cover page of the Sample Analysis Report, are integral parts of GPL Laboratories' report package. If you did not receive all of these documents, please contact GPL immediately.

Sample Receipt

Ten soil samples were received on 02/23/2007. The samples were delivered by Federal Express. Sample receipt conditions and temperatures are documented on the Sample Receipt checklist.

Sample Analysis

Samples were prepared and analyzed by GPL using the analytical methodologies indicated on the Sample Analysis Summary Report. In some chromatographic analyses, manual integration is used instead of automated integration because it produces more accurate results. All manual integrations are denoted on the sample quantitation report. Analysis results and limits for soil are reported on a dry weight basis unless otherwise specified on the report.

Metals

Ten soil samples were analyzed only for lead by EPA SW846 methods. The samples were analyzed by ICPMS.

The soil samples were air dried, crushed, and then sieved. The sieved samples were digested for all analytes. All the samples are assumed one hundred percent solid because dried samples were used for the digestions.

On form one, The software flags all results for specific elements with a B qualifier if they have a result above two times the MDL and less than ½ the reporting limit for a continuing calibration blank, initial calibration blank or interference check solution A.

The matrix spike, matrix spike duplicate, and serial dilutions were shared with GPL work order 702113-001 for all required ICPMS analytes. They were within the control limits

Calibration standards are verified against independent check standards purchased from a commercial vendor of environmental standards.

All GPL QA/QC criteria were met.

Pat Weaberlum

Reviewed By,

Project Manager

Approved By,

Laboratory Director

Sample Summary Report

Shaw E&I, Inc

Work Order: 702114

Client Sample ID	Lab Sample ID	Analytical Method	Matrix	Date Sampled	Date Recieved
NWO-039-0002	702114-001-001-1/1	SW6020	SOIL	02/21/2007	02/23/2007
NWO-039-0003	702114-002-002-1/1	SW6020	SOIL	02/21/2007	02/23/2007
NWO-039-0004	702114-004-004-1/1	SW6020	SOIL	02/21/2007	02/23/2007
NWO-039-0005	702114-005-005-1/1	SW6020	SOIL	02/21/2007	02/23/2007
NWO-039-0011	702114-008-008-1/1	SW6020	SOIL	02/21/2007	02/23/2007
NWO-039-0012	702114-009-009-1/1	SW6020	SOIL	02/21/2007	02/23/2007
NWO-039-1002	702114-003-003-1/1	SW6020	SOIL	02/21/2007	02/23/2007
NWO-039-1003	702114-006-006-1/1	SW6020	SOIL	02/21/2007	02/23/2007
NWO-039-1004	702114-007-007-1/1	SW6020	SOIL	02/21/2007	02/23/2007
NWO-039-1006	702114-010-010-1/1	SW6020	SOIL	02/21/2007	02/23/2007

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-0002	Lab Sample ID:	702114-001-001-1/1
Sample Date/Time:	02/21/2007 10:55	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 14:20	Preparation Method:	SW3050B
Prepared Date/Time:	02/28/2007 00:00	Analytical Method:	SW6020

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Lead**	**13.8**	**DB**	**1.7**	**10**	**mg/kg**	**03/06/07**	**18:18**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-0003	Lab Sample ID:	702114-002-002-1/1
Sample Date/Time:	02/21/2007 10:50	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 14:20	Preparation Method:	SW3050B
Prepared Date/Time:	02/28/2007 00:00	Analytical Method:	SW6020

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Lead**	**18.6**	**DB**	**1.5**	**10**	**mg/kg**	**03/06/07**	**18:24**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-1002	Lab Sample ID:	702114-003-003-1/1
Sample Date/Time:	02/21/2007 10:45	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 14:20	Preparation Method:	SW3050B
Prepared Date/Time:	02/28/2007 00:00	Analytical Method:	SW6020

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Lead**	**40.4**	**DB**	**1.7**	**10**	**mg/kg**	**03/06/07**	**18:29**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-0004	Lab Sample ID:	702114-004-004-1/1
Sample Date/Time:	02/21/2007 16:10	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 14:20	Preparation Method:	SW3050B
Prepared Date/Time:	02/28/2007 00:00	Analytical Method:	SW6020

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Lead**	**6.7**	**DB**	**1.6**	**10**	**mg/kg**	**03/06/07**	**18:34**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-0005	Lab Sample ID:	702114-005-005-1/1
Sample Date/Time:	02/21/2007 16:00	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 14:20	Preparation Method:	SW3050B
Prepared Date/Time:	02/28/2007 00:00	Analytical Method:	SW6020

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Lead**	**8.5**	**DB**	**1.5**	**10**	**mg/kg**	**03/06/07**	**18:39**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-1003	Lab Sample ID:	702114-006-006-1/1
Sample Date/Time:	02/21/2007 16:05	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 14:20	Preparation Method:	SW3050B
Prepared Date/Time:	02/28/2007 00:00	Analytical Method:	SW6020

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Lead**	**28.4**	**DB**	**1.7**	**10**	**mg/kg**	**03/06/07**	**18:44**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-1004	Lab Sample ID:	702114-007-007-1/1
Sample Date/Time:	02/21/2007 16:05	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 14:20	Preparation Method:	SW3050B
Prepared Date/Time:	02/28/2007 00:00	Analytical Method:	SW6020

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Lead**	**22.0**	**DB**	**1.5**	**10**	**mg/kg**	**03/06/07**	**18:50**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-0011	Lab Sample ID:	702114-008-008-1/1
Sample Date/Time:	02/21/2007 11:40	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 14:20	Preparation Method:	SW3050B
Prepared Date/Time:	02/28/2007 00:00	Analytical Method:	SW6020

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Lead**	**235**	**DB**	**1.6**	**10**	**mg/kg**	**03/06/07**	**18:55**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-0012	Lab Sample ID:	702114-009-009-1/1
Sample Date/Time:	02/21/2007 11:45	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 14:20	Preparation Method:	SW3050B
Prepared Date/Time:	02/28/2007 00:00	Analytical Method:	SW6020

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Lead**	**587**	**DB**	**1.7**	**10**	**mg/kg**	**03/06/07**	**19:10**

Analytical Summary Report

Client Name:	Shaw E&I, Inc	Sample Matrix:	SOIL
Client Sample ID:	NWO-039-1006	Lab Sample ID:	702114-010-010-1/1
Sample Date/Time:	02/21/2007 11:30	Percent Moisture:	NA
Receipt Date/Time:	02/23/2007 14:20	Preparation Method:	SW3050B
Prepared Date/Time:	02/28/2007 00:00	Analytical Method:	SW6020

#	Parameter	Reported Result	Q	Reporting Limit	Dil Fact	Units	Analysis Date/Time	
1)	**Lead**	**219**	**DB**	**1.6**	**10**	**mg/kg**	**03/06/07**	**19:15**

Qualifier Definitions

Shaw E&I, Inc

Work Order: 702114

All Departments

U Indicates that the compound was analyzed for but not detected

BQL Below Quantitation Limit

Organics

B Indicates that the analyte was found in the associated blank as well as in the sample

D Indicates that the analyte was reported from a diluted analysis

E Indicates that the concentration detected exceeded the calibration range of the instrument

J Value is less than the reporting limit but greater than the MDL

P Indicates that there is greater than 25% difference for detected pesticide/Arochlor results between the two GC columns

Metals

J Indicates that the reported value was less than the reporting limit but greater than or equal to the IDL/MDL

E Indicates that the reported value is estimated because of the possible presence of interference (i.e. the serial dilution not within control limits)

H Indicates that the element was found in the associated blank as well as in the sample and the value is greater than or equal to the reporting limit

D Indicates that the analyte was reported from a diluted analysis

N Spiked sample recovery not within control limits

* Duplicate analysis not within control limits

GPL Laboratories
7210A Corporate Ct.
Frederick, MD 21703
301-694-5310

CHAIN OF CUSTODY

CoC Number: NWO039-002

PAGE: 1 OF 1

GPL Project Manager: Tim Mestel
Project Name: FUDS MMRP NWO
Project Number: 10128
Client Name: Shaw Environmental, Inc / Tim Rath
Address: 312 Directors Drive
City, State: Knoxville, TN
Phone: 865.560.3372
Cell:
Zip Code: 37923
Disposal requirements:
Shipment Method: FedEx
Waybill Number:

Comments:
Rush analysis Required - 2-Analyses

Shaw MMRP FUDS Site - 039 Flagler Military Reservation

Preservative and Containers: 8 oz GWS 14 °C; NA

Sample Information / Methods for Analysis

No.	F ELD Sample ID	Date Sampled	Time Sampled	Matrix	Sampler's Initials	Lead only by SW-846 6020A	GPL SOP HM-8 No. 10 Sieve							Filter	TOTAL BOTTLES
1	NWO-039-0002	02/21/07	10:55	SD	SP	X	X							N	1
2	NWO-039-0003	02/21/07	10:50	SD	SP	X	X							N	1
3	NWO-039-0002	02/21/07	10:45	SD	SP	X	X							N	1
4	NWO-039-0001	02/21/07	16:10	SD	SP	X	X							N	1
5	NWO-039-0005	02/21/07	16:00	SD	SP	X	X							N	1
6	NWO-039-0004	02/21/07	16:05	SD	SP	X	X							N	1
7	NWO-039-0001	02/21/07	16:05	SD	SP	X	X							N	1
8	NWO-039-0011	02/21/07	11:40	SD	SP	X	X							N	1
9	NWO-039-0012	02/21/07	11:35	SD	SP	X	X							N	1
10	NWO-039-0008	02/21/07	11:30	SD	SP	X	X							N	1

Sample Matrix: SO= Soil; SD= Sediment

TAT Requirement: 21 Days

Total number of samples

Relinquished By:	Date:	Time:
[signature]	02/21/07	12:35
Received By:	Date:	Time:
Relinquished By:	Date:	Time:
Received By: [signature]	2/23/07	10 AM
Relinquished By:	Date:	Time:

For Lab Use

GPL WORK ORDER #: 702114

PURCHASE ORDER #:

COOLER RECEIPT CONDITION

GPL Laboratories, LLLP
7210A Corporate CT, Frederick, MD 21703
Tel. (301)694-5310 Fax (301)620-0731

Chain of Custody

Shaw E&I, Inc

SDG: 702114

FedEx. Billable Stamp
Express

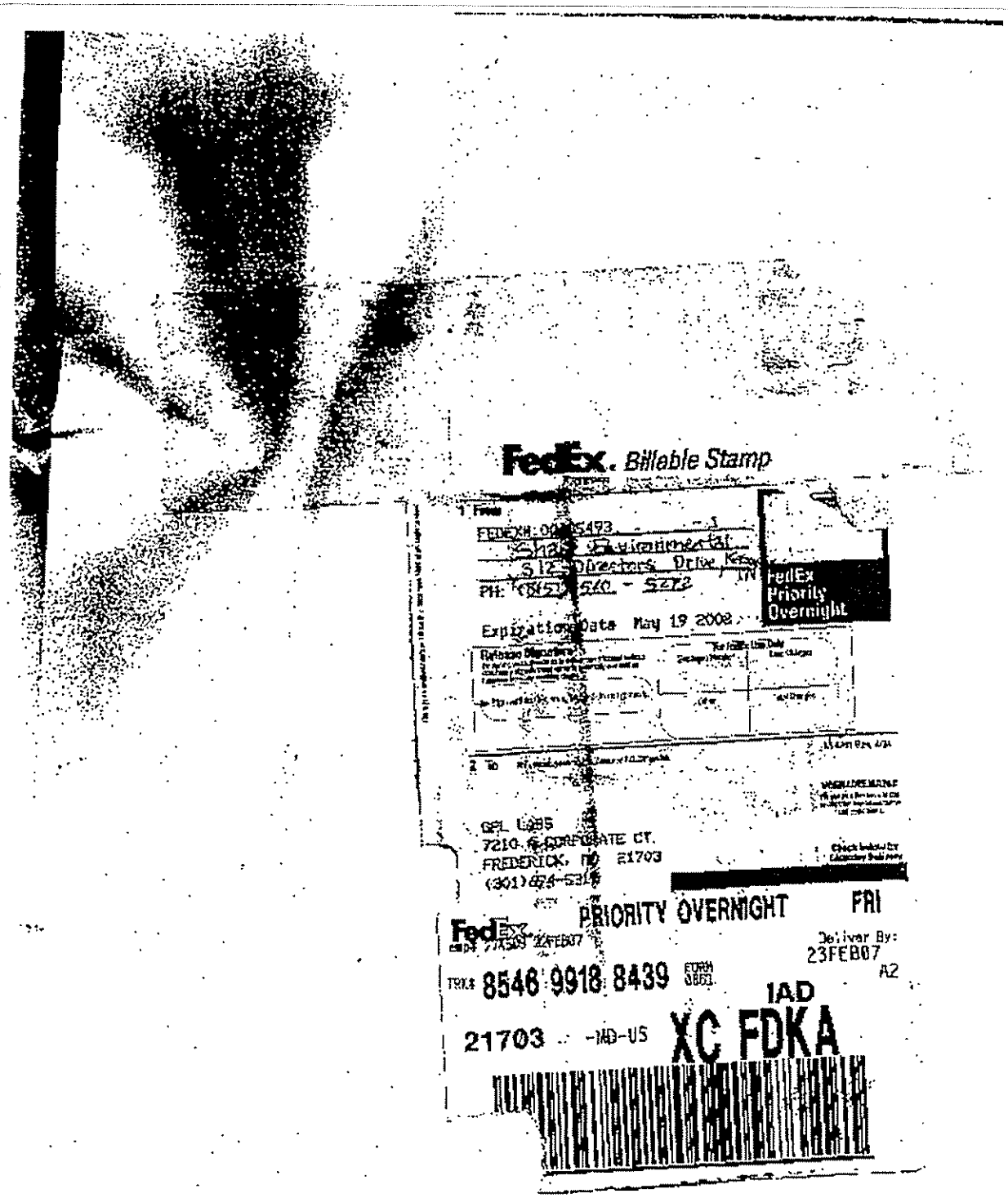
1 From
FEDEX#: 00685493
Shaw Env.
512 Directors Drive Knoxville TN
PH: (865) 576 - 5272

Expiration Date: May 19 2006

FedEx Priority Overnight

2 To
GPL LABS
7210 A CORPORATE CT.
FREDERICK, MD 21703
(301)694-5310

FedEx PRIORITY OVERNIGHT FRI
Trk# 8546 9918 8440
Deliver By: 23FEB07
A2
21703 -MD-US IAD XC FDKA


FedEx. Billable Stamp
FedEx Priority Overnight
Expiration Date May 19 2008
GPL LABS
7210 A CORPORATE CT.
FREDERICK, MD 21703
PRIORITY OVERNIGHT
FRI
Deliver By:
23FEB07
A2
TRK# 8546 9918 8439
IAD
21703 -MD-US
XC FDKA

TRACE METALS

GPL Laboratories

USEPA - CLP

COVER PAGE

Lab Name: GPL LABORATORIES, LLLP Contract:

Lab Code: Case No.: NRAS No.: SDG No.: 702114

SOW No.: SW846

EPA Sample No.	Lab Sample ID
NWO-039-0002	S 702114-001-001-1/1
NWO-039-0003	S 702114-002-002-1/1
NWO-039-0004	S 702114-004-004-1/1
NWO-039-0005	S 702114-005-005-1/1
NWO-039-0006	S 702113-001-007-1/1
NWO-039-0006 MS	SP702113-001-007-1/1
NWO-039-0006 MSD	SD702113-001-007-1/1
NWO-039-0011	S 702114-008-008-1/1
NWO-039-0012	S 702114-009-009-1/1
NWO-039-1002	S 702114-003-003-1/1
NWO-039-1003	S 702114-006-006-1/1
NWO-039-1004	S 702114-007-007-1/1
NWO-039-1006	S 702114-010-010-1/1

		ICP-AES	ICP-MS
Were ICP-AES and ICP-MS interelement corrections applied?	(Yes/No)	YES	YES
Were ICP-AES and ICP-MS background corrections applied?	(Yes/No)	YES	YES
if yes, were raw data generated before application of background corrections?	(Yes/No)	NO	YES

Comments:

I certify that this Sample Data Package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy Sample Data Package and in the computer-readable data submitted on diskette (or via an alternate means of electronic transmission, if approved in advance by USEPA) has been authorized by the Laboratory Manager or the Manager's designee, as referred by the following signature.

Signature: kc Name: Kelvin K Choi

Date: 3/8/2007 Title: Chemist

GPL Laboratories, LLLP

Sample Results

Project:	702114	Matrix:	Soil
Lab Sample ID:	S 702114-001-001-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-0002	Prep Batch:	96782
Analysis Method:	6020 ICPMS Analysis	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Lead	208	0.066	1.7	13.8	DB	10	03/06/07 18:18

U = The analyte concentration was less than the MDL

J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Sample Results

Project:	702114	Matrix:	Soil
Lab Sample ID:	S 702114-002-002-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-0003	Prep Batch:	96782
Analysis Method:	6020 ICPMS Analysis	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Lead	208	0.059	1.5	18.6	DB	10	03/06/07 18:24

U = The analyte concentration was less than the MDL
J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4 SW846

GPL Laboratories, LLLP

Sample Results

Project:	702114	Matrix:	Soil
Lab Sample ID:	S 702114-003-003-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-1002	Prep Batch:	96782
Analysis Method:	6020 ICPMS Analysis	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Lead	208	0.066	1.7	40.4	DB	10	03/06/07 18:29

U = The analyte concentration was less than the MDL
J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Sample Results

Project:	702114	Matrix:	Soil
Lab Sample ID:	S 702114-004-004-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-0004	Prep Batch:	96782
Analysis Method:	6020 ICPMS Analysis	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Lead	208	0.062	1.6	6.7	DB	10	03/06/07 18:34

U = The analyte concentration was less than the MDL

J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4 SW846

GPL Laboratories, LLLP

Sample Results

Project:	702114	Matrix:	Soil
Lab Sample ID:	S 702114-005-005-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-0005	Prep Batch:	96782
Analysis Method:	6020 ICPMS Analysis	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Lead	208	0.060	1.5	8.5	DB	10	03/06/07 18:39

U = The analyte concentration was less than the MDL
J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4 SW846

GPL Laboratories, LLLP

Sample Results

Project:	702114	Matrix:	Soil
Lab Sample ID:	S 702114-006-006-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-1003	Prep Batch:	96782
Analysis Method:	6020 ICPMS Analysis	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Lead	208	0.065	1.7	28.4	DB	10	03/06/07 18:44

U = The analyte concentration was less than the MDL
J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4 SW846

GPL Laboratories, LLLP

Sample Results

Project:	702114	Matrix:	Soil
Lab Sample ID:	S 702114-007-007-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-1004	Prep Batch:	96782
Analysis Method:	6020 ICPMS Analysis	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Lead	208	0.059	1.5	22.0	DB	10	03/06/07 18:50

U = The analyte concentration was less than the MDL
J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Sample Results

Project:	702114	Matrix:	Soil
Lab Sample ID:	S 702114-008-008-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-0011	Prep Batch:	96782
Analysis Method:	6020 ICPMS Analysis	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Lead	208	0.062	1.6	235	DB	10	03/06/07 18:55

U = The analyte concentration was less than the MDL

J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Sample Results

Project:	702114	Matrix:	Soil
Lab Sample ID:	S 702114-009-009-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-0012	Prep Batch:	96782
Analysis Method:	6020 ICPMS Analysis	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Lead	208	0.068	1.7	587	DB	10	03/06/07 19:10

U = The analyte concentration was less than the MDL
J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Sample Results

Project:	702114	Matrix:	Soil
Lab Sample ID:	S 702114-010-010-1/1	Percent Moisture:	0.0
Client Sample ID:	NWO-039-1006	Prep Batch:	96782
Analysis Method:	6020 ICPMS Analysis	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Lead	208	0.063	1.6	219	DB	10	03/06/07 19:15

U = The analyte concentration was less than the MDL

J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4 SW846

GPL Laboratories, LLLP

Preparation Blank Results

Project:	702114	Matrix:	Soil
Lab Sample ID:	BLK96782	Percent Moisture:	0.0
Client Sample ID:	NA	Prep Batch:	96782
Analysis Method:	6020 ICPMS Analysis	Reporting Units:	mg/kg

Analyte	WL/ Mass	Method Detection Limit	Reporting Limit	Reported Result	Q	Dilution Factor	Analysis Date/Time
Lead	208	0.079	2.0	0.079	UD	10	03/06/07 17:06

U = The analyte concentration was less than the MDL

J = Reported value was less than the CRQL but greater than or equal to the MDL

URIT Version 4.3.4 SW846

GPL Laboratories, LLLP

Initial Calibration Verification

Project:	702114	Instrument:	3050X
Units:	ug/L	Data File Name:	070306MS.csv
Standard Source:	AB.ST.	Standard ID:	

Analyte	True	ICV 3/6/2007 3:53:41 PM							
		Found	%R	Found	%R	Found	%R	Found	%R
Lead	40.0	43.01	108						

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Continuing Calibration Verification

Project:	702114	Instrument:	3050X
Units:	ug/L	Data File Name:	070306MS.csv
Standard Source:	H.P.	Standard ID:	

Analyte	True	CCV1 3/6/2007 4:09:15 PM		CCV2 3/6/2007 4:55:47 PM		CCV3 3/6/2007 5:58:04 PM		CCV4 3/6/2007 7:00:23 PM	
		Found	%R	Found	%R	Found	%R	Found	%R
Lead	50.0	50.08	100	50.49	101	50.29	101	50.96	102

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Continuing Calibration Verification

Project:	702114	Instrument:	3050X
Units:	ug/L	Data File Name:	070306MS.csv
Standard Source:	H.P.	Standard ID:	

Analyte	True	CCV5 3/6/2007 7:36:41 PM							
		Found	%R	Found	%R	Found	%R	Found	%R
Lead	50.0	50.55	101						

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Low Level Check Standard

Project:	702114	Instrument:	3050X
Units:	ug/L	Data File Name:	070306MS.csv
Standard Source:	H.P.	Standard ID:	

Analyte	True	PQL 3/6/2007 4:19:38 PM							
		Found	%R	Found	%R	Found	%R	Found	%R
Lead	2.0	1.95	98						

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Initial Calibration Blanks

Project:	702114	Instrument:	3050X
Units:	ug/L	Data File Name:	070306MS.csv
Standard Source:		Standard ID:	

Analyte	RL	ICB 3/6/2007 4:04:04 PM							
		Found	Flag	Found	Flag	Found	Flag	Found	Flag
Lead	2.00	0.08	U						

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Continuing Calibration Blanks

Project:	702114	Instrument:	3050X
Units:	ug/L	Data File Name:	070306MS.csv
Standard Source:		Standard ID:	

Analyte	RL	CCB1 3/6/2007 4:14:27 PM		CCB2 3/6/2007 5:00:59 PM		CCB3 3/6/2007 6:03:16 PM		CCB4 3/6/2007 7:05:34 PM	
		Found	Flag	Found	Flag	Found	Flag	Found	Flag
Lead	2.00	0.08	U	0.08	U	0.13	J	0.16	J

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Continuing Calibration Blanks

Project:	702114	Instrument:	3050X
Units:	ug/L	Data File Name:	070306MS.csv
Standard Source:		Standard ID:	

Analyte	RL	CCB5 3/6/2007 7:47:02 PM							
		Found	Flag	Found	Flag	Found	Flag	Found	Flag
Lead	2.00	0.17	J						

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Interference Check Standards

Project:	702114	Instrument:	3050X
Units:	ug/L	Data File Name:	070306MS.csv
Standard Source:	H.P. /LAB. ST.	Standard ID:	

Analyte	RL	True		Initial Found				Final Found			
		Sol. A	Sol. B	ICSA 03/06/07 16:24	%R	ICSAB 03/06/07 16:35	%R		%R		%R
Lead	2		20	0.12		21.9	110				

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Matrix Spike Recovery

Client ID:	NWO-039-0006 MS	Lab Sample ID:	SP702113-001-007-1/1
Project:	702114	Instrument:	3050X
Units:	mg/kg	Data File Name:	070306MS.csv
Standard Source:	H.P.	Standard ID:	

Analyte	Spiked Sample Result 03/06/07 17:21		Sample Result 03/06/07 17:16		Spike Added	%R
Lead	93.58		4.26		81.30	110

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Matrix Spike Duplicate Recovery

Client ID:	NWO-039-0006 MSD	Lab Sample ID:	SD702113-001-007-1/1
Project:	702114	Instrument:	3050X
Units:	mg/kg	Data File Name:	070306MS.csv
Standard Source:	H.P.	Standard ID:	

Analyte	Spiked Sample Result 03/06/07 17:26		Sample Result 03/06/07 17:16		Spike Added	%R
Lead	92.49		4.26		78.74	112

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Duplicates RPD

Client ID:	NWO-039-0006 MSD	Lab Sample ID:	SD702113-001-007-1/1
Project:	702114	Instrument:	3050X
Units:	mg/kg	Data File Name:	070306MS.csv

Analyte	Matrix Spike ~~Original~~ Sample Results RA 3-8		Matrix Spike Duplicate Sample Results		RPD	Control Limit	Q
Lead	93.58		92.49		1	20	D

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Laboratory Control Sample

Project:	702114	Lab Sample ID:	BKS96782
Units:	mg/kg	Instrument:	3050X
		Data File Name:	070306MS.csv
Standard Source:	H.P.	Standard ID:	

Analyte	Spiked Sample Result 03/06/07 17:11	Spike Added	%R
Lead	112.63	100.00	113

URIT Version 4.3.4 SW846

GPL Laboratories, LLLP

Serial Dilutions

Client ID:	NWO-039-0006	Lab Sample ID:	SE702113-001-007-1/1
Project:	702114	Instrument:	3050X
Units:	ug/L	Data File Name:	070306MS.csv

Analyte	Sample Result 03/06/07 17:16		Serial Dilution Result 03/06/07 17:37		Percent Difference	Flag
Lead	5.15		4.92	J	5	

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Detection Limits

Project: 702114 Instrument: 3050X

Units: ug/L

Analyte	Wavelength/Mass	Reporting Limit	Method Detection Limit	Date of MDL
Lead	208	2.0	0.079	04/14/06

URIT Version 4.3.4 SW846

GPL Laboratories, LLLP

Linear Dynamic Ranges

Project: 702114 Instrument: 3050X

Units: ug/L

Analyte	Wavelength/Mass	Linear Dynamic Range	Date of LDR
Lead	208	11000	~~04/14/06~~ 3/6/07 RA 3-8

URIT Version 4.3.4

SW846

GPL Laboratories, LLLP

Preparation Log

Project: 702114 Instrument: 3050X

Prep Method: Batch Number: 96782

Lab Sample ID	Client ID	Preparation Date	Initial Weight (grams)	Final Volume (ml)
BLK96782	BLK96782	02/28/2007	1.00	100
BKS96782	BKS96782	02/28/2007	1.00	100
S 702114-001-001-1/1	NWO-039-0002	02/28/2007	1.20	100
S 702114-002-002-1/1	NWO-039-0003	02/28/2007	1.33	100
S 702114-004-004-1/1	NWO-039-0004	02/28/2007	1.27	100
S 702114-005-005-1/1	NWO-039-0005	02/28/2007	1.32	100
S 702113-001-007-1/1	NWO-039-0006	02/28/2007	1.21	100
SP702113-001-007-1/1	NWO-039-0006 MS	02/28/2007	1.23	100
S 702114-008-008-1/1	NWO-039-0011	02/28/2007	1.27	100
S 702114-009-009-1/1	NWO-039-0012	02/28/2007	1.16	100
S 702114-003-003-1/1	NWO-039-1002	02/28/2007	1.20	100
S 702114-006-006-1/1	NWO-039-1003	02/28/2007	1.21	100
S 702114-007-007-1/1	NWO-039-1004	02/28/2007	1.35	100
S 702114-010-010-1/1	NWO-039-1006	02/28/2007	1.26	100
SD702113-001-007-1/1	NWO-039-0006 MSD	02/28/2007	1.27	100

URIT Version 4.3.4 SW846

GPL Laboratories, LLLP
Analysis Run Log

Project: 702114 Instrument: 3050X

Data File Name: 070306MS.csv

Sample Name	Client ID	Analysis Date	Analysis Time
BLANK		03/06/07	3:17 PM
STD1		03/06/07	3:22 PM
STD2		03/06/07	3:27 PM
STD3		03/06/07	3:32 PM
STD4		03/06/07	3:37 PM
STD5		03/06/07	3:43 PM
STD6		03/06/07	3:48 PM
ICV		03/06/07	3:53 PM
ICB		03/06/07	4:04 PM
CCV1		03/06/07	4:09 PM
CCB1		03/06/07	4:14 PM
PQL		03/06/07	4:19 PM
ICSA		03/06/07	4:24 PM
ICSAB		03/06/07	4:35 PM
CCV2		03/06/07	4:55 PM
CCB2		03/06/07	5:00 PM
BLK96782	BLK96782	03/06/07	5:06 PM
BKS96782	BKS96782	03/06/07	5:11 PM
S 702113-001-007-1/1	NWO-039-0006	03/06/07	5:16 PM
SP702113-001-007-1/1	NWO-039-0006 MS	03/06/07	5:21 PM
SD702113-001-007-1/1	NWO-039-0006 MSD	03/06/07	5:26 PM
SE702113-001-007-1/1	NWO-039-0006	03/06/07	5:37 PM
CCV3		03/06/07	5:58 PM
CCB3		03/06/07	6:03 PM
S 702114-001-001-1/1	NWO-039-0002	03/06/07	6:18 PM
S 702114-002-002-1/1	NWO-039-0003	03/06/07	6:24 PM
S 702114-003-003-1/1	NWO-039-1002	03/06/07	6:29 PM
S 702114-004-004-1/1	NWO-039-0004	03/06/07	6:34 PM
S 702114-005-005-1/1	NWO-039-0005	03/06/07	6:39 PM
S 702114-006-006-1/1	NWO-039-1003	03/06/07	6:44 PM
S 702114-007-007-1/1	NWO-039-1004	03/06/07	6:50 PM
S 702114-008-008-1/1	NWO-039-0011	03/06/07	6:55 PM
CCV4		03/06/07	7:00 PM
CCB4		03/06/07	7:05 PM
S 702114-009-009-1/1	NWO-039-0012	03/06/07	7:10 PM
S 702114-010-010-1/1	NWO-039-1006	03/06/07	7:15 PM
CCV5		03/06/07	7:36 PM
CCB5		03/06/07	7:47 PM

URIT Version 4.3.4 SW846

ICPMS ANALYSIS LOG

Instrument ID: ICPMS (X0206) Inst. Method: 6020A Nebulizer: CONICAL

Analytical Batch No: 070306MS

Workorder	Project/SDG #	Prep. Seq.	Batch #	Matrix s/w/e	Prep. Date	Method	Comments / Dilution
702113	SHAW	96782	146	S	2.28.07	6020A	10x ON ALL
702114	↓	↓	↓	↓	↓	↓	↓
MDL			083	W	2.7.07	↓	
		3.7.07					

Source Solution Numbers				Post Digestion Spikes
Stds.	Number	Stds.	Number	Spike 9.9 mls of sample with 0.1 mls of 38352
S0	129-134-02	ICV	39297	Samples:
S1	39279	CCV	39532	702113-001-007-1/1
S2	39280	ICSA	39300	
S3	39281	ICSAB	39303	
S4	39282	Low Ck	39305	
S5	39283	LR	39306	
S6	39284	IS	39533	

Analyst: [signature] Date: 3.7.07 Reviewed: RA Date: 3-7-07

ICP ANALYSIS LOG

GPL - Maryland Laboratory ICPMS Analysis Log Data File: 070306MS.csv

Seq	Sample Name	Dil	Date	Time	Seq	Sample Name	Dil	Date	Time	Seq	Sample Name	Dil	Date	Time	Seq	Sample Name	Dil	Date	Time	Seq	Sample Name	Dil	Date	Time
1	BLANK	1	3/6/2007	15:17	31	S 702113-005-011-1/1	10	3/6/2007	18:08															
2	STD1	1	3/6/2007	15:22	32	S 702113-006-012-1/1	10	3/6/2007	18:13															
3	STD2	1	3/6/2007	15:27	33	S 702114-001-001-1/1	10	3/6/2007	18:18															
4	STD3	1	3/6/2007	15:32	34	S 702114-002-002-1/1	10	3/6/2007	18:24															
5	STD4	1	3/6/2007	15:37	35	S 702114-003-003-1/1	10	3/6/2007	18:29															
6	STD5	1	3/6/2007	15:43	36	S 702114-004-004-1/1	10	3/6/2007	18:34															
7	STD6	1	3/6/2007	15:48	37	S 702114-005-005-1/1	10	3/6/2007	18:39															
8	CV	1	3/6/2007	15:53	38	S 702114-006-006-1/1	10	3/6/2007	18:44															
9	CV(Cd)	1	3/6/2007	15:58	39	S 702114-007-007-1/1	10	3/6/2007	18:50															
10	CB	1	3/6/2007	16:04	40	S 702114-008-008-1/1	10	3/6/2007	18:55															
11	CCV	1	3/6/2007	16:09	41	CCV	1	3/6/2007	19:00															
12	CCB	1	3/6/2007	16:14	42	CCB	1	3/6/2007	19:05															
13	PQL	1	3/6/2007	16:19	43	S 702114-009-009-1/1	10	3/6/2007	19:10															
14	ICSA	1	3/6/2007	16:24	44	S 702114-010-010-1/1	10	3/6/2007	19:15															
15	ICSAB	1	3/6/2007	16:35	45	ICSA	1	3/6/2007	19:26															
16	LR	1	3/6/2007	16:40	46	ICSAB	1	3/6/2007	19:31															
17	CCV	1	3/6/2007	16:55	47	CCV	1	3/6/2007	19:36															
18	CCB	1	3/6/2007	17:00	48	CCB	1	3/6/2007	19:47															
19	BLK(146)	10	3/6/2007	17:06	49	BLK(003)	1	3/6/2007	19:52															
20	BKS(146)	10	3/6/2007	17:11	50	S MDL(3010)-1	1	3/6/2007	19:57															
21	S 702113-001-007-1/1	10	3/6/2007	17:16	51	S MDL(3010)-2	1	3/6/2007	20:02															
22	SP702113-001-007-1/	10	3/6/2007	17:21	52	S MDL(3010)-3	1	3/6/2007	20:07															
23	SD702113-001-007-1/	10	3/6/2007	17:26	53	S MDL(3010)-4	1	3/6/2007	20:13															
24	PS702113-001-007-1/	10	3/6/2007	17:32	54	S MDL(3010)-5	1	3/6/2007	20:18															
25	SE702113-001-007-1/	50	3/6/2007	17:37	55	S MDL(3010)-6	1	3/6/2007	20:23															
26	S 702113-002-008-1/1	10	3/6/2007	17:42	56	S MDL(3010)-7	1	3/6/2007	20:28															
27	S 702113-003-009-1/1	10	3/6/2007	17:47	57	CCV	1	3/6/2007	20:33															
28	S 702113-004-010-1/1	10	3/6/2007	17:52	58	CCB	1	3/6/2007	20:38															
29	CCV	1	3/6/2007	17:58																				
30	CCB	1	3/6/2007	18:03																				

Analyst Signature: Date: 3-7-07 Analyst Signature: Date:

3-7-07

Sample Dilutions:

IS okay
LR okay

USEPA - CLP

15 - IN

ICP-MS Internal Standards Relative Intensity Summary

Lab Name: GPL LABORATORIES, LLLP Contract:

Lab Code: Case No.: NRAS No.: SDG No.: DHJK

ICP-MS Instrument ID: SEDI Start Date: 03/06/2007 End Date: 03/06/2007

EPA Sample No.	Time	Internal Standards %RI For:									
		Bi (209)	Q	In (115)	Q	Li (6)	Q	Sc (45)	Q	Tb (159)	Q
BLANK	15:17	100		100		100		100		100	
STD1	15:22	105		104		107		106		104	
STD2	15:27	105		103		107		105		103	
STD3	15:32	103		99		102		101		99	
STD4	15:37	98		96		103		99		96	
STD5	15:43	95		96		108		102		97	
STD6	15:48	93		95		108		100		96	
ICV	15:53	95		93		104		97		95	
ICV(Cd)	15:58	94		93		103		96		94	
ICB	16:04	95		94		103		96		95	
CCV	16:09	95		92		95		93		95	
CCB	16:14	96		93		94		93		95	
PQL	16:19	98		93		96		94		95	
ICSA	16:24	79		82		75		80		85	
ICSAB	16:35	79		81		68		76		86	
LR	16:40	97		90		79		87		96	
CCV	16:55	101		96		83		91		101	
CCB	17:00	103		97		85		92		101	
BLK(146)	17:06	105		99		87		94		103	
BKS(146)	17:11	105		99		87		94		103	
S 702113-001-007-1/1	17:16	108		102		87		99		105	
SP702113-001-007-1/1	17:21	106		101		88		98		105	
SD702113-001-007-1/1	17:26	105		100		86		97		104	
PS702113-001-007-1/1	17:32	103		97		84		94		102	
SE702113-001-007-1/1	17:37	111		105		90		100		108	
S 702113-002-008-1/1	17:42	108		103		90		100		106	
S 702113-003-009-1/1	17:47	109		103		88		100		106	
S 702113-004-010-1/1	17:52	109		103		89		101		107	
CCV	17:58	101		96		82		90		100	
CCB	18:03	103		98		87		94		101	
S 702113-005-011-1/1	18:08	105		101		92		99		104	
S 702113-006-012-1/1	18:13	106		102		92		102		105	
S 702114-001-001-1/1	18:18	106		101		92		100		104	
S 702114-002-002-1/1	18:24	107		103		91		101		105	
S 702114-003-003-1/1	18:29	106		101		90		101		105	
S 702114-004-004-1/1	18:34	105		102		93		102		105	
S 702114-005-005-1/1	18:39	104		100		90		100		103	
S 702114-006-006-1/1	18:44	106		102		94		103		105	

FORM XV - IN SW846

USEPA - CLP

15 - IN

ICP-MS Internal Standards Relative Intensity Summary

Lab Name: GPL LABORATORIES, LLLP Contract:

Lab Code: Case No.: NRAS No.: SDG No.: DHJK

ICP-MS Instrument ID: SEDI Start Date: 03/06/2007 End Date: 03/06/2007

EPA Sample No.	Time	Internal Standards %RI For:									
		Bi (209)	Q	In (115)	Q	Li (6)	Q	Sc (45)	Q	Tb (159)	Q
S 702114-007-007-1/1	18:50	105		101		93		101		103	
S 702114-008-008-1/1	18:55	104		101		94		101		104	
CCV	19:00	97		92		86		89		96	
CCB	19:05	101		97		88		93		100	
S 702114-009-009-1/1	19:10	106		101		92		100		104	
S 702114-010-010-1/1	19:15	104		99		90		98		102	
ICSA	19:26	80		81		69		76		86	
ICSAB	19:31	80		80		65		73		85	
CCV	19:36	101		92		76		84		99	
CCB	19:47	102		94		79		86		99	
BLK(083)	19:52	102		94		81		88		100	
S MDL(3010)-1	19:57	102		94		82		89		100	
S MDL(3010)-2	20:02	102		94		83		88		100	
S MDL(3010)-3	20:07	102		95		83		89		101	
S MDL(3010)-4	20:13	101		93		85		87		98	
S MDL(3010)-5	20:18	101		94		85		89		100	
S MDL(3010)-6	20:23	101		92		85		88		98	
S MDL(3010)-7	20:28	101		92		84		87		98	
CCV	20:33	99		92		80		85		98	
CCB	20:39	101		93		82		87		98	

FORM XV - IN SW846

USEPA - CLP

15 - IN

ICP-MS Internal Standards Relative Intensity Summary

Lab Name: GPL LABORATORIES, LLLP Contract:

Lab Code: Case No.: NRAS No.: SDG No.: DHJK

ICP-MS Instrument ID: SEDI Start Date: 03/06/2007 End Date: 03/06/2007

EPA Sample No.	Time	Internal Standards %RI For:									
		Y (89)	Q								
BLANK	15:17	100									
STD1	15:22	104									
STD2	15:27	103									
STD3	15:32	100									
STD4	15:37	97									
STD5	15:43	97									
STD6	15:48	97									
ICV	15:53	94									
ICV(Cd)	15:58	93									
ICB	16:04	94									
CCV	16:09	93									
CCB	16:14	93									
PQL	16:19	93									
ICSA	16:24	80									
ICSAB	16:35	78									
LR	16:40	90									
CCV	16:55	94									
CCB	17:00	95									
BLK(146)	17:06	98									
BKS(146)	17:11	97									
S 702113-001-007-1/1	17:16	104									
SP702113-001-007-1/1	17:21	103									
SD702113-001-007-1/1	17:26	102									
PS702113-001-007-1/1	17:32	99									
SE702113-001-007-1/1	17:37	104									
S 702113-002-008-1/1	17:42	105									
S 702113-003-009-1/1	17:47	104									
S 702113-004-010-1/1	17:52	105									
CCV	17:58	94									
CCB	18:03	96									
S 702113-005-011-1/1	18:08	103									
S 702113-006-012-1/1	18:13	105									
S 702114-001-001-1/1	18:18	103									
S 702114-002-002-1/1	18:24	104									
S 702114-003-003-1/1	18:29	103									
S 702114-004-004-1/1	18:34	106									
S 702114-005-005-1/1	18:39	104									
S 702114-006-006-1/1	18:44	106									

FORM XV - IN SW846

USEPA - CLP

15 - IN

ICP-MS Internal Standards Relative Intensity Summary

Lab Name: GPL LABORATORIES, LLLP Contract:

Lab Code: Case No.: NRAS No.: SDG No.: DHJK

ICP-MS Instrument ID: SEDI Start Date: 03/06/2007 End Date: 03/06/2007

EPA Sample No.	Time	Internal Standards %RI For:									
		Y (89)	Q								
S 702114-007-007-1/1	18:50	105									
S 702114-008-008-1/1	18:55	105									
CCV	19:00	91									
CCB	19:05	95									
S 702114-009-009-1/1	19:10	104									
S 702114-010-010-1/1	19:15	103									
ICSA	19:26	79									
ICSAB	19:31	77									
CCV	19:36	90									
CCB	19:47	91									
BLK(083)	19:52	92									
S MDL(3010)-1	19:57	92									
S MDL(3010)-2	20:02	92									
S MDL(3010)-3	20:07	93									
S MDL(3010)-4	20:13	91									
S MDL(3010)-5	20:18	92									
S MDL(3010)-6	20:23	91									
S MDL(3010)-7	20:28	91									
CCV	20:33	90									
CCB	20:39	91									

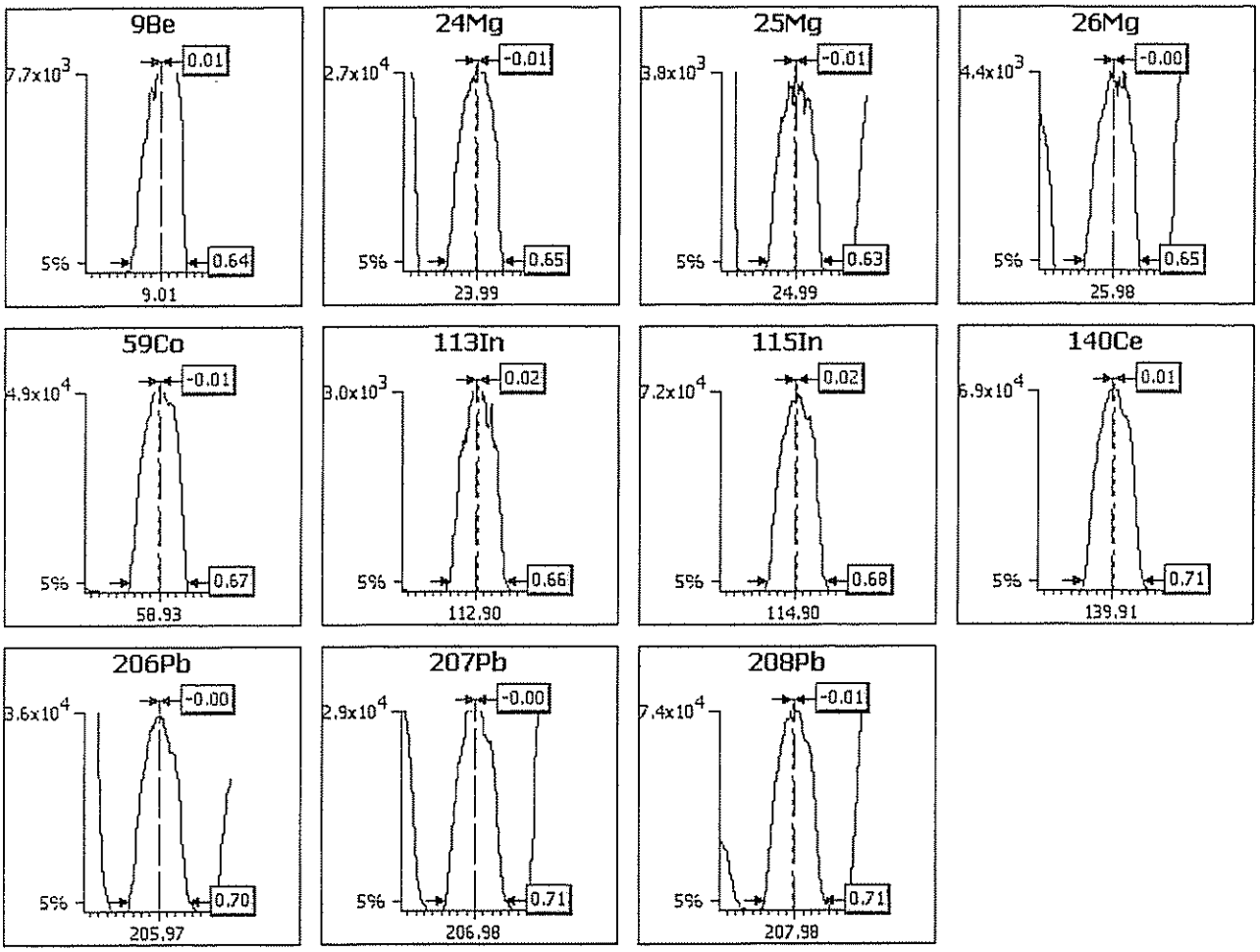
FORM XV - IN SW846

Performance Report

Sample details
Acquired at : 03/06/2007 12:20:49 PM
Report name : EPA 6020A 2.1A [05/30/2006 01:04:54 PM]

Mass Calibration verification

Acquisition parameters
Sweeps : 25
Dwell : 2.0 mSecs
Point spacing : 0.01 amu
Peak width measured at 5% of the peak maximum



Analyte	Limits			Results	
	Max. width	Min. width	Max. error	Peak width	Peak error

9Be	0.90	0.45	0.10	0.64	0.01
24Mg	0.90	0.45	0.10	0.65	-0.01
25Mg	0.90	0.45	0.10	0.63	-0.01
26Mg	0.90	0.45	0.10	0.65	-0.00
59Co	0.90	0.45	0.10	0.67	-0.01
113In	0.90	0.45	0.10	0.66	0.02
115In	0.90	0.45	0.10	0.68	0.02
140Ce	0.90	0.45	0.10	0.71	0.01
206Pb	0.90	0.45	0.10	0.70	-0.00
207Pb	0.90	0.45	0.10	0.71	-0.00
208Pb	0.90	0.45	0.10	0.71	-0.01

Sample details
Acquired at : 03/06/2007 12:20:49 PM
Report name : EPA 6020A 2.1A [05/30/2006 01:04:54 PM]

Tune conditions

Major	
Extraction	-141
Lens 1	2.9
Focus	23.3
D1	-47.8
Pole Bias	4.0
Hexapole Bias	-3.0
Nebuliser	0.89
Sampling Depth	130

Minor	
Lens 2	-30.6
Lens 3	-184.3
Forward power	1404
Horizontal	100
Vertical	480
D2	-160
DA	-40.0
Cool	13.0
Auxiliary	0.90

Global	
Standard resolution	125
High resolution	105
Analogue Detector	2110
PC Detector	3480

Add. Gases

Sensitivity and stability results

Acquisition parameters

Sweeps : 180

Run	Time	5Bkg	9Be	24Mg	25Mg	26Mg	59Co	113In	115In	140Ce
Dwell (mSecs)		100.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Limits	%RSD	-	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
	Countrate	-	>4000	>5000	>1000	>1000	>10000	>1000	>50000	>50000
1	12:22:22 PM	0.056	8325.347	28920.848	3661.178	4293.981	51985.175	3069.492	70731.673	71732.385
2	12:23:33 PM	0.111	8262.008	28455.159	3640.622	4389.541	51598.864	3107.270	70810.061	71279.839
3	12:24:44 PM	0.333	8502.584	28863.054	3720.069	4343.428	52107.461	3137.827	71215.349	71648.436
4	12:25:54 PM	0.056	8222.005	28546.852	3659.511	4337.316	51365.411	3133.938	70935.150	71349.889
5	12:27:05 PM	0.056	8167.000	28076.719	3602.287	4303.982	50949.643	3062.825	71058.571	71490.545
x		0.122	8295.789	28572.526	3656.734	4333.649	51601.311	3102.270	70950.161	71500.219
σ		0.12	129.24	341.32	42.61	37.70	470.07	35.08	193.43	191.79
%RSD		98.543	1.558	1.195	1.165	0.870	0.911	1.131	0.273	0.268

Run	Time	156Ce O	206Pb	207Pb	208Pb	220Bkg
Dwell (mSecs)		30.0	10.0	10.0	10.0	100.0
Limits	%RSD	-	2.0%	2.0%	2.0%	-
	Countrate	-	>10000	>10000	>25000	<2
1	12:22:22 PM	802.225	35940.346	29917.252	76113.956	0.222
2	12:23:33 PM	820.559	35757.503	30191.779	75991.084	0.056
3	12:24:44 PM	783.151	35863.652	30087.303	76286.309	0.056
4	12:25:54 PM	813.892	35751.390	30124.537	76722.754	0.111
5	12:27:05 PM	843.707	36182.100	30503.541	76009.432	0.500
x		812.707	35898.998	30164.882	76224.707	0.189
σ		22.40	176.72	214.70	302.09	0.19
%RSD		2.757	0.492	0.712	0.396	98.869

Ratio results

Run	Time	156Ce O/140Ce
Ratio limits		<0.0200
1	12:22:22 PM	0.011

2	12:23:33 PM	0.012
3	12:24:44 PM	0.011
4	12:25:54 PM	0.011
5	12:27:05 PM	0.012
x		0.0114
σ		0.00
%RSD		2.9035

Result : The performance report passed.

Dilution Corrected Concentrations

BLANK 03/06/2007 03:17:23 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		100.000%	0.000	-0.000	-0.000	-0.000	-0.000	0.000	0.000	100.000%
Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.000	0.000	-0.000	-0.000	-0.000	-0.000	0.000	-0.000	-0.000
Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.000	0.000	0.000	0.105	0.000	100.000%	0.000	0.000	-0.000
Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.000	-0.000	100.000%	0.000	0.000	-0.000	-0.000	0.000	100.000%
Run	Time	203Tl	205Tl	208Pb	209Bi					
		ppb	ppb	ppb	ppb					
x		0.000	0.000	0.000	100.000%					

STD1 03/06/2007 03:22:30 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		107.420%	4.887	0.053	0.018	0.017	r4923.000	0.468	26.630	106.087%
Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		50.190	49.150	51.680	-13060.000	49.190	r4916.000	49.430	50.150	50.370
Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		49.140	49.990	-0.072	49.890	49.550	103.851%	49.830	49.760	-1.330
Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		49.570	48.570	103.908%	50.830	49.280	49.790	49.610	0.043	103.890%
Run	Time	203Tl	205Tl	208Pb	209Bi					
		ppb	ppb	ppb	ppb					
x		49.740	50.320	49.520	104.676%					

STD2 03/06/2007 03:27:37 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		107.328%	10.130	3.143	0.254	0.290	TM 10040.000	2.284	57.460	104.965%
Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		101.900	M 100.400	105.400	-19170.000	M 100.400	TM 10040.000	M 100.300	100.900	101.400
Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		101.300	100.500	0.106	99.950	100.600	103.409%	100.400	M 100.100	-3.447
Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 100.200	100.500	103.182%	104.000	100.800	102.400	101.100	0.083	103.383%
Run	Time	203Tl	205Tl	208Pb	209Bi					
		ppb	ppb	ppb	ppb					
x		102.300	102.800	M 100.200	104.600%					

STD3 03/06/2007 03:32:45 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		101.992%	M 49.990	2.566	0.445	0.343	2.909	4.316	101.200	101.390%
Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 999.800	M 933.000	M 999.400	-47570.000	TM 971.900	TM 49210.000	TM 961.500	M 749.900	M 999.800
Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 499.800	M 199.700	0.171	M 200.100	M 199.800	99.599%	M 1000.000	M 101.100	-9.629
Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 100.300	M 200.100	98.904%	M 999.600	M 499.900	M 499.500	M 999.900	0.861	98.892%
Run	Time	203Tl	205Tl	208Pb	209Bi					
		ppb	ppb	ppb	ppb					
x		198.900	198.500	TM 1925.000	102.605%					

STD4 03/06/2007 03:37:52 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		102.724%	0.004	τ983.300	956.100	1029.000	1.032	971.200	1013.000	99.390%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.197	1.023	0.739	-29300.000	0.035	1.311	0.016	0.047	0.088

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.769	0.235	-0.050	-0.270	0.058	96.762%	0.553	0.002	-0.179

Run	Time	109Ag	110Cd	115In	118Sn	121Sb12	3Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.006	0.066	96.033%	0.572	0.048	0.046	0.317	0.001	95.901%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		1.182	1.190	0.088	97.774%

STD5 03/06/2007 03:43:06 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		107.825%	0.002	τ10070.000	τ10090.000	τ10040.000	0.163	τ10050.000	10140.000	101.555%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.120	1.215	0.131	-62060.000	0.238	4.808	0.008	0.067	0.070

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.775	0.819	-0.071	0.257	0.173	97.355%	0.221	0.009	-0.023

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.010	0.016	96.116%	0.340	0.019	0.016	0.302	0.001	96.688%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.486	0.477	0.137	95.281%

STD6 03/06/2007 03:48:30 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		107.834%	-0.003	TM 19970.000	TM 19960.000	TM 19980.000	0.248	TM 19980.000	M 19930.000	100.315%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.099	0.151	0.138	-66800.000	0.485	5.724	0.001	0.144	0.082

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.895	0.641	0.173	0.493	0.285	96.893%	0.126	0.013	-0.045

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.014	0.023	94.603%	0.265	0.027	0.032	0.356	0.005	96.014%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.283	0.291	0.240	93.223%

ICV 03/06/2007 03:53:41 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		104.288%	4.274	T 4954.000	T 4953.000	5053.000	498.000	T 4896.000	5062.000	97.082%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		42.800	42.680	42.940	-18640.000	43.490	532.000	43.280	43.340	42.870

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		42.890	42.030	0.081	42.500	42.440	93.755%	42.360	42.460	-0.553

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		42.450	4.640	93.274%	43.480	42.530	42.370	43.890	0.028	94.559%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		43.650	43.950	43.010	95.064%

ICV(Cd) 03/06/2007 03:58:51 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		103.268%	0.001	0.099	0.013	0.009	0.171	-0.167	1.534	95.984%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.209	-0.013	0.205	-553.600	0.061	7.551	0.078	0.055	0.111

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		1.021	0.062	0.048	-0.387	0.085	92.619%	0.272	0.024	-0.203

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.018	4.056	92.643%	0.350	0.023	0.015	0.374	-0.001	93.543%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.478	0.500	0.465	93.967%

ICB 03/06/2007 04:04:04 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		102.799%	-0.004	-0.677	-0.001	0.013	-0.067	-0.002	1.429	95.826%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.021	0.101	0.166	-3141.000	-0.009	-1.948	-0.000	-0.003	0.004

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.379	0.225	0.048	-0.558	-0.002	93.820%	0.016	-0.002	-0.089

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.000	0.028	94.021%	0.100	-0.026	-0.028	-0.015	-0.002	94.711%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.209	0.220	-0.001	95.290%

CCV 03/06/2007 04:09:15 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		94.529%	4.984	↹9836.000	↹9791.000	9802.000	↹4894.000	↹9747.000	10030.000	92.846%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		50.310	48.690	51.100	-48620.000	49.530	↹4886.000	48.990	48.540	48.930

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		49.150	48.970	-0.015	48.690	49.650	92.542%	49.680	48.940	-1.907

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		48.750	49.360	92.427%	50.530	49.860	50.480	49.260	0.032	95.027%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		50.470	50.960	50.080	94.737%

CCB 03/06/2007 04:14:27 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		93.935%	-0.001	0.326	0.232	0.246	0.025	0.805	1.842	93.429%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.003	0.419	-0.112	-17200.000	-0.017	-2.149	-0.001	-0.001	0.013

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.492	0.915	-0.079	0.028	-0.002	92.562%	0.015	0.001	-0.088

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.000	0.032	93.415%	0.104	-0.009	-0.011	0.007	0.003	95.210%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.469	0.457	0.001	96.082%

PQL 03/06/2007 04:19:38 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		95.984%	0.211	T 946.500	95.030	100.500	98.490	945.400	987.100	94.202%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		2.314	10.220	1.828	-42730.000	1.962	46.990	0.987	1.005	2.094

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		10.140	5.359	-0.091	4.491	1.945	92.963%	5.006	0.304	-0.006

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.309	0.543	93.330%	5.186	1.115	1.032	5.437	-0.001	95.052%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		2.128	2.171	1.953	97.557%

ICSA 03/06/2007 04:24:47 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		74.526%	-0.005	TM 244900.000	TM 97140.000	TM 97940.000	TM 98240.000	TM 98900.000	TM 300500.000	79.827%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 2141.000	0.884	0.596	-125600.000	-0.098	TM 238100.000	0.050	0.237	0.442

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		1.521	0.713	0.405	1.339	4.380	80.083%	M 2021.000	0.085	1.331

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.095	0.029	82.134%	0.232	0.204	0.194	0.634	0.051	85.342%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.271	0.270	0.124	78.509%

ICSAB 03/06/2007 04:35:08 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		68.301%	17.120	TM 246100.000	TM 99030.000	TM 99520.000	TM 99580.000	TM 99900.000	TM 305100.000	76.025%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 2111.000	21.660	20.950	-133700.000	20.030	TM 240400.000	18.820	17.770	17.480

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		19.180	19.660	0.193	18.500	26.080	78.040%	M 2005.000	17.460	0.756

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		17.670	17.640	80.840%	21.500	19.870	19.780	21.350	0.059	86.173%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		22.460	22.820	21.900	79.287%

LR 03/06/2007 04:40:18 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		79.495%	M 225.200	40.610	16.870	17.590	18.470	14.430	2303.000	87.354%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 4732.000	TM 4775.000	TM 5049.000	-88680.000	TM 4938.000	TM 247900.000	TM 4772.000	M 3418.000	TM 4582.000

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 2380.000	M 933.000	-0.867	M 925.900	TM 6023.000	89.726%	M 4610.000	M 475.300	-30.100

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 477.900	M 964.000	89.563%	TM 4883.000	484.900	487.200	TM 5089.000	3.718	95.594%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		M 980.800	TM 1032.000	TM 9822.000	97.321%

CCV 03/06/2007 04:55:47 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		82.610%	4.752	τ10060.000	τ10280.000	10090.000	τ5141.000	τ9995.000	9977.000	91.214%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		48.810	50.510	49.700	-99350.000	49.450	τ4972.000	47.530	47.150	47.260

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		49.150	49.010	-0.288	49.130	50.140	94.029%	49.570	48.170	-1.751

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		48.850	49.310	95.652%	51.060	50.040	51.130	49.500	0.035	101.077%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		51.010	52.050	50.490	101.437%

CCB 03/06/2007 05:00:59 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		85.016%	-0.002	4.149	1.568	1.673	0.714	3.058	5.087	91.887%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.083	0.343	-0.108	-78220.000	-0.013	-0.466	0.011	0.015	0.029

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.331	0.864	-0.159	0.798	0.019	95.493%	0.193	0.007	-0.050

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.006	0.020	97.393%	0.424	-0.008	-0.038	0.024	-0.002	101.097%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.745	0.745	0.038	102.661%

BLK(146) 03/06/2007 05:06:10 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		86.736%	-0.008	4.019	0.680	0.628	0.552	3.968	5.686	94.485%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.175	0.983	-0.015	-75030.000	-0.020	-0.236	0.013	0.018	0.050

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.377	1.056	-0.112	2.012	0.026	97.685%	0.118	0.002	-0.059

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.002	0.026	99.218%	3.196	-0.059	-0.060	0.016	-0.000	103.322%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.474	0.450	0.040	105.000%

BKS(146) 03/06/2007 05:11:21 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		86.511%	5.259	T 1047.000	1024.000	1107.000	1051.000	1019.000	1137.000	93.836%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		229.600	53.540	57.680	-52430.000	M 112.900	T 1077.000	54.720	54.500	55.330

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		111.500	10.870	0.055	11.390	112.900	96.791%	56.620	10.810	-0.644

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		10.820	11.150	99.393%	62.450	11.340	11.730	111.500	0.066	102.968%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		11.670	11.870	M 112.600	105.231%

S 702113-001-007-1/1 03/06/2007 05:16:32 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		86.610%	0.132	172.800	T 6628.000	6541.000	TM 10250.000	T 680.300	3659.000	99.027%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		772.900	36.360	31.350	-67290.000	M 263.400	TM 15970.000	6.943	46.370	11.200

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		35.000	2.907	0.058	1.063	18.590	103.678%	0.568	0.023	-0.140

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.026	0.129	102.065%	2.427	0.065	0.069	38.430	1.386	105.448%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.363	0.359	5.154	107.952%

SP702113-001-007-1/1 03/06/2007 05:21:43 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		87.557%	5.424	T 1276.000	T 8092.000	7928.000	TM 13460.000	T 1869.000	5765.000	98.163%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 1176.000	94.550	86.390	-59580.000	M 388.600	TM 18050.000	59.530	99.900	62.450

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		142.400	13.430	0.021	11.540	128.900	102.974%	53.700	10.410	-0.722

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		10.410	10.880	100.843%	59.790	7.384	7.721	153.400	1.723	104.564%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		11.390	11.510	M 115.100	106.017%

SD702113-001-007-1/1 03/06/2007 05:26:54 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		86.334%	5.379	T 1307.000	T 8222.000	8120.000	TM 13840.000	T 1911.000	6110.000	96.807%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 1219.000	M 96.430	91.860	-57160.000	M 405.700	TM 18840.000	60.880	102.600	64.460

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		144.000	13.500	0.047	11.020	132.800	102.136%	55.050	10.530	-0.717

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		10.710	11.120	99.631%	61.420	7.483	7.834	158.000	1.745	103.779%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		11.510	11.760	M 117.500	105.192%

PS702113-001-007-1/1 03/06/2007 05:32:05 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		83.968%	10.120	T 5353.000	T 11550.000	T 11360.000	TM 10730.000	T 5811.000	8602.000	93.766%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		754.700	55.230	50.980	-48890.000	M 331.700	TM 17380.000	36.050	82.220	39.900

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		113.700	81.210	-0.080	67.780	38.210	98.947%	30.760	35.190	-5.580

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		35.000	23.440	97.280%	112.100	82.620	85.840	57.980	1.277	102.426%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		108.700	109.500	88.990	102.930%

SE702113-001-007-1/1 03/06/2007 05:37:17 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		89.569%	0.010	33.830	1170.000	1275.000	T 1943.000	132.500	709.200	100.062%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		150.000	8.759	6.469	-60720.000	52.120	T 3096.000	1.333	8.959	2.243

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		8.086	1.369	-0.066	0.962	3.616	103.844%	0.110	0.005	-0.029

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.005	0.038	105.060%	0.587	0.092	0.096	7.622	0.263	107.751%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.330	0.326	0.983	110.811%

S 702113-002-008-1/1 03/06/2007 05:42:29 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		89.696%	0.165	136.500	T 6916.000	6831.000	TM 11740.000	722.700	3415.000	99.518%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		790.700	38.150	28.950	-65020.000	M 303.700	TM 16920.000	7.770	52.280	9.803

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		35.230	2.258	0.119	0.397	18.090	104.835%	0.181	0.035	-0.141

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.024	0.139	103.188%	2.277	0.086	0.071	48.520	1.188	106.353%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.241	0.244	3.712	107.651%

S 702113-003-009-1/1 03/06/2007 05:47:41 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		88.490%	0.162	157.100	T 3280.000	3299.000	T 9595.000	721.000	5244.000	99.693%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		619.100	30.200	21.250	-65950.000	TM 1187.000	TM 13640.000	6.799	33.190	12.830

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		54.080	4.942	0.053	1.086	41.460	104.438%	0.329	0.082	-0.100

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.082	0.230	103.203%	2.274	0.231	0.262	148.800	0.959	106.495%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.204	0.185	20.600	108.756%

S 702113-004-010-1/1 03/06/2007 05:52:52 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		89.457%	0.158	166.100	T 3278.000	3266.000	TM 9775.000	794.900	5487.000	100.751%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		644.500	31.950	23.670	-66660.000	TM 1130.000	TM 13780.000	6.484	32.390	12.280

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		53.330	3.412	0.112	1.053	42.860	104.705%	0.332	0.086	-0.106

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.075	0.245	103.397%	2.245	0.211	0.185	154.900	1.035	107.058%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.153	0.151	18.900	109.258%

CCV 03/06/2007 05:58:04 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		81.640%	4.727	τ9977.000	τ10180.000	9991.000	τ5100.000	τ9904.000	9966.000	90.105%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		50.030	49.550	49.520	-91820.000	49.330	τ4950.000	47.360	46.490	47.210

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		49.700	48.700	-0.284	50.370	49.820	93.577%	48.780	47.170	-1.544

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		47.560	48.410	95.544%	50.010	49.540	49.860	48.990	0.033	100.083%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		49.170	50.160	50.300	100.899%

CCB 03/06/2007 06:03:16 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		87.301%	0.002	7.265	3.363	3.274	2.143	4.632	10.040	93.914%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.076	1.523	-0.206	-66970.000	0.048	5.373	0.069	0.052	0.095

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.251	0.804	-0.151	0.584	0.076	96.286%	0.130	0.012	-0.018

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.011	0.024	97.817%	0.224	-0.017	-0.026	0.040	-0.001	101.138%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.472	0.452	0.131	102.710%

S 702113-005-011-1/1 03/06/2007 06:08:30 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		92.072%	0.134	T 693.200	T 7009.000	6961.000	T 9746.000	881.200	3191.000	99.469%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		832.900	38.440	31.640	-58410.000	M 216.900	TM 16260.000	6.737	46.800	9.929

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		32.690	2.791	0.036	0.721	15.060	102.818%	0.312	0.025	-0.154

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.022	0.096	100.710%	2.600	0.065	0.067	16.670	1.165	103.963%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.303	0.314	4.508	105.019%

S 702113-006-012-1/1 03/06/2007 06:13:42 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		92.358%	0.217	162.700	T 7602.000	7452.000	TM 14920.000	493.700	5168.000	101.838%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		897.200	42.450	44.250	-58230.000	M 685.900	TM 20430.000	12.040	104.700	9.283

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		52.280	4.990	0.051	0.664	29.710	104.772%	0.271	0.036	-0.128

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.035	0.165	102.411%	2.582	0.156	0.130	128.000	1.195	104.685%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.217	0.222	12.250	106.399%

S 702114-001-001-1/1 03/06/2007 06:18:51 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		92.277%	0.222	247.600	T 5402.000	5332.000	TM 15730.000	806.700	6508.000	100.177%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		H 971.000	45.200	31.840	-56660.000	H 643.100	TM 19240.000	8.312	48.330	11.600

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		62.760	5.649	0.159	1.073	42.030	103.405%	0.273	0.073	-0.125

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.069	0.321	101.363%	2.389	0.175	0.190	118.000	1.175	104.181%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.174	0.165	16.550	106.054%

S 702114-002-002-1/1 03/06/2007 06:24:02 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		91.458%	0.202	315.700	T 3686.000	3695.000	TM 11980.000	676.000	6214.000	101.176%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		748.100	34.360	23.120	-57760.000	TM 1045.000	TM 14690.000	6.796	41.300	11.160

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		73.700	8.032	0.130	0.835	52.180	103.540%	0.289	0.072	-0.112

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.071	0.360	102.512%	2.280	0.381	0.415	228.200	1.069	104.776%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.144	0.140	24.730	107.179%

S 702114-003-003-1/1 03/06/2007 06:29:14 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		89.909%	0.213	401.500	T 5242.000	5243.000	TM 13500.000	834.000	7236.000	100.946%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		819.900	39.760	28.510	-57070.000	M 772.900	TM 17060.000	8.290	42.250	19.080

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		93.660	4.141	0.108	1.097	60.480	103.447%	0.274	0.052	-0.052

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.055	0.242	101.407%	3.257	0.167	0.163	187.600	1.223	104.553%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.119	0.131	48.490	105.891%

S 702114-004-004-1/1 03/06/2007 06:34:26 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		93.435%	0.214	214.000	T 5988.000	5889.000	TM 13450.000	1028.000	5058.000	101.529%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 987.600	46.060	36.480	-61950.000	M 407.700	TM 18180.000	9.358	44.760	11.950

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		47.710	3.620	0.038	1.267	36.890	106.204%	0.198	0.095	-0.073

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.090	0.227	101.563%	2.488	0.135	0.108	75.480	2.332	104.554%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.136	0.138	8.497	105.350%

S 702114-005-005-1/1 03/06/2007 06:39:37 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		89.962%	0.295	194.200	T 5613.000	5589.000	TM 16180.000	T 1502.000	6120.000	99.567%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		978.400	46.200	34.760	-57280.000	M 507.800	TM 18720.000	9.207	40.950	14.080

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		65.730	3.404	0.172	1.017	47.880	103.703%	0.246	0.144	-0.094

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.162	0.285	100.019%	2.312	0.117	0.121	113.900	1.883	103.323%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.155	0.149	11.270	104.486%

S 702114-006-006-1/1 03/06/2007 06:44:49 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		94.392%	0.318	225.600	T 4660.000	4600.000	TM 18420.000	677.000	2516.000	102.888%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 999.500	45.270	40.330	-64560.000	M 156.500	TM 17980.000	7.013	43.250	24.410

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		48.990	2.709	0.225	1.179	19.050	105.622%	0.239	0.102	-0.099

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.115	0.136	102.180%	2.256	0.170	0.184	99.340	1.799	104.796%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.145	0.153	34.370	105.646%

S 702114-007-007-1/1 03/06/2007 06:50:00 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		92.817%	0.371	251.000	T 5268.000	5205.000	TM 20910.000	704.300	2962.000	101.274%

Run	Time	47Ti	51V	52Cr	53Cl O55	Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 1050.000	48.570	44.510	-60100.000	M 163.200	TM 19650.000	8.023	47.900	24.480

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		53.860	3.255	0.229	1.127	22.940	105.123%	0.215	0.143	-0.130

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.163	0.189	101.118%	2.780	0.156	0.144	120.200	2.178	103.486%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.156	0.139	29.720	104.600%

S 702114-008-008-1/1 03/06/2007 06:55:11 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		93.949%	0.166	223.700	T 8727.000	8589.000	TM 11030.000	808.400	4339.000	101.051%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		891.300	42.490	34.400	-60510.000	M 343.400	TM 18390.000	9.130	57.100	23.690

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		37.860	2.761	0.061	0.382	22.830	105.191%	0.161	0.034	-0.222

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.038	0.191	101.138%	5.631	0.268	0.265	57.390	1.956	103.894%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.088	0.087	M 298.200	103.991%

CCV 03/06/2007 07:00:23 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		85.818%	4.863	τ10200.000	τ10330.000	10110.000	τ5125.000	τ10010.000	10070.000	88.776%
Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		50.290	50.760	50.680	-85510.000	50.370	τ5067.000	48.510	48.400	48.240
Run	Time	66Zn75	As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		50.390	49.150	-0.201	48.840	50.270	91.305%	49.850	48.460	-1.763
Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		48.770	49.630	92.006%	51.270	50.150	50.550	50.540	0.037	96.491%
Run	Time	203Tl	205Tl	208Pb	209Bi					
		ppb	ppb	ppb	ppb					
x		50.260	50.810	50.960	97.171%					

CCB 03/06/2007 07:05:34 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		88.392%	-0.003	7.700	4.992	5.067	3.969	5.697	11.600	92.915%
Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.311	1.288	-0.173	-55810.000	0.140	7.166	0.070	0.069	0.100
Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.185	0.369	-0.082	0.494	0.102	94.836%	0.098	0.014	-0.028
Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.018	0.049	96.689%	0.170	-0.008	0.004	0.072	-0.001	99.831%
Run	Time	203Tl	205Tl	208Pb	209Bi					
		ppb	ppb	ppb	ppb					
x		0.422	0.413	0.158	101.416%					

S 702114-009-009-1/1 03/06/2007 07:10:46 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		92.014%	0.155	181.200	T 6786.000	6704.000	T 9210.000	759.900	4088.000	100.281%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		800.300	37.420	26.530	-54930.000	M 307.800	TM 15240.000	7.448	43.950	23.920

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		94.440	3.321	0.027	0.533	21.630	103.772%	0.193	0.062	-0.096

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.068	0.143	100.645%	4.529	5.534	5.621	38.410	1.561	103.758%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.237	0.240	M 681.400	106.342%

S 702114-010-010-1/1 03/06/2007 07:15:58 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		90.231%	0.162	T 557.700	T 8661.000	8505.000	TM 11790.000	958.900	4926.000	98.271%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		893.400	44.010	36.840	-51660.000	M 282.400	TM 18560.000	8.432	62.340	45.310

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		42.190	3.891	0.046	0.755	30.860	103.199%	0.173	0.053	-0.113

Run	Time	109Ag	110Cd11	5In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.047	0.146	99.323%	5.711	0.373	0.393	36.930	1.880	102.433%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.153	0.169	M 275.900	103.993%

ICSA 03/06/2007 07:26:18 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		69.255%	-0.001	TM 245200.000	TM 99080.000	TM 100100.000	TM 100300.000	TM 100300.000	TM 306100.000	76.124%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 2088.000	1.723	0.564	-124500.000	-0.138	TM 241100.000	0.045	0.091	0.354

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		2.222	0.737	0.308	1.708	4.266	79.071%	M 1959.000	0.086	1.442

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.089	-0.008	81.248%	0.188	0.206	0.217	0.564	0.031	86.190%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.154	0.142	0.149	80.202%

ICSAB 03/06/2007 07:31:29 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		65.346%	18.400	TM 249100.000	TM 100500.000	TM 100800.000	TM 100400.000	TM 101000.000	TM 309200.000	73.482%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		M 2091.000	21.960	22.140	-125400.000	21.150	TM 241000.000	19.850	18.700	18.260

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		20.670	21.060	0.124	20.530	26.950	76.987%	M 1979.000	18.190	0.700

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		18.450	19.430	79.846%	22.670	21.540	21.950	22.420	0.061	85.351%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		23.120	23.560	22.800	79.972%

CCV 03/06/2007 07:36:41 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		75.696%	4.724	τ10180.000	τ10440.000	10220.000	τ5184.000	τ10120.000	10070.000	84.424%
Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		50.230	50.140	49.830	-96660.000	50.100	τ5034.000	47.510	46.660	47.450
Run	Time	66Zn75	As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		50.280	49.020	-0.293	50.760	49.880	89.798%	49.870	47.800	-1.580
Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		48.080	49.180	92.166%	50.990	50.470	51.250	49.500	0.047	98.995%
Run	Time	203Tl	205Tl	208Pb	209Bi					
		ppb	ppb	ppb	ppb					
x		50.030	50.600	50.550	101.253%					

CCB 03/06/2007 07:47:02 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		78.618%	-0.004	14.460	7.381	7.896	6.650	7.418	17.740	86.144%
Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.412	1.627	-0.326	-81720.000	0.185	9.099	0.072	0.080	0.107
Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		-0.026	0.535	-0.164	0.803	0.099	91.381%	0.206	0.026	0.035
Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.024	0.023	94.213%	0.132	-0.010	-0.009	0.101	-0.001	99.308%
Run	Time	203Tl	205Tl	208Pb	209Bi					
		ppb	ppb	ppb	ppb					
x		0.245	0.239	0.175	102.452%					

BLK(083) 03/06/2007 07:52:15 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		80.860%	-0.013	67.150	2.337	2.406	20.410	8.809	39.650	87.930%
Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.438	0.844	0.017	-58730.000	0.002	-0.510	0.002	0.061	0.701
Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		3.429	0.145	-0.013	-0.858	0.140	91.903%	0.079	0.016	-0.014
Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.016	0.012	94.212%	0.162	-0.005	-0.012	0.507	-0.002	99.872%
Run	Time	203Tl	205Tl	208Pb	209Bi					
		ppb	ppb	ppb	ppb					
x		0.167	0.179	0.202	101.834%					

S MDL(3010)-1 03/06/2007 07:57:28 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		82.365%	0.178	416.800	96.170	102.900	75.710	90.390	557.600	88.745%
Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		2.736	2.740	3.215	-62430.000	0.791	112.000	2.965	7.801	4.172
Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		22.080	11.500	-0.041	7.932	0.983	92.068%	1.886	3.014	0.056
Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		2.980	0.810	94.188%	5.986	9.886	9.831	1.913	-0.001	99.998%
Run	Time	203Tl	205Tl	208Pb	209Bi					
		ppb	ppb	ppb	ppb					
x		20.760	21.030	3.346	101.886%					

S MDL(3010)-2 03/06/2007 08:02:40 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		83.142%	0.173	420.100	104.100	110.900	74.020	83.060	500.800	88.306%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		2.553	3.025	3.261	-58190.000	0.817	113.100	3.016	7.934	4.107

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		16.230	10.130	0.081	7.212	0.889	92.139%	1.966	2.962	-0.077

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		2.986	0.836	94.088%	6.005	9.681	9.811	1.950	0.001	99.652%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		20.730	21.020	3.470	102.072%

S MDL(3010)-3 03/06/2007 08:07:50 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		83.358%	0.192	414.300	99.350	106.800	75.670	90.630	491.500	89.429%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		2.226	3.295	2.970	-77710.000	0.783	112.100	2.931	7.805	3.884

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		15.550	11.300	-0.242	8.212	0.828	92.563%	1.966	2.865	0.012

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		2.901	0.922	95.373%	5.777	9.735	9.798	1.851	0.001	100.655%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		20.850	21.030	3.297	102.217%

S MDL(3010)-4 03/06/2007 08:13:02 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		84.516%	0.183	428.200	108.600	115.100	74.630	87.580	760.000	86.853%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		2.302	3.081	3.279	-47670.000	0.834	115.800	2.998	7.809	4.696

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		25.520	10.810	0.081	7.932	1.291	90.759%	1.998	2.997	-0.030

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		2.963	0.806	92.543%	6.073	9.787	9.899	2.104	0.000	98.150%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		21.000	21.200	3.431	100.914%

S MDL(3010)-5 03/06/2007 08:18:14 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		84.675%	0.199	424.000	111.300	118.500	73.540	88.330	501.900	88.876%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		2.434	3.357	3.064	-70770.000	0.844	115.500	2.904	8.044	4.243

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		15.440	10.340	-0.152	7.822	0.931	91.958%	1.873	2.938	-0.001

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		2.914	0.926	94.077%	5.951	9.759	9.604	2.128	0.000	99.515%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		20.750	21.110	3.489	101.295%

S MDL(3010)-6 03/06/2007 08:23:24 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		84.893%	0.178	432.700	115.800	123.200	73.980	90.990	501.700	87.734%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		2.566	2.632	3.394	-38150.000	0.861	116.200	3.022	8.147	4.293

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		14.120	10.730	0.120	7.629	0.920	90.597%	1.933	3.011	-0.003

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		3.003	0.863	92.484%	6.193	10.230	10.120	2.137	0.001	97.909%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		20.700	21.200	3.664	100.518%

S MDL(3010)-7 03/06/2007 08:28:37 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		83.745%	0.157	437.600	110.200	115.500	75.630	97.110	493.500	87.324%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		3.030	1.395	3.351	-35620.000	0.869	115.900	2.919	8.005	4.092

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		14.610	11.120	0.101	7.728	0.933	90.870%	2.005	2.941	0.004

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		2.984	0.914	92.398%	6.015	10.040	9.940	2.057	-0.001	98.363%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		20.730	21.020	3.364	100.869%

CCV 03/06/2007 08:33:48 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		79.706%	4.612	τ10250.000	τ10390.000	10080.000	τ5245.000	τ10240.000	10210.000	85.158%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		50.660	49.750	50.280	-68230.000	50.090	τ5125.000	47.310	46.450	46.650

Run	Time	66Zn75	As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		50.150	48.740	-0.135	48.040	50.130	89.656%	49.300	47.710	-1.486

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		47.990	49.110	91.581%	51.070	50.300	50.840	49.160	0.038	97.595%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		50.120	50.760	50.540	99.218%

CCB 03/06/2007 08:39:00 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	23Na	24Mg	25Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		82.171%	-0.004	28.150	16.840	17.740	14.060	17.000	36.530	86.973%

Run	Time	47Ti	51V	52Cr	53Cl O	55Mn	56Fe	59Co	60Ni	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.517	1.010	-0.223	-56530.000	0.208	25.750	0.096	0.113	0.124

Run	Time	66Zn	75As	77Ar Cl	82Se	88Sr	89Y	95Mo	107Ag	108Mo O
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.017	0.580	-0.152	1.136	0.135	90.573%	0.288	0.045	-0.011

Run	Time	109Ag	110Cd	115In	118Sn	121Sb	123Sb	137Ba	153Ba O	159Tb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
x		0.038	0.072	93.118%	0.147	0.024	0.014	0.114	0.000	97.986%

Run	Time	203Tl	205Tl	208Pb	209Bi
		ppb	ppb	ppb	ppb
x		0.503	0.515	0.195	101.052%

Metals Preparation & Sample Description Log

Date: 2-28-07 Prep: 200.7 / 3005A / 3020A / 3050B / 3010A / ILC03.1 / ILM04.1 / ILM05.3 Batch No: 187- 146

Analyst: MII Comments: MOD BLOCK DIGESTION (Soil)

Reviewed by: RA Date: 3-7-07 Spike Witness: D-S.S Pep. Seq: 96782

	GPL Work Order No.	Sample	Frac	Size mL (g)	Final Vol. (mL)	Matrix S, W Other	Color Before	Color After	Clarity Before or Soil Texture	Clarity After Clear, Cloudy, Opaque	Soil Artifacts or Water pH
							R, Bl, Y, G, O, V, W, Colorless, Br, Grey, Bk.				
1	BLK	146		1.00	100	S				clear	✓
2	BKS	146		1.00							✓
3	702113	001	-007-i	1.21		Soil	Brown	Yellow	Moist		✓
4		MS		1.23							
5		MSD		1.27							
6		002	-008-i	1.24							
7		003	-009-i	1.19							
8		004	-010-i	1.19							
9		005	-011-i	1.24							
10		006	-012-i	1.22							
11	702114	001	-001-i	1.20							
12		002	-002-i	1.33							
13		003	-003-i	1.20							
14		004	-004-i	1.27							
15		005	-005-i	1.32							
16		006	-006-i	1.21							
17		007	-007-i	1.35							
18		008	-008-i	1.27							
19		009	-009-i	1.16							
20		010	-010-i	1.26							
21	702086	002	-002-i	2.13		Liquid					
22		003	-003-i	2.17							
23					MII		2-8-07				
24											

LCS ID/ Amt. Added (ml ,g) : 0.2 ml (38355, 38356, 38357)

Spiking ID / Amt. Added (ml) : 0.2 ml (38355, 38356, 38357)

10ML 1:1 Nitric, 10ML Nitric CNC, 7ML Peroxide, 10ML HCL CNC

Temperature C: 94°C

HNO3(1+1) ID: GP.057-142-02

HNO3(conc) ID: GP.129-09-16

HCl(conc) ID: GP.129-09-06

HCl(1+1) ID: -

Peroxide ID: GP-129-09-10

SHAW SOIL DRYING LOGBOOK

REVIEWED BY: RA 3-7-07

BALANCE ID: _____

Work Order	Fraction	Starting Date	Initials	Wet Weight(g)	2nd Weighing(g)	Confirming Weighing(g)	After 10 mesh seive Weighing(g)	Date	Initials
702113	006	2-26-07	NP	190.46	159.19	159.19	108.54	2-27-06	NP
↓	007	↓	↓	295.22	255.56	255.55	192.11	↓	↓
702114	001	2-26-07	NP	170.98	132.06	132.06	120.00	2-28-06	D.S.S
	002			134.51	91.68	91.68	87.31		
	003			183.22	124.90	124.90	123.00		
	004			273.42	170.97	170.97	168.22		
	005			189.44	127.03	127.03	125.70		
	006			212.72	149.40	149.40	148.25		
	007			170.94	118.14	118.14	117.17		
	008			236.91	213.80	213.80	203.21		
	009		NP	~~188.40~~ 183.05	155.84	155.84	140.01		
	010			267.49	193.37	193.37	177.89		
763019	001								
	002								
	003								
	*004								
	005								
	006								
	*007								
	008								
	009								
	010								
	011								
	*012								
	013								
	014								
	015								

COMMENTS: _____

Appendix G
Analytical Data QA/QC Report

Table of Contents

Page

List of Tables ..... G-ii
List of Attachments ..... G-iii
List of Acronyms ..... G-iii
G.1.0 Introduction G-1
G.2.0 Field Sampling and QC Activities G-3
G.2.1 Field Duplicates G-3
G.2.2 USACE Split Samples G-4
G.2.3 Equipment Rinsates G-4
G.2.4 Field Blanks G-5
G.3.0 Analytical Program and QC Activities G-6
G.3.1 Laboratory QA/QC Procedures G-6
G.3.1.1 Method Blanks G-6
G.3.1.2 Surrogate Spikes G-7
G.3.1.3 Matrix Spikes and Laboratory Control Spikes G-7
G.3.1.4 Calibrations G-9
G.3.1.5 Second Column Confirmation G-9
G.3.1.6 Serial Dilutions G-10
G.3.2 Reporting Limits G-10
G.3.3 Holding Times G-11
G.4.0 Data Evaluation and Usability G-12
G.4.1 Statement of Data Usability G-15

List of Tables

Table	Title
G-1	Summary of Samples Collected and Sample Tracking Information
G-2	Summary of Soil and Sediment Parent and Field Duplicate Results and RPD Calculations
G-3	Laboratory Qualifier and Data Validation Qualifier Definitions
G-4	Data Validation Qualifier Reason Code Definitions
G-5	Summary of Negatively Impacted Sample Results Associated with Adverse QC Criteria
G-6a	Comparison of Transition Range 1 Soil Results to Site Inspection Screening Levels
G-6b	Comparison of Transition Range 2 Soil Results to Site Inspection Screening Levels
G-6c	Comparison of Rifle Grenade / Anti-Tank Rocket Range Soil Results to Site Inspection Screening Levels
G-6d	Comparison of Live Grenade Range Soil Results to Site Inspection Screening Levels
G-6e	Comparison of Rifle Range Soil Results to Site Inspection Screening Levels
G-7a	Comparison of Transition Range 1 Sediment Results to Site Inspection Screening Levels
G-7b	Comparison of Transition Range 2 Sediment Results to Site Inspection Screening Levels
G-7c	Comparison of Rifle Grenade / Anti-Tank Rocket Range Sediment Results to Site Inspection Screening Levels
G-7d	Comparison of Rifle Range Sediment Results to Site Inspection Screening Levels
G-7e	Comparison of Quartermaster's Wharf Sediment Results to Site Inspection Screening Levels
G-8a	Background Soil Results
G-8b	Background Sediment Results

List of Attachments

Attachment	Title
1	Summary of Analytical Results
2	Summary of Analytical Results greater than the MDL
3	Approved Variances

List of Acronyms

ADR	automated data review
AR/COC	Analysis Request/Chain of Custody
bgs	below ground surface
CCB	continuing calibration blank
CCV	continuing calibration verification
CFR	Code of Federal Regulations
CLP	Contract Laboratory Program
DAF	Dilution Attenuation Factor
DQO	data quality objectives
Ft. Flagler	Ft. Flagler Military Reservation
FUDS	Formerly Used Defense Sites
GPL	GPL Laboratories, LLLP
HMX	octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine
ICAL	initial calibration
ICB	initial calibration blank
ICV	initial calibration verification
ID	identification
LCS	laboratory control sample
LCSD	laboratory control sample duplicate
MC	munitions constituents
MDL	method detection limit
MEC	munitions and explosives of concern
MMRP	Military Munitions Response Program
MS	matrix spike

MSD	matrix spike duplicate
NWO	Omaha District Military Munitions Design Center
PQL	practical quantitation limits
PRG	preliminary remediation goal
PETN	pentaerythritol tetranitrate
PSAP	program sampling and analysis plan
QA/QC	quality assurance/quality control
RDX	hexahydro-1,3,5-trinitro-1,3,5-triazine
RL	reporting limit
RPD	relative percent difference
RRF	relative response factor
RSD	relative standard deviation
SDG	sample delivery group
SEDD	staged electronic data deliverable
Shaw	Shaw Environmental, Inc.
SI	site inspection
SOPs	standard operating procedures
SS-WP	site specific-work plan
Tetryl	methyl-2,4,6-trinitrophenylnitramine
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
UTL	upper tolerance limit

G.1.0 Introduction

This appendix presents the Analytical Data QA/QC Report for Fort Flagler Military Reservation (Ft. Flagler) Site Inspection (SI). This report will discuss results of the quality assurance/quality control (QA/QC) measures implemented during the sampling and analysis portion of the SI at Ft. Flagler, located in Jefferson County, Washington, on the west side of Puget Sound near Port Townsend under the Formerly Used Defense Site (FUDS) Military Munitions Response Program (MMRP). The quality indicators from every aspect of the data collection have been reviewed, and an assessment of the data with regard to project-specific objectives is presented. Successful execution of project-specific objectives and procedures provides strong support for the acceptance of the data as adequate for the purpose of evaluating if the Ft. Flagler site requires further response action due to the presence of munitions and explosives of concern (MEC) / munitions constituents (MC).

The data review process presented in this report compares sample results to pre-established criteria referenced in Shaw's FUDS MMRP Sampling and Analysis Plan (SAP), (Shaw, 2006a) to confirm that the data are of acceptable technical quality. GPL Laboratories, LLLP (GPL) provided Shaw with a Level 4 data package including "Contract Laboratory Program (CLP)-Like" summary forms, Staged Electronic Data Deliverables (SEDD) Stage 2a (version Draft 5.0), and Automated Data Review (ADR) compatible A1, A2, & A3 files for all sample delivery groups (SDG). Shaw conducted a data assessment on all samples collected in support of this SI. One-hundred percent of the analytical data have been reviewed and validation qualifiers assigned based on U.S. Environmental Protection Agency (USEPA) CLP National Functional Guidelines for Organic Data Review, October 1999 and USEPA CLP National Functional Guidelines for Inorganic Data Review, October 2004. Automated Data Review (ADR) software (version 8.1) was used to assist in the data validation process for all areas with the exception of initial calibration blanks (ICB) / continuing calibration blanks (CCB), interference check standards, serial dilutions, and second column confirmation which were assessed manually. Data were evaluated against specific criteria to verify the achievement of all precision, accuracy, representativeness, completeness, comparability, and sensitivity goals established to meet the project data quality objectives (DQO). To verify that these DQOs were met, field measurements, sampling and handling procedures, laboratory analysis and reporting, and all non-conformances and discrepancies in the data were examined to determine compliance with the appropriate and applicable procedures. The results of this review are presented in the following sections, with all outliers or non-conformances discussed where they occurred.

This report is divided into three subsections. Section G.2.0 discusses the overall field investigation

and QC procedures used by Shaw during the sampling effort. Section G.3.0 outlines the analytical program and the associated QC activities as specified in Shaw's Ft. Flagler Site-Specific Work Plan (SS-WP) and in Shaw's FUDS MMRP SAP. The final part of this document, Section G.4.0, summarizes the data findings and their overall impact on the usability of the analytical data.

G.2.0 Field Sampling and QC Activities

Shaw is responsible for conducting the SI at Ft. Flagler, which is located in the northwest region, under the MMRP Contract No W912DY-04-D-0010, Delivery Order 003 managed by the Omaha District Military Munitions Design Center (NWO). Field activities at this site included the collection of soil and sediment samples (0 to 0.5 foot below ground surface [bgs]) from twenty-seven locations. Soil and sediment samples were submitted to the laboratory with requested analyses of lead only (soil digestion method 3050B), aluminum, chromium, copper, iron, lead, manganese, molybdenum, and nickel by SW-846 6020A (soil digestion method 3050B), and target analyte list (TAL) metals by SW-846 6020A / 7471A (soil digestion method 3050B), and explosives by SW-846 8330A including nitroglycerine and pentaerythritol tetranitrate (PETN). Table G-1 summarizes the location identification (ID), the sample identity or number, sample purpose, sample matrix, date of collection, GPL's SDG identity, and the analytical program for each sample collected for the Ft. Flagler SI.

Sample shipments from the field were performed under custody and documented using standard GPL Analysis Request/Chain of Custody (AR/COC) forms. These forms provide project-specific analytical specifications and QC instructions to the laboratory. The following amendments were made to the original AR/COCs associated with the Ft. Flagler SI:

SDG	Amendment	Affected Sample(s)	Reason for Amendment
702113	Sample sieving (No. 10 Sieve) per GPL internal SOP Number H36 sample preparation added to samples NWO-039-0006, NWO-039-0007, NWO-039-0008, NWO-039-0009, NWO-039-1005, and NWO-039-0010	NWO-039-0006 NWO-039-0007 NWO-039-0008 NWO-039-0009 NWO-039-1005 NWO-039-0010	To prepare and analyze samples by the same procedures as the Ft. Flagler SI background samples.
	Matrix Spike (MS) / Matrix Spike Duplicate (MSD) analyses added to sample NWO-039-0006.	NWO-039-0006	Pre-planned sample identified for MS/MSD was not collected in the field.

G.2.1 Field Duplicates

Field duplicate samples are collected and submitted "blind" to the laboratory for analysis along with their corresponding original sample. The data generated from the analysis of field duplicate samples are used to evaluate the precision of the sample collection and analysis procedures. Field duplicate samples are generally collected at a frequency of approximately one for every ten samples collected

(10 percent) per matrix. A high relative percent difference (RPD) value between a parent sample's result and its corresponding field duplicate's result may be attributed to the difference in sample matrix or distribution of the constituent within the sample, rather than the lack of precision of the collection process. Also, when "estimated" results are reported, there is a potential for increased variability between the primary and duplicate sample results. At low concentrations the relative difference in results is magnified by the RPD calculation even though the results are comparable in absolute terms. There is also increased uncertainty in the results as the lower limit of detection is approached, due to decreasing analytical accuracy. RPD is calculated by using the following formula:

$$\text{RPD} = \frac{(V_1 - V_2)}{\frac{(V_1 + V_2)}{2}} \times 100$$

where:
RPD = relative percent difference
V1 = value 1; V2 = value 2

In cases where duplicates were performed and both results are less than the method detection limit (MDL) and cases where one result is greater than the MDL, and the second result is non-detect, the RPD is not calculated. In these cases where the RPD was not calculated, "NC" (not calculated) is denoted in the RPD column. Precision evaluation criteria for field duplicate comparison was established at RPD<50% for soils/sediments. Table G-2 summarizes the calculated RPD between the parent sample result and its corresponding field duplicate result for soil. No field duplicate samples were collected for aqueous samples due to the lack of surface water encountered at the site. The calculated RPD between the parent sample values and their corresponding field duplicates met the evaluation criteria.

G.2.2 USACE Split Samples

No U.S. Army Corps of Engineers (USACE) field split samples were collected during this Ft. Flagler SI.

G.2.3 Equipment Rinsates

Equipment rinsates are used to assess the effectiveness of the decontamination procedures used by the sampling team on reusable sampling equipment. Disposable sampling equipment was used during the Ft. Flagler SI, therefore no equipment rinsate samples were collected.

G.2.4 Field Blanks

Field blanks or material blanks are collected to assess potential contamination introduced to the sample matrix in the field through sample handling procedures. Field blanks are generally prepared from a clean source water (deionized water) used during decontamination procedures. No field blanks were collected during the Ft. Flagler SI.

G.3.0 Analytical Program and QC Activities

The project QA/QC program described in the Ft. Flagler SS-WP and the Shaw's FUDS MMRP SAP was followed for the collection and laboratory analysis of samples. Each of the analytical methods used require that method-specific QA/QC protocols be followed during sample analysis. These protocols are a critical part of the methods employed and were followed by the laboratory during sample analysis. Specific measures included detailed record keeping procedures, instrument calibrations, and analysis of method blanks, blank spikes, MS/MSD, surrogates, second-column confirmation and serial dilutions. Attachment 1 and Attachment 2 to this appendix contains both a summary of analytical results and a summary of analytical results greater than the MDL, respectively. These data summaries also include the assigned data validation qualifiers. Definitions of laboratory and data validation qualifiers are found in Table G-3. Data validation qualifier reason code definitions are found in Table G-4. Approved variances to Shaw's FUDS MMRP SAP are included as Attachment 3.

G.3.1 Laboratory QA/QC Procedures

The following sections discuss a few of the QA/QC protocols required and performed by the laboratory during this SI.

G.3.1.1 Method Blanks

Method blanks were analyzed with each analytical "batch" processed on a per matrix (i.e., soil and water) basis. These blanks were carried step-wise through the same analytical procedure as the field samples including the addition of solvents, surrogate and standard spikes, and reagents as required in the analysis process. The purpose of the blank is to identify any possible contaminants that may be introduced to the sample as a result of the analytical process. During validation, the data validators evaluated all blank data associated with each sample. Data were evaluated based on USEPA CLP *National Functional Guidelines for Organic Data Review* and USEPA CLP *National Functional Guidelines for Inorganic Data Review* guidance documents and were qualified accordingly.

Target compounds detected in associated blanks increase the uncertainty regarding the presence of the same constituents in field samples. For a compound identified in both a blank and field sample, it must be present at a concentration of five times higher in the field sample to be considered a "hit". Common laboratory contaminants such as acetone, methylene chloride, and toluene are not assumed present until sample concentrations exceed ten times the associated blank value. GPL does not consider any explosives or metals as common laboratory contaminants. This is referred to as the

5X/10X rule.

Field sample concentrations were evaluated during data validation to determine if the sample results could have been biased by the presence of any contamination measured in method blanks, ICBs and/or bracketing CCBs. The following sample results were impacted by blank contamination:

SDG	Analysis	Blank ID	Analyte(s)	Action
702112	SW6020A	BLK96699 (Method Blank)	Thallium	Thallium result for sample NWO-039-5001 was qualified "U" due to contamination detected in the associated method blank.
	SW6020A	CCB	Silver	Silver results for samples NWO-039-5002, NWO-039-5003, NWO-039-5004, NWO-039-5005, NWO-039-5006, NWO-039-5007, NWO-039-5008, NWO-039-5010, NWO-039-5011, NWO-039-5012, and NWO-039-5013 were qualified "U" due to contamination detected in the bracketing CCBs.

G.3.1.2 Surrogate Spikes

Spiked surrogate compounds were used in the analytical program to monitor the efficiency of the sample preparation and accuracy of analysis procedures on a sample-by-sample basis for all explosive compounds. The compounds used as surrogates, and the target acceptance limits for their recovery, were those specified in Shaw's FUDS MMRP SAP. The percent recoveries of the surrogate compounds were within the project-specified limits for all explosive analyses with the exception of samples NWO-039-0008 (high bias) and NWO-039-0009 (high bias). No qualification of the data was required due to no explosive compounds being detected above the MDL for samples NWO-039-0008 and NWO-039-0009.

It should be noted surrogate recovery evaluation is primarily evaluated from the standard SW-846 8330A analyses. This is due to nitroglycerine and pentaerythritol tetranitrate (PETN) being analyzed from the same extract as the standard SW-846 8330A analytes.

G.3.1.3 Matrix Spikes and Laboratory Control Spikes

Two types of spikes were generally performed for all analyses: those spikes applied to the sample matrix, identified as MS, and those applied to a "blank" matrix known as a laboratory control sample (LCS). The spiked compounds are target analytes that are quantified during performance of the method. Spikes are introduced during sample preparation on an aliquot of the sample, or a blank matrix. Results of these spiked aliquots are then compared to the native concentrations of the same analytes and a recovery calculated. Recovery of the spiked compound is used as an assessment of

accuracy on the sample matrix analyzed. These results are useful in distinguishing sample matrix interferences from analysis interferences through a comparison of MS and blank spike recovery data. Often, MSs are performed in duplicate (as a matrix spike duplicate [MSD] or LCS duplicate [LCSD]) on prepared sample aliquots. In this manner, an assessment of precision can be quantified as the RPD of the original and duplicate spike. The target acceptance limits are presented in Shaw's FUDS MMRP SAP.

Matrix spikes are assigned at a frequency of approximately 5%, or 1 for every 20 field samples collected. One MS/MSD was collected in the field and was associated with sample NWO-039-5001. This sample corresponds to sample location 039A-018. If a sample is designated for analysis as an MS/MSD, additional sample volume is provided to the laboratory. This sampling meets the collection criteria as specified in Shaw's Ft. Flagler SS-WP and FUDS MMRP SAP. It should be noted MS/MSD analyses were added to sample NWO-039-0006 due to the original MS/MSD samples pre-planned for location 039A-001 were not collected. Location 039A-001 was a contingency surface soil location allotted for soil characterization if MEC or munitions debris was identified during the visual reconnaissance of the ammunition bunker area of concern. Sample NWO-039-0006 corresponds to sample location 039A-009.

The MS/MSD criteria were met, with the exception of the following, which exhibited percent recoveries and/or RPDs outside QC limits:

SDG	Analysis	Sample Number	Analyte(s)	Action
702112	SW6020A	NWO-039-5001 (MS/MSD)	Antimony (LB) Aluminum (HB) Calcium (HB) Iron (HB) Magnesium (HB) Manganese (HB)	Antimony result for sample NWO-039-5001 was qualified "UJ" due to its MS/MSD spike recoveries reported outside QC criteria. Reported antimony result may be biased low. No action required for aluminum, calcium, iron, magnesium and manganese. Parent sample concentrations were 4x greater than the MS-MSD spike concentration.
702113	SW6020A	NWO-039-0006 (MS/MSD)	Manganese (HB) Aluminum (HB) Iron (HB)	Manganese result for sample NWO-039-0006 was qualified "J" due to MS/MSD spike recoveries reported outside QC criteria. Reported manganese result may be biased high. No action required for aluminum and iron. Parent sample concentrations were 4x greater than the MS-MSD spike concentration.

LB – low bias
HB – high bias

No significant problems were identified with the MS recoveries that caused sample results to be qualified “R” as rejected. All other MS/MSD parameters met the target acceptance criteria required as established in Shaw’s FUDS MMRP SAP.

LCS results are used to evaluate laboratory method performance in the same manner as the MS/MSD results, except the LCS is not performed on an actual field sample matrix. An LCS is prepared for each analytical batch for each parameter and matrix analyzed. All LCS spike recoveries met the established acceptance criteria

G.3.1.4 Calibrations

Initial calibration information is verified to demonstrate that reported results are comparable to known concentrations of target compounds. A series of standard reference solutions containing all target constituents are analyzed using the type of instrumentation specified by the method. The standards are used to determine the sensitivity of the analysis and the effective analytical (i.e., linear) range for which data can be accurately reported.

High initial calibration (ICAL) Percent Relative Standard Deviation (%RSD) indicates that a nonlinear response was obtained during the initial calibration. A low ICAL mean Relative Response Factor (RRF) indicates the compound exhibits poor response to the selected method (or detector). For all sample analyses, the ICAL correlation coefficient of > 0.995 (the industry standard) and relative standard deviation (%RSD) acceptance criteria of < 20% (the criteria for relative response factor [RRF] and %RSD are based on SW-846 Method 8000B) were met for all analyses. All ICVs and CCVs were within QC criteria.

G.3.1.5 Second Column Confirmation

Sample results reported from GC or HPLC methodologies (i.e., SW-846 8330A) are confirmed by using a dissimilar column or dissimilar detector. The analyte(s) must be detected by both the primary and confirmation columns or detectors in order for the analyte(s) to be confirmed as being present in the sample. Agreement or analytical precision between the two results is calculated as RPD. If the calculated RPD between the two differing columns or detectors exceeds 40%, then the result reported from the primary column is reported as estimated or "J" qualified. It should be noted at low concentrations the relative difference in results is magnified by the RPD calculation even though the results are comparable in absolute terms. There is also increased uncertainty in the results as the lower limit of detection is approached, due to decreasing analytical accuracy. Also, if analytes co-elute on the confirmation column; results reported from the primary column are qualified

"J" as estimated. No explosives were detected above the MDL for samples associated with the Fort Flagler SI.

G.3.1.6 Serial Dilutions

For metals analyses, a serial dilution is analyzed to verify that no matrix effects are present. A percent difference is calculated between the original result and a second result calculated from a 1:4 dilution of the original sample. Acceptance criteria of < 10% for original results greater than 100x their corresponding MDL (criteria for percent difference are based on SW-846 Method 6020A) were met.

G.3.2 Reporting Limits

Practical quantitation limits (PQL) used for this project are those statistically determined by GPL. The analytical program executed required the use of SW-846 methods, which specify the procedure for calculating the PQLs presented. Each laboratory is required to demonstrate method performance through MDL studies for every method employed. These studies are required to be laboratory-specific so that individual laboratory variables such as equipment brands, reagent suppliers, and chemist technique are factored into the performance study. MDLs are established using controlled matrices (i.e., deionized water). The PQL calculation adjusts the limit by a predetermined mathematical factor for the analysis of actual environmental sample matrices (i.e. soil, groundwater, etc.). For purposes of clarity and consistency with respect to terminology, the term "reporting limit" (RL) has been substituted for PQL when referencing the limit of detection reported by the laboratory for each individual sample and parameter. The actual values reported have been corrected for all necessary dilutions, dryness, and interference factors as applicable based on the resulting analytical data for a sample.

MDLs, PQLs, and RLs are generally defined as follows:

- ***MDL.*** The minimum concentration of an analyte that can be determined with 99 percent confidence that the true value is greater than zero.
- ***PQL.*** The lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. The PQL is set at the lowest standard used in the ICAL or higher for each target analyte.
- ***RL.*** This number is equivalent to the PQL.

The MDL is the lower limit at which the laboratory can differentiate a measurement from background. The MDL is determined in accordance with the procedures in 40 Code of Federal

Regulations (CFR) Part 136. A PQL, or RL, is the lower limit at which a measurement becomes meaningful. The RL is generally a multiple of three to five times the MDL.

Several samples had elevated reporting limits due to suspected matrix effects and complications encountered at the laboratory. The amount of solvent added during the SW8330A extraction process had to be altered in order to properly extract the explosive compounds from the soil matrix. GPLs PQLs are below the general RLs presented in the USACE MMRP Program Sampling and Analysis Plan (PSAP), however, in some cases, they are slightly higher than those listed in Shaw's FUDS MMRP SAP. Actual sample reporting limits can be reviewed on a sample by sample basis by reviewing the data summary presented in Attachment 1. Also, a general comparison of laboratory reported results, laboratory PQLs, and laboratory MDLs to SI screening levels are found in Tables G-6 and G-7. Reported sample results provide sufficient sensitivity in regarding the presence of lead associated with past military activities at this site.

G.3.3 Holding Times

All laboratory results submitted for this SI have been reviewed with respect to laboratory adherence to extraction and analysis holding times. Maximum sample extraction and analysis hold times are presented in Tables 4-1 and 4-2 of Shaw's FUDS MMRP SAP. All holding time criteria were met.

G.4.0 Data Evaluation and Usability

The analytical data review process identified a few analytical nonconformance issues that were noted during this analytical program. These anomalies have been discussed in the text of this Analytical Data QA/QC Report. Table G-5 summarizes impacted sample results associated with QC exceedances. Table G-3 defines laboratory and data validation qualifiers and Table G-4 defines data validation qualifier reason codes.

The following definitions are used for defining precision, accuracy, representativeness, completeness, comparability, and sensitivity as they have been applied to this evaluation:

Precision. Precision is a measurement of mutual agreement among individual measurements of the same property, usually under prescribed similar conditions. For this project, precision data were obtained through the analysis and evaluation of field duplicate samples as RPD. RPD is calculated as follows:

$$\text{RPD} = \frac{(V_1 - V_2)}{\frac{(V_1 + V_2)}{2}} \times 100$$

where:
RPD = relative percent difference
V1 = value 1; V2 = value 2

Parent sample and field duplicate comparisons show that the field team is consistent in their sample collection practices. Field duplicate results are summarized in Section G.2.1 and Table G-2. Precision was also evaluated through the comparison of MS and MSD or LCS and LCSD results. The spiked samples (MS, MSD, LCS, LCSD) RPDs are evaluated during data validation and data are qualified accordingly. RPD within the acceptance criteria indicates that the laboratory is performing adequately and that the results are reproducible for the analytes of interest at this site. Acceptance criteria are defined in Shaw's FUDS MMRP SAP for each analyte of concern. These data and all necessary qualifications are discussed in Section G.3.1.3. In respect to precision, the data are usable for their intended purpose.

Accuracy. Accuracy is a measurement of bias in a system and is expressed as a percent recovery. Accuracy is typically determined through the analysis and evaluation of blanks, LCSs, and MS/MSD samples. Percent recovery is calculated as follows:

$$\% \text{ Recovery} = 100 \times \frac{\text{measured value}}{\text{true value}}$$

MS/MSDs, LCS, and surrogates and all data qualifications are summarized in Sections G.3.1.2 and G.3.1.3. The noted QC exceedances discussed in these sections resulted in the qualification of the reported data as being estimated ("UJ"/"J") but were not significant enough for rejection of the data. In respect to accuracy, the data are usable for their intended purpose.

Representativeness. Representativeness is a qualitative parameter that expresses the degree to which sample data actually represent the matrix and site conditions. General requirements and procedures referenced in Shaw's FUDS MMRP SAP and corporate standard operating procedures (SOPs) for sample collection and handling are designed to maximize sample representativeness. Representativeness also can be monitored by reviewing field documentation and by performing field audits. Soil samples were collected at locations likely to be representative of MC contamination based on physical evidence of contamination or source areas (eg., staining, debris, sumps, or extent of magnetic anomalies). Sediment samples were collected based on field observations of surface topography and drainage, at locations that are within a surface water or runoff pathway downslope of a specific potential source area.

All samples were collected using SOPs and were fully documented through the use of standard field forms. Samples are representative of the matrix and site sampled.

Completeness. Completeness is a measure of the amount of valid data obtained during a sampling event as compared to the amount of data planned for collection and determined to be usable for the intended purpose. Typically, an overall completeness goal of 95 percent is set for projects of this type. Completeness is calculated as follows:

$$\%C = (U/T) \times 100$$

where:
%C = Percent completeness;
U = Number of measurements judged usable; and
T = Total number of measurements.

During this SI, 30 samples were collected resulting in a total of 482 records. No results were rejected during the data quality evaluation out of the total 482 records. A summary of data

qualification and the reasons for qualifier assignments is presented in Attachment 1. Using the above calculation, 100 % completeness is achieved for this sample event.

Field completeness is estimated as the percentage of all planned samples that were actually collected and analyzed. The calculation is as follows:

$$\%FC = (A/P) \times 100$$

where:
%FC = Field Percent Completeness;
A = Actual number of samples collected, and
P = Number of planned samples to collect

Discussion of field completeness is provided in the main text of the SI report.

Comparability. Comparability is a qualitative parameter expressing the confidence with which one data set can be compared with another. Comparability ensures that results for the sampling event can be compared with data from past and future sampling programs. Comparability for this sampling event was achieved through the use of established and recognized techniques and through the laboratory's use of standard USEPA methodology. All samples collected for this task were subjected to the same sampling, handling, preparation, analysis, reporting, and validation criteria for the purpose of achieving comparability goals within the data set.

Sensitivity. Sensitivity is defined as the ability of the laboratory's established MDL/PQL to meet project-specific DQOs. MDL is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero. MDLs are determined from an analysis of a sample in a given matrix containing the target analyte of interest. The RL is a threshold value based upon the sensitivity capability of method and instrument. PQLs are normally set at a minimum of three times the MDL. MDLs/PQLs are adjusted based on the sample matrix, moisture (solids only), and any necessary sample dilutions. The laboratory cannot reliably quantitate values reported above the MDL but below the PQL. Therefore, these analyte values must be flagged as estimated quantities ("J" flagged).

To evaluate method sensitivity, a general comparison of the laboratory's MDLs and PQLs and the following regulatory values was performed. The laboratory soil PQLs/MDLs were compared against the following screening levels:

- Calculated Fort Flagler SI Surface Soil Background 95th upper tolerance limit (UTL) / 95th Percentile (Surface Soil)
- "3x" Maximum Concentration from Media Background Sample (Sediment only)
- Ecological Screening Levels comprised from Washington Department of Ecology Lowest Value for Plants / Soil Biota / Wildlife, USEPA Region 5 (August 2003), USEPA Region 7, USEPA Region 8, USEPA Region 10, and Lower of Talmage, et al, (1999) or Los Alamos National Laboratory (2005) values
- USEPA Region 9 Preliminary Remediation Goal (PRG) for Residential Soils

GPL's soil MDLs/PQLs for all target analytes of interest met or were below SI screening levels.

G.4.1 Statement of Data Usability

One-hundred percent of the analytical data have been reviewed and validation qualifiers assigned based on USEPA CLP *National Functional Guidelines for Organic Data Review,* October 1999 and USEPA CLP *National Functional Guidelines for Inorganic Data Review*, October 2004. ADR software (version 8.1) was used to assist in the data review process for all areas with the exception of ICBs, CCBs, interference check standards, serial dilutions, and second-column confirmation which were assessed manually. Data were evaluated against specific criteria to verify the achievement of all precision, accuracy, representativeness, completeness, comparability, and sensitivity goals established to meet the project DQOs.

The overall quality of the data collected for the Ft. Flagler SI has been discussed in this Analytical Data QA/QC Report. Results of the analyses as discussed in this evaluation are indicative of the media analyzed with the exception of QC exceedances listed below:

- Thallium result for surface soil sample NWO-039-5001 was qualified "U" due to method blank contamination

- Silver results for surface soil samples NWO-039-5002, NWO-039-5003, NWO-039-5004, NWO-039-5005, NWO-039-5006, NWO-039-5007, NWO-039-5008, NWO-039-5010, and NWO-039-5011, and sediment samples NWO-039-5012, and NWO-039-5013 were qualified "U" due to CCB contamination

- Antimony result for surface soil sample NWO-039-5001 was qualified "UJ" due to MS/MSD spike recoveries reported outside QC criteria

- Manganese result for surface soil sample NWO-039-0006 was qualified "J" due to MS/MSD spike recoveries reported outside QC criteria

No data was qualified “R” as unusable. Overall, these data do reflect expected site conditions and are fully usable for their intended purpose.

Table G-1

Summary of Samples Collected and Sample Tracking Information
Fort Flagler Military Reservation

Location ID	Sample Number	Sample Purpose	Sample Type	Date Collected	Sample Depth (ft)	Laboratory SDG Number	Lead by SW-846 6020A	Select Metals* by SW-846 6020A	TAL Metals (including Molybdenum) by SW-846 6020A	Mercury by SW-846 7471A	Explosives by SW-846 8330A	Nitroglycerine and PETN by SW-846 8330A (Modified)
Transition Range 1												
039A003	NWO-039-0002	REG	SS	21-Feb-07	0 - 0.5	702114-001	X					
039A004	NWO-039-0003	REG	SS	21-Feb-07	0 - 0.5	702114-002	X					
039A005	NWO-039-1002	REG	SD	21-Feb-07	0 - 0.5	702114-003	X					
Transition Range 2												
039A006	NWO-039-0004	REG	SS	21-Feb-07	0 - 0.5	702114-004	X					
039A007	NWO-039-0005	REG	SS	21-Feb-07	0 - 0.5	702114-005	X					
039A008	NWO-039-1003	REG	SD	21-Feb-07	0 - 0.5	702114-006	X					
	NWO-039-1004	FD	SD	21-Feb-07	0 - 0.5	702114-007	X					
Rifle Grenade / Anti-Tank Rocket Range												
039A009	NWO-039-0006	REG	SS	21-Feb-07	0 - 0.5	702113-001		X			X	X
	NWO-039-0006-MS	MS	SS	21-Feb-07	0 - 0.5	702113-001MS		X			X	X
	NWO-039-0006-MSD	MSD	SS	21-Feb-07	0 - 0.5	702113-001MSD		X			X	X
039A010	NWO-039-0007	REG	SS	21-Feb-07	0 - 0.5	702113-002		X			X	X
039A011	NWO-039-0008	REG	SS	21-Feb-07	0 - 0.5	702113-003		X			X	X
	NWO-039-0009	FD	SS	21-Feb-07	0 - 0.5	702113-004		X			X	X
039A012	NWO-039-1005	REG	SD	21-Feb-07	0 - 0.5	702113-005		X			X	X
Live Grenade Range												
039A013	NWO-039-0010	REG	SS	21-Feb-07	0 - 0.5	702113-006		X			X	X
Rifle Range												
039A014	NWO-039-0011	REG	SS	21-Feb-07	0 - 0.5	702114-008	X					
039A015	NWO-039-0012	REG	SS	21-Feb-07	0 - 0.5	702114-009	X					
039A016	NWO-039-1006	REG	SD	21-Feb-07	0 - 0.5	702114-010	X					
Quartermaster's Wharf												
039A017	NWO-039-0013	REG	SD**	21-Feb-07	0 - 0.5	702113-007					X	X
Background												
039A018	NWO-039-5001	REG	SS	21-Feb-07	0 - 0.5	702112-001			X	X		
	NWO-039-5001-MS	MS	SS	21-Feb-07	0 - 0.5	702112-001MS			X	X		
	NWO-039-5001-MSD	MSD	SS	21-Feb-07	0 - 0.5	702112-001MSD			X	X		
039A019	NWO-039-5002	REG	SS	20-Feb-07	0 - 0.5	702112-002			X	X		
039A020	NWO-039-5003	REG	SS	20-Feb-07	0 - 0.5	702112-003			X	X		
039A021	NWO-039-5004	REG	SS	20-Feb-07	0 - 0.5	702112-004			X	X		
039A022	NWO-039-5005	REG	SS	20-Feb-07	0 - 0.5	702112-005			X	X		
039A023	NWO-039-5006	REG	SS	20-Feb-07	0 - 0.5	702112-006			X	X		
039A024	NWO-039-5007	REG	SS	20-Feb-07	0 - 0.5	702112-007			X	X		
039A025	NWO-039-5008	REG	SS	21-Feb-07	0 - 0.5	702112-008			X	X		
039A026	NWO-039-5009	REG	SS	20-Feb-07	0 - 0.5	702112-009			X	X		
039A027	NWO-039-5010	REG	SS	20-Feb-07	0 - 0.5	702112-010			X	X		
	NWO-039-5011	FD	SS	20-Feb-07	0 - 0.5	702112-011			X	X		
039A028	NWO-039-5012	REG	SD	20-Feb-07	0 - 0.5	702112-012			X	X		
039A029	NWO-039-5013	REG	SD**	21-Feb-07	0 - 0.5	702112-013			X	X		

Notes:
X - Indicates a sample was collected and analyzed for the given parameter
* Select metals are aluminum, chromium, copper, iron, lead, manganese, molybdenum, and nickel.
** Sediment - beach sand

ft - feet
SDG - sample delivery group
TAL - target analyte list
PETN - pentaerythritol tetranitrate
REG - regular field sample
FD - field duplicate

MS - matrix spike
MSD - matrix spike duplicate
SS - surface soil (< 0.5ft below ground surface)
SD - sediment

Table G-2

Summary of Soil and Sediment Parent and Field Duplicate Results and RPD Calculations
Fort Flagler Military Reservation

Location			039A008					039A011					039A027				
Sample Date			21-Feb-07					21-Feb-07					20-Feb-07				
Sample Number			NWO-039-1003		NWO-039-1004			NWO-039-0008		NWO-039-0009			NWO-039-5010		NWO-039-5011		
Sample Depth (bgs) (ft)			0.0 to 0.5		0.0 to 0.5			0.0 to 0.5		0.0 to 0.5			0.0 to 0.5		0.0 to 0.5		
Sample Purpose			REG		FD			REG		FD			REG		FD		
Fraction	Parameter	Units	Result	VQ	Result	VQ	RPD	Result	VQ	Result	VQ	RPD	Result	VQ	Result	VQ	RPD
Metals	Aluminum	mg/kg						8060		8210		1.8	11000		10600		3.7
Metals	Antimony	mg/kg											< 0.12	U	< 0.13	U	NC
Metals	Arsenic	mg/kg											2.4	J	2.8	J	15.4
Metals	Barium	mg/kg											93.8		89.1		5.1
Metals	Beryllium	mg/kg											0.18		0.17		5.7
Metals	Cadmium	mg/kg											< 0.1	U	0.12	J	NC
Metals	Calcium	mg/kg											3030		2870		5.4
Metals	Chromium	mg/kg						17.9		19.9		10.6	27.6		26.9		2.6
Metals	Cobalt	mg/kg											7.5		7.2		4.1
Metals	Copper	mg/kg						10.8		10.3		4.7	9.6		9.3		3.2
Metals	Iron	mg/kg						11500		11600		0.9	14900		14400		3.4
Metals	Lead	mg/kg	28.4		22		25.4	17.3		15.9		8.4	22.3		20.2		9.9
Metals	Magnesium	mg/kg											3520		3340		5.2
Metals	Manganese	mg/kg						998		950		4.9	345		331		4.1
Metals	Mercury	mg/kg											0.095		0.097		2.1
Metals	Molybdenum	mg/kg						0.28	J	0.28	J	0.0	0.32	J	0.31	J	3.2
Metals	Nickel	mg/kg						27.9		27.2		2.5	42.3		41.1		2.9
Metals	Potassium	mg/kg											597	J	590	J	1.2
Metals	Selenium	mg/kg											< 0.69	U	< 0.73	U	NC
Metals	Silver	mg/kg											< 0.06	U	< 0.059	U	NC
Metals	Sodium	mg/kg											175	J	173	J	1.1
Metals	Thallium	mg/kg											< 0.12	U	< 0.13	U	NC
Metals	Vanadium	mg/kg											38.1		36.7		3.7
Metals	Zinc	mg/kg											41.2		39.7		3.7
Explosives	1,3,5-Trinitrobenzene	mg/kg						< 0.012	U	< 0.012	U	NC					
Explosives	1,3-Dinitrobenzene	mg/kg						< 0.002	U	< 0.002	U	NC					
Explosives	2,4,6-Trinitrotoluene	mg/kg						< 0.008	U	< 0.008	U	NC					
Explosives	2,4-Dinitrotoluene	mg/kg						< 0.014	U	< 0.014	U	NC					
Explosives	2,6-Dinitrotoluene	mg/kg						< 0.007	U	< 0.007	U	NC					
Explosives	2-Amino-4,6-dinitrotoluene	mg/kg						< 0.01	U	< 0.01	U	NC					
Explosives	2-Nitrotoluene	mg/kg						< 0.009	U	< 0.009	U	NC					
Explosives	3-Nitrotoluene	mg/kg						< 0.022	U	< 0.022	U	NC					
Explosives	4-Amino-2,6-dinitrotoluene	mg/kg						< 0.006	U	< 0.006	U	NC					
Explosives	4-Nitrotoluene	mg/kg						< 0.036	U	< 0.036	U	NC					
Explosives	HMX	mg/kg						< 0.012	U	< 0.012	U	NC					
Explosives	Nitrobenzene	mg/kg						< 0.006	U	< 0.006	U	NC					
Explosives	Nitroglycerine	mg/kg						< 0.04	U	< 0.04	U	NC					
Explosives	PETN	mg/kg						< 0.042	U	< 0.042	U	NC					
Explosives	RDX	mg/kg						< 0.071	U	< 0.071	U	NC					
Explosives	Tetryl	mg/kg						< 0.004	U	< 0.004	U	NC					

Notes:

bgs - below ground surface
ft - feet
mg/kg - milligram per kilogram
RPD - relative percent difference
NC - not calculated
VQ - validation qualifier

REG - regular sample
FD - field duplicate sample
HMX - octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine
PETN - Pentaerythritol tetranitrate
RDX - hexahydro-1,3,5-trinitro-1,3,5-triazine
Tetryl - methyl-2,4,6-trinitrophenylnitramine

Validation Qualifier Definitions

U - Not detected. The compound/analyte was analyzed for, but not detected above the associated reporting limit

J - The compound/analyte was positively identified; the reported value is the estimated concentration of the constituent detected in the sample

R - The reported sample results are rejected due to the following: 1. Severe deficiencies in the supporting quality control data, 2. Anomalies noted in the sampling and/or analysis process which could affect the validity of the reported data, 3. The presence or absence of the constituent cannot be verified based on the data provided, 4. To indicate not to use a particular result in the event of a reanalysis

UJ - The compound/analyte was analyzed for, but not detected above the established reporting limit. However, review and evaluation of supporting QC data and/or sampling and analysis process have indicated that the reporting limit may be inaccurate or imprecise. The nondetect result should be estimated

Table G-3

Laboratory Qualifier and Data Validation Qualifier Definitions

Laboratory Qualifier Definitions

All Departments	
U	Indicates that the compound was analyzed for but not detected
BQL	Below Quantitation Limit
D	Indicates that the analyte was reported from a diluted analysis
Organics	
B	Indicates that the analyte was found in the associated blank as well as in the sample
E	Indicates that the concentration detected exceeded the calibration range of the instrument
J	Value is less than the reporting limit by greater than the MDL
P	Indicates that there is greater than 40% difference for detected explosive results between two columns
Metals	
J	Indicates that the reported value was less than the reporting limit but greater than or equal to the IDL/MDL
E	Indicates that the reported value is estimated because of the possible presence of interferences (i.e., the serial dilution not within control limits)
B	Indicates that the element was found in an associated blank above 2x the MDL and/or ½ RL of a ICB / CCB / ICSA
N	Spiked sample recovery not within control limits
*	Duplicate analysis not within control limits

Data Validation Qualifier Definitions

U	Not detected. The compound/analyte was analyzed for, but not detected above the associated reporting limit
J	The compound/analyte was positively identified; the reported value is the estimated concentration of the constituent detected in the sample analyzed
R	The reported sample results are rejected due to the following: 1. Severe deficiencies in the supporting quality control data 2. Anomalies noted in the sampling and/or analysis process which could affect the validity of the reported data 3. The presence or absence of the constituent cannot be verified based on the data provided 4. To indicate not to use a particular result in the event of a reanalysis
UJ	The compound/analyte was analyzed for, but not detected above the established reporting limit. However, review and evaluation of supporting QC data and/or sampling and analysis process have indicated that the reporting limit may be inaccurate or imprecise. The nondetect result should be estimated

Table G-4

Data Validation Qualifier Reason Code Definitions

Reason Code	Definition
01	Sample received outside of 4+/-2 degrees Celsius
01A	Improper sample preservation
02	Holding time exceeded
02A	Extraction
02B	Analysis
03	Instrument performance – outside criteria
03A	BFB
03B	DFTPP
03C	DDT and/or Endrin % breakdown exceeds criteria
03D	Retention time windows
03E	Resolution
04	Initial calibration results outside specified criteria
04A	Compound mean RRF QC criteria not met
04B	Individual % RSD criteria not met
04C	Correlation coefficient >0.995
05	Continuing calibration results outside specified criteria
05A	Compound mean RRF QC criteria not met
05B	Compound % D QC criteria not met
06	Result qualified as a result of the 5x/10x blank correction
06A	Method or preparation blank
06B	ICB or CCB
06C	ER
06D	TB
06E	FB
07	Surrogate recoveries outside control limits
07A	Sample
07B	Associated method blank or LCS
08	MS/MSD/Duplicate results outside criteria
08A	MS and/or MSD recovery not within control limits (accuracy)
08B	% RPD outside acceptance criteria (precision)
09	Post digestion spike outside criteria (GFAA)
10	Internal standards outside specified control limits
10A	Recovery
10B	Retention time
11	Laboratory control sample recoveries outside specified limits
11A	Recovery
11B	% RPD (if run in duplicate)
12	Interference check standard
13	Serial dilution
14	Tentatively identified compounds
15	Quantitation
16	Multiple results available; alternate analysis preferred
17	Field duplicate RPD criteria is exceeded
18	Percent difference between original and second column exceeds QC criteria
19	Professional judgement was used to qualify the data
20	Pesticide clean-up checks
21	Target compound identification
22	Radiological calibration
23	Radiological quantitation
24	Reported result and/or lab qualifier revised to reflect validation findings

Table G-5

Summary of Negatively Impacted Sample Results Associated with Adverse QC Criteria
Fort Flagler Military Reservation

SDG	Sample Number	Sample Type	Fraction	Parameter	Result	Units	LQ	VQ	R1
702112	NWO-039-5001	SS	Metals	Thallium	0.23	mg/kg	JDB	U	06A
702112	NWO-039-5001	SS	Metals	Antimony	0.13	mg/kg	UND	UJ	08A
702112	NWO-039-5002	SS	Metals	Silver	0.047	mg/kg	JDB	U	06B
702112	NWO-039-5003	SS	Metals	Silver	0.068	mg/kg	JDB	U	06B
702112	NWO-039-5004	SS	Metals	Silver	0.079	mg/kg	JDB	U	06B
702112	NWO-039-5005	SS	Metals	Silver	0.051	mg/kg	JDB	U	06B
702112	NWO-039-5006	SS	Metals	Silver	0.065	mg/kg	JDB	U	06B
702112	NWO-039-5007	SS	Metals	Silver	0.047	mg/kg	JDB	U	06B
702112	NWO-039-5008	SS	Metals	Silver	0.056	mg/kg	JDB	U	06B
702112	NWO-039-5010	SS	Metals	Silver	0.06	mg/kg	JDB	U	06B
702112	NWO-039-5011	SS	Metals	Silver	0.059	mg/kg	JDB	U	06B
702112	NWO-039-5012	SD	Metals	Silver	0.11	mg/kg	JDB	U	06B
702112	NWO-039-5013	SD	Metals	Silver	0.022	mg/kg	JDB	U	06B
702113	NWO-039-0006	SS	Metals	Manganese	218	mg/kg	ND	J	08A

SDG - sample delivery group
SS - surface soil
SD - sediment

* LQ - laboratory qualifier
* VQ - validation qualifier

** R1 - reason code no. 1

* See Table G-3 for laboratory and data validation qualifier definitions
** See Table G-4 for data validation reason code definitions

Table G-6a

Comparison of Transition Range 1 Soil Results to Site Inspection Screening Levels
Fort Flagler Military Reservation

Location						**039A003**				**039A004**			
Sample Date						**21-Feb-07**				**21-Feb-07**			
Sample Number						**NWO-039-0002**				**NWO-039-0003**			
Sample Depth (bgs) (ft)						**0 to 0.5**				**0 to 0.5**			
Sample Purpose						**REG**				**REG**			
Fraction	**Parameter**	**Units**	**Site Inspection Background 95th UTL / 95th Percentile**	**Site Inspection Ecological Screening Level**	**USEPA Region 9 PRGs - Residential Soil**	**Result**	**PQL**	**MDL**	**VQ**	**Result**	**PQL**	**MDL**	**VQ**
Metals	Lead	mg/kg	32.6	50	400	13.8	1.7	0.066		18.6	1.5	0.059	

Notes:
[**Bold**] - Result exceeds Site Inspection Background 95th UTL / 95th Percentile
[*Italicized*] - Result exceeds Site Inspection Ecological Screening Level
[Underline] - Result exceeds EPA Region 9 PRG - Residential Soil

bgs - below ground surface
ft - feet
UTL - upper tolerance limit
USEPA - United States Environmenal Protection Agency
PRG - Preliminary Remediation Goal
PQL - practical quantitation limit
MDL - method detection limit
REG - regular sample
mg/kg - milligram per kilogram
VQ - validation qualifier

Validation Qualifier Definitions
U - Not detected. The compound/analyte was analyzed for, but not detected above the associated reporting limit
J - The compound/analyte was positively identified; the reported value is the estimated concentration of the constituent detected in the sample analyzed
R - The reported sample results are rejected due to the following: 1. Severe deficiencies in the supporting quality control data, 2. Anomalies noted in the sampling and/or analysis process which could affect the validity of the reported data, 3. The presence or absence of the constituent cannot be verified based on the data provided, 4. To indicate not to use a particular result in the event of a reanalysis
UJ - The compound/analyte was analyzed for, but not detected above the established reporting limit. However, review and evaluation of supporting QC data and/or sampling and analysis process have indicated that the reporting limit may be inaccurate or imprecise. The nondetect result should be estimated

Table G-6b

Comparison of Transition Range 2 Soil Results to Site Inspection Screening Levels
Fort Flagler Military Reservation

Location						**039A006**				**039A007**			
Sample Date						**21-Feb-07**				**21-Feb-07**			
Sample Number						**NWO-039-0004**				**NWO-039-0005**			
Sample Depth (bgs) (ft)						**0 to 0.5**				**0 to 0.5**			
Sample Purpose						**REG**				**REG**			
Fraction	**Parameter**	**Units**	**Site Inspection Background 95th UTL / 95th Percentile**	**Site Inspection Ecological Screening Level**	**USEPA Region 9 PRGs - Residential Soil**	**Result**	**PQL**	**MDL**	**VQ**	**Result**	**PQL**	**MDL**	**VQ**
Metals	Lead	mg/kg	32.6	50	400	6.7	1.6	0.062		8.5	1.5	0.06	

Notes:
[**Bold**] - Result exceeds Site Inspection Background 95th UTL / 95th Percentile
[*Italicized*] - Result exceeds Site Inspection Ecological Screening Level
[Underline] - Result exceeds EPA Region 9 PRG - Residential Soil

bgs - below ground surface
ft - feet
UTL - upper tolerance limit
USEPA - United States Environmenal Protection Agency
PRG - Preliminary Remediation Goal
PQL - practical quantitation limit
MDL - method detection limit
REG - regular sample
mg/kg - milligram per kilogram
VQ - validation qualifier

Validation Qualifier Definitions
U - Not detected. The compound/analyte was analyzed for, but not detected above the associated reporting limit
J - The compound/analyte was positively identified; the reported value is the estimated concentration of the constituent detected in the sample analyzed
R - The reported sample results are rejected due to the following: 1. Severe deficiencies in the supporting quality control data, 2. Anomalies noted in the sampling and/or analysis process which could affect the validity of the reported data, 3. The presence or absence of the constituent cannot be verified based on the data provided, 4. To indicate not to use a particular result in the event of a reanalysis
UJ - The compound/analyte was analyzed for, but not detected above the established reporting limit. However, review and evaluation of supporting QC data and/or sampling and analysis process have indicated that the reporting limit may be inaccurate or imprecise. The nondetect result should be estimated

Table G-6c

Comparison of Rifle Grenade / Anti-Tank Rocket Range Soil Results to Site Inspection Screening Levels
Fort Flagler Military Reservation

Location						039A009				039A010				039A011				039A011			
Sample Date						21-Feb-07				21-Feb-07				21-Feb-07				21-Feb-07			
Sample Number						NWO-039-0006				NWO-039-0007				NWO-039-0008				NWO-039-0009			
Sample Depth (bgs) (ft)						0 to 0.5				0 to 0.5				0 to 0.5				0 to 0.5			
Sample Purpose						REG				REG				REG				FD			
Fraction	Parameter	Units	Site Inspection Background 95th UTL / 95th Percentile	Site Inspection Ecological Screening Level	USEPA Region 9 PRGs - Residential Soil	Result	PQL	MDL	VQ	Result	PQL	MDL	VQ	Result	PQL	MDL	VQ	Result	PQL	MDL	VQ
Explosives	1,3,5-Trinitrobenzene	mg/kg	No criteria	0.376	1800	< 0.012	0.04	0.012	U	< 0.012	0.04	0.012	U	< 0.012	0.04	0.012	U	< 0.012	0.04	0.012	U
Explosives	1,3-Dinitrobenzene	mg/kg	No criteria	0.655	6.1	< 0.002	0.04	0.002	U	< 0.002	0.04	0.002	U	< 0.002	0.04	0.002	U	< 0.002	0.04	0.002	U
Explosives	2,4,6-Trinitrotoluene	mg/kg	No criteria	6.4	16	< 0.008	0.04	0.008	U	< 0.008	0.04	0.008	U	< 0.008	0.04	0.008	U	< 0.008	0.04	0.008	U
Explosives	2,4-Dinitrotoluene	mg/kg	No criteria	1.28	0.72	< 0.014	0.04	0.014	U	< 0.014	0.04	0.014	U	< 0.014	0.04	0.014	U	< 0.014	0.04	0.014	U
Explosives	2,6-Dinitrotoluene	mg/kg	No criteria	0.0328	0.72	< 0.007	0.04	0.007	U	< 0.007	0.04	0.007	U	< 0.007	0.04	0.007	U	< 0.007	0.04	0.007	U
Explosives	2-Amino-4,6-dinitrotoluene	mg/kg	No criteria	2.1	12	< 0.01	0.04	0.01	U	< 0.01	0.04	0.01	U	< 0.01	0.04	0.01	U	< 0.01	0.04	0.01	U
Explosives	2-Nitrotoluene	mg/kg	No criteria	2	0.88	< 0.009	0.08	0.009	U	< 0.009	0.08	0.009	U	< 0.009	0.08	0.009	U	< 0.009	0.08	0.009	U
Explosives	3-Nitrotoluene	mg/kg	No criteria	2.4	730	< 0.022	0.08	0.022	U	< 0.022	0.08	0.022	U	< 0.022	0.08	0.022	U	< 0.022	0.08	0.022	U
Explosives	4-Amino-2,6-dinitrotoluene	mg/kg	No criteria	0.73	12	< 0.006	0.04	0.006	U	< 0.006	0.04	0.006	U	< 0.006	0.04	0.006	U	< 0.006	0.04	0.006	U
Explosives	4-Nitrotoluene	mg/kg	No criteria	4.4	12	< 0.036	0.08	0.036	U	< 0.036	0.08	0.036	U	< 0.036	0.08	0.036	U	< 0.036	0.08	0.036	U
Explosives	HMX	mg/kg	No criteria	27	3100	< 0.012	0.08	0.012	U	< 0.012	0.08	0.012	U	< 0.012	0.08	0.012	U	< 0.012	0.08	0.012	U
Explosives	Nitrobenzene	mg/kg	No criteria	40	20	< 0.006	0.04	0.006	U	< 0.006	0.04	0.006	U	< 0.006	0.04	0.006	U	< 0.006	0.04	0.006	U
Explosives	Nitroglycerine	mg/kg	No criteria	71	35	< 0.04	4	0.04	U	< 0.04	4	0.04	U	< 0.04	4	0.04	U	< 0.04	4	0.04	U
Explosives	PETN	mg/kg	No criteria	8600	0.5	< 0.042	0.2	0.042	U	< 0.042	0.2	0.042	U	< 0.042	0.2	0.042	U	< 0.041	0.2	0.041	U
Explosives	RDX	mg/kg	No criteria	7.5	4.4	< 0.071	0.08	0.071	U	< 0.071	0.08	0.071	U	< 0.071	0.08	0.071	U	< 0.071	0.08	0.071	U
Explosives	Tetryl	mg/kg	No criteria	0.99	610	< 0.004	0.08	0.004	U	< 0.004	0.08	0.004	U	< 0.004	0.08	0.004	U	< 0.004	0.08	0.004	U
Metals	Aluminum	mg/kg	12300	50	76000	*8470*	82.6	2.2		*9470*	80.6	2.2		*8060*	84	2.3		*8210*	84	2.3	
Metals	Chromium	mg/kg	35.2	42	210	25.9	1.7	0.23		23.4	1.6	0.23		17.9	1.7	0.24		19.9	1.7	0.24	
Metals	Copper	mg/kg	13.2	50	3100	9.3	1.7	0.17		7.9	1.6	0.16		10.8	1.7	0.17		10.3	1.7	0.17	
Metals	Iron	mg/kg	17800	200	23000	*13200*	41.3	2.6		*13600*	40.3	2.6		*11500*	42	2.7		*11600*	42	2.7	
Metals	Lead	mg/kg	32.6	50	400	4.3	1.7	0.065		3	1.6	0.064		17.3	1.7	0.066		15.9	1.7	0.066	
Metals	Manganese	mg/kg	4250	1100	1800	218	1.7	0.047	J	245	1.6	0.046		998	1.7	0.048		950	1.7	0.048	
Metals	Molybdenum	mg/kg	< 3.8	2	390	0.47	4.1	0.24	J	< 0.23	4	0.23	U	0.28	4.2	0.24	J	0.28	4.2	0.24	J
Metals	Nickel	mg/kg	80.2	30	1600	*38.3*	0.83	0.073		*42.2*	0.81	0.071		27.9	0.84	0.074		27.2	0.84	0.074	

Notes:
[**Bold**] - Result exceeds Site Inspection Background 95th UTL / 95th Percentile
[*Italicized*] - Result exceeds Site Inspection Ecological Screening Level
[Underline] - Result exceeds EPA Region 9 PRG - Residential Soil

bgs - below ground surface
ft - feet
UTL - upper tolerance limit
PQL - practical quantitation limit
MDL - method detection limit
REG - regular sample
FD - field duplicate
VQ - validation qualifier

mg/kg - milligram per kilogram
USEPA - United States Environmenal Protection Agency
PRG - Preliminary Remediation Goal
HMX - octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine
PETN - Pentaerythritol tetranitrate
RDX - hexahydro-1,3,5-trinitro-1,3,5-triazine
Tetryl - methyl-2,4,6-trinitrophenylnitramine

Validation Qualifier Definitions
U - Not detected. The compound/analyte was analyzed for, but not detected above the associated reporting limit
J - The compound/analyte was positively identified; the reported value is the estimated concentration of the constituent detected in the sample analyzed
R - The reported sample results are rejected due to the following: 1. Severe deficiencies in the supporting quality control data, 2. Anomalies noted in the sampling and/or analysis process which could affect the validity of the reported data, 3. The presence or absence of the constituent cannot be verified based on the data provided, 4. To indicate not to use a particular result in the event of a reanalysis
UJ - The compound/analyte was analyzed for, but not detected above the established reporting limit. However, review and evaluation of supporting QC data and/or sampling and analysis process have indicated that the reporting limit may be inaccurate or imprecise. The nondetect result should be estimated

Table G-6d

Comparison of Live Grenade Range Soil Results to Site Inspection Screening Levels
Fort Flagler Military Reservation

Location						**039A013**			
Sample Date						**21-Feb-07**			
Sample Number						**NWO-039-0010**			
Sample Depth (bgs) (ft)						**0 to 0.5**			
Sample Purpose						**REG**			
Fraction	**Parameter**	**Units**	**Site Inspection Background 95th UTL / 95th Percentile**	**Site Inspection Ecological Screening Level**	**USEPA Region 9 PRGs - Residential Soil**	**Result**	**PQL**	**MDL**	**VQ**
Explosives	1,3,5-Trinitrobenzene	mg/kg	No criteria	0.376	1800	< 0.012	0.04	0.012	U
Explosives	1,3-Dinitrobenzene	mg/kg	No criteria	0.655	6.1	< 0.002	0.04	0.002	U
Explosives	2,4,6-Trinitrotoluene	mg/kg	No criteria	6.4	16	< 0.008	0.04	0.008	U
Explosives	2,4-Dinitrotoluene	mg/kg	No criteria	1.28	0.72	< 0.014	0.04	0.014	U
Explosives	2,6-Dinitrotoluene	mg/kg	No criteria	0.0328	0.72	< 0.007	0.04	0.007	U
Explosives	2-Amino-4,6-dinitrotoluene	mg/kg	No criteria	2.1	12	< 0.01	0.04	0.01	U
Explosives	2-Nitrotoluene	mg/kg	No criteria	2	0.88	< 0.009	0.08	0.009	U
Explosives	3-Nitrotoluene	mg/kg	No criteria	2.4	730	< 0.022	0.08	0.022	U
Explosives	4-Amino-2,6-dinitrotoluene	mg/kg	No criteria	0.73	12	< 0.006	0.04	0.006	U
Explosives	4-Nitrotoluene	mg/kg	No criteria	4.4	12	< 0.036	0.08	0.036	U
Explosives	HMX	mg/kg	No criteria	27	3100	< 0.012	0.08	0.012	U
Explosives	Nitrobenzene	mg/kg	No criteria	40	20	< 0.006	0.04	0.006	U
Explosives	Nitroglycerine	mg/kg	No criteria	71	35	< 0.04	4	0.04	U
Explosives	PETN	mg/kg	No criteria	8600	0.5	< 0.042	0.2	0.042	U
Explosives	RDX	mg/kg	No criteria	7.5	4.4	< 0.071	0.08	0.071	U
Explosives	Tetryl	mg/kg	No criteria	0.99	610	< 0.004	0.08	0.004	U
Metals	Aluminum	mg/kg	12300	50	76000	*12200*	82	2.2	
Metals	Chromium	mg/kg	35.2	42	210	**36.3**	1.6	0.23	
Metals	Copper	mg/kg	13.2	50	3100	7.6	1.6	0.16	
Metals	Iron	mg/kg	17800	200	23000	*16700*	41	2.6	
Metals	Lead	mg/kg	32.6	50	400	10	1.6	0.065	
Metals	Manganese	mg/kg	4250	1100	1800	562	1.6	0.047	
Metals	Molybdenum	mg/kg	< 3.8	2	390	< 0.24	4.1	0.24	U
Metals	Nickel	mg/kg	80.2	30	1600	***85.8***	0.82	0.072	

Notes:
[**Bold**] - Result exceeds Site Inspection Background 95th UTL / 95th Percentile
[*Italicized*] - Result exceeds Site Inspection Ecological Screening Level
[Underline] - Result exceeds EPA Region 9 PRG - Residential Soil

bgs - below ground surface
ft - feet
UTL - upper tolerance limit
PQL - practical quantitation limit
MDL - method detection limit
REG - regular sample
mg/kg - milligram per kilogram
VQ - validation qualifier

USEPA - United States Environmenal Protection Agency
PRG - Preliminary Remediation Goal
HMX - octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine
PETN - Pentaerythritol tetranitrate
RDX - hexahydro-1,3,5-trinitro-1,3,5-triazine
Tetryl - methyl-2,4,6-trinitrophenylnitramine

Validation Qualifier Definitions
U - Not detected. The compound/analyte was analyzed for, but not detected above the associated reporting limit
J - The compound/analyte was positively identified; the reported value is the estimated concentration of the constituent detected in the sample analyzed
R - The reported sample results are rejected due to the following: 1. Severe deficiencies in the supporting quality control data, 2. Anomalies noted in the sampling and/or analysis process which could affect the validity of the reported data, 3. The presence or absence of the constituent cannot be verified based on the data provided, 4. To indicate not to use a particular result in the event of a reanalysis
UJ - The compound/analyte was analyzed for, but not detected above the established reporting limit. However, review and evaluation of supporting QC data and/or sampling and analysis process have indicated that the reporting limit may be inaccurate or imprecise. The nondetect result should be estimated

Table G-6e

Comparison of Rifle Range Soil Results to Site Inspection Screening Levels
Fort Flagler Military Reservation

Location						**039A014**				**039A015**			
Sample Date						**21-Feb-07**				**21-Feb-07**			
Sample Number						**NWO-039-0011**				**NWO-039-0012**			
Sample Depth (bgs) (ft)						**0 to 0.5**				**0 to 0.5**			
Sample Purpose						**REG**				**REG**			
Fraction	**Parameter**	**Units**	**Site Inspection Background 95th UTL / 95th Percentile**	**Site Inspection Ecological Screening Level**	**USEPA Region 9 PRGs - Residential Soil**	**Result**	**PQL**	**MDL**	**VQ**	**Result**	**PQL**	**MDL**	**VQ**
Metals	Lead	mg/kg	32.6	50	400	***235***	1.6	0.062		***587***	1.7	0.068	

Notes:
[**Bold**] - Result exceeds Site Inspection Background 95th UTL / 95th Percentile
[*Italicized*] - Result exceeds Site Inspection Ecological Screening Level
[Underline] - Result exceeds EPA Region 9 PRG - Residential Soil

bgs - below ground surface
ft - feet
UTL - upper tolerance limit
USEPA - United States Environmenal Protection Agency
PRG - Preliminary Remediation Goal
PQL - practical quantitation limit
MDL - method detection limit
REG - regular sample
mg/kg - milligram per kilogram
VQ - validation qualifier

Validation Qualifier Definitions
U - Not detected. The compound/analyte was analyzed for, but not detected above the associated reporting limit
J - The compound/analyte was positively identified; the reported value is the estimated concentration of the constituent detected in the sample analyzed
R - The reported sample results are rejected due to the following: 1. Severe deficiencies in the supporting quality control data, 2. Anomalies noted in the sampling and/or analysis process which could affect the validity of the reported data, 3. The presence or absence of the constituent cannot be verified based on the data provided, 4. To indicate not to use a particular result in the event of a reanalysis
UJ - The compound/analyte was analyzed for, but not detected above the established reporting limit. However, review and evaluation of supporting QC data and/or sampling and analysis process have indicated that the reporting limit may be inaccurate or imprecise. The nondetect result should be estimated

Table G-7a

Comparison of Transition Range 1 Sediment Results to Site Inspection Screening Levels
Fort Flagler Military Reservation

Location							**039A005**			
Sample Date							**21-Feb-07**			
Sample Number							**NWO-039-1002**			
Sample Depth (bgs) (ft)							**0 to 0.5**			
Sample Purpose							**REG**			
Fraction	**Parameter**	**Units**	**Maximum Concentration from Media Background Sample**	**"3x" Maximum Concentration from Media Background Sample**	**Site Inspection Ecological Screening Level**	**EPA Region 9 PRGs - Residential Soil**	**Result**	**PQL**	**MDL**	**VQ**
Metals	Lead	mg/kg	12.8	38.4	260	400	**40.4**	1.7	0.066	

Notes:
[**Bold Face**] - Result exceeds "3x" Maximum Concentration from Media Background Sample
[*Italicized*] - Result exceeds Site Inspection Ecological Screening Level
[UNDERLINED] - Result exceeds EPA Region 9 PRG - Residential Soil

ft - feet
bgs - below ground surface
EPA - Environmenal Protection Agency
PRG - Preliminary Remediation Goal
mg/kg - milligram per kilogram
VQ - validation qualifier

REG - regular sample
FD - field duplicate

Validation Qualifier Definitions
U - Not detected. The compound/analyte was analyzed for, but not detected above the associated reporting limit
J - The compound/analyte was positively identified; the reported value is the estimated concentration of the constituent detected in the sample analyzed
R - The reported sample results are rejected due to the following: 1. Severe deficiencies in the supporting quality control data, 2. Anomalies noted in the sampling and/or analysis process which could affect the validity of the reported data, 3. The presence or absence of the constituent cannot be verified based on the data provided, 4. To indicate not to use a particular result in the event of a reanalysis
UJ - The compound/analyte was analyzed for, but not detected above the established reporting limit. However, review and evaluation of supporting QC data and/or sampling and analysis process have indicated that the reporting limit may be inaccurate or imprecise. The nondetect result should be estimated

Table G-7b

Comparison of Transition Range 2 Sediment Results to Site Inspection Screening Levels
Fort Flagler Military Reservation

Location							**039A008**				**039A008**			
Sample Date							**21-Feb-07**				**21-Feb-07**			
Sample Number							**NWO-039-1003**				**NWO-039-1004**			
Sample Depth (bgs) (ft)							**0 to 0.5**				**0 to 0.5**			
Sample Purpose							**REG**				**FD**			
Fraction	**Parameter**	**Units**	**Maximum Concentration from Media Background Sample**	**"3x" Maximum Concentration from Media Background Sample**	**Site Inspection Ecological Screening Level**	**EPA Region 9 PRGs - Residential Soil**	**Result**	**PQL**	**MDL**	**VQ**	**Result**	**PQL**	**MDL**	**VQ**
Metals	Lead	mg/kg	12.8	38.4	260	400	28.4	1.7	0.065		22	1.5	0.059	

Notes:
[**Bold Face**] - Result exceeds "3x" Maximum Concentration from Media Background Sample
[*Italicized*] - Result exceeds Site Inspection Ecological Screening Level
[UNDERLINED] - Result exceeds EPA Region 9 PRG - Residential Soil

ft - feet
bgs - below ground surface
EPA - Environmenal Protection Agency
PRG - Preliminary Remediation Goal
mg/kg - milligram per kilogram
VQ - validation qualifier

REG - regular sample
FD - field duplicate

Validation Qualifier Definitions
U - Not detected. The compound/analyte was analyzed for, but not detected above the associated reporting limit
J - The compound/analyte was positively identified; the reported value is the estimated concentration of the constituent detected in the sample analyzed
R - The reported sample results are rejected due to the following: 1. Severe deficiencies in the supporting quality control data, 2. Anomalies noted in the sampling and/or analysis process which could affect the validity of the reported data, 3. The presence or absence of the constituent cannot be verified based on the data provided, 4. To indicate not to use a particular result in the event of a reanalysis
UJ - The compound/analyte was analyzed for, but not detected above the established reporting limit. However, review and evaluation of supporting QC data and/or sampling and analysis process have indicated that the reporting limit may be inaccurate or imprecise. The nondetect result should be estimated

Table G-7c

Comparison of Rifle Grenade / Anti-Tank Rocket Range Sediment Results to Site Inspection Screening Levels
Fort Flagler Military Reservation

Location							**039A012**			
Sample Date							**21-Feb-07**			
Sample Number							**NWO-039-1005**			
Sample Depth (bgs) (ft)							**0 to 0.5**			
Sample Purpose							**REG**			
Fraction	**Parameter**	**Units**	**Maximum Concentration from Media Background Sample**	**"3x" Maximum Concentration from Media Background Sample**	**Site Inspection Ecological Screening Level**	**EPA Region 9 PRGs - Residential Soil**	**Result**	**PQL**	**MDL**	**VQ**
Explosives	1,3,5-Trinitrobenzene	mg/kg	No criteria	No criteria	0.024	1800	< 0.012	0.04	0.012	U
Explosives	1,3-Dinitrobenzene	mg/kg	No criteria	No criteria	0.067	6.1	< 0.002	0.04	0.002	U
Explosives	2,4,6-Trinitrotoluene	mg/kg	No criteria	No criteria	0.92	16	< 0.008	0.04	0.008	U
Explosives	2,4-Dinitrotoluene	mg/kg	No criteria	No criteria	0.29	0.72	< 0.014	0.04	0.014	U
Explosives	2,6-Dinitrotoluene	mg/kg	No criteria	No criteria	1.9	0.72	< 0.007	0.04	0.007	U
Explosives	2-Amino-4,6-dinitrotoluene	mg/kg	No criteria	No criteria	7	12	< 0.01	0.04	0.01	U
Explosives	2-Nitrotoluene	mg/kg	No criteria	No criteria	5.6	0.88	< 0.009	0.08	0.009	U
Explosives	3-Nitrotoluene	mg/kg	No criteria	No criteria	4.9	730	< 0.022	0.08	0.022	U
Explosives	4-Amino-2,6-dinitrotoluene	mg/kg	No criteria	No criteria	1.9	12	< 0.006	0.04	0.006	U
Explosives	4-Nitrotoluene	mg/kg	No criteria	No criteria	10	12	< 0.036	0.08	0.036	U
Explosives	HMX	mg/kg	No criteria	No criteria	0.047	3100	< 0.012	0.08	0.012	U
Explosives	Nitrobenzene	mg/kg	No criteria	No criteria	32	20	< 0.006	0.04	0.006	U
Explosives	Nitroglycerine	mg/kg	No criteria	No criteria	1700	35	< 0.04	4	0.04	U
Explosives	PETN	mg/kg	No criteria	No criteria	120000	0.5	< 0.042	0.2	0.042	U
Explosives	RDX	mg/kg	No criteria	No criteria	0.13	4.4	< 0.071	0.08	0.071	U
Explosives	Tetryl	mg/kg	No criteria	No criteria	100	610	< 0.004	0.08	0.004	U
Metals	Aluminum	mg/kg	10800	32400	280	76000	*7860*	80.6	2.2	
Metals	Chromium	mg/kg	28.5	85.5	260	210	25.5	1.6	0.23	
Metals	Copper	mg/kg	11.1	33.3	390	3100	8	1.6	0.16	
Metals	Iron	mg/kg	15600	46800	20	23000	*13100*	40.3	2.6	
Metals	Lead	mg/kg	12.8	38.4	260	400	3.6	1.6	0.064	
Metals	Manganese	mg/kg	590	1770	1800	1800	175	1.6	0.046	
Metals	Molybdenum	mg/kg	0.22	.66	No criteria	390	0.25	4	0.23	J
Metals	Nickel	mg/kg	46.9	140.7	460	1600	37.7	0.81	0.071	

Notes:
[**Bold Face**] - Result exceeds "3x" Maximum Concentration from Media Background Sample
[*Italicized*] - Result exceeds Site Inspection Ecological Screening Level
[UNDERLINED] - Result exceeds EPA Region 9 PRG - Residential Soil

ft - feet
bgs - below ground surface
EPA - Environmenal Protection Agency
PRG - Preliminary Remediation Goal
mg/kg - milligram per kilogram
VQ - validation qualifier

REG - regular sample
FD - field duplicate
HMX - octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine
PETN - Pentaerythritol tetranitrate
RDX - hexahydro-1,3,5-trinitro-1,3,5-triazine
Tetryl - methyl-2,4,6-trinitrophenylnitramine

Validation Qualifier Definitions
U - Not detected. The compound/analyte was analyzed for, but not detected above the associated reporting limit
J - The compound/analyte was positively identified; the reported value is the estimated concentration of the constituent detected in the sample analyzed
R - The reported sample results are rejected due to the following: 1. Severe deficiencies in the supporting quality control data, 2. Anomalies noted in the sampling and/or analysis process which could affect the validity of the reported data, 3. The presence or absence of the constituent cannot be verified based on the data provided, 4. To indicate not to use a particular result in the event of a reanalysis
UJ - The compound/analyte was analyzed for, but not detected above the established reporting limit. However, review and evaluation of supporting QC data and/or sampling and analysis process have indicated that the reporting limit may be inaccurate or imprecise. The nondetect result should be estimated

Table G-7d

Comparison of Rifle Range Sediment Results to Site Inspection Screening Levels
Fort Flagler Military Reservation

Location							**039A016**			
Sample Date							**21-Feb-07**			
Sample Number							**NWO-039-1006**			
Sample Depth (bgs) (ft)							**0 to 0.5**			
Sample Purpose							**REG**			
Fraction	**Parameter**	**Units**	**Maximum Concentration from Media Background Sample**	**"3x" Maximum Concentration from Media Background Sample**	**Site Inspection Ecological Screening Level**	**EPA Region 9 PRGs - Residential Soil**	**Result**	**PQL**	**MDL**	**VQ**
Metals	Lead	mg/kg	12.8	38.4	260	400	**219**	1.6	0.063	

Notes:
[**Bold Face**] - Result exceeds "3x" Maximum Concentration from Media Background Sample
[*Italicized*] - Result exceeds Site Inspection Ecological Screening Level
[UNDERLINED] - Result exceeds EPA Region 9 PRG - Residential Soil

ft - feet
bgs - below ground surface
EPA - Environmenal Protection Agency
PRG - Preliminary Remediation Goal
mg/kg - milligram per kilogram
VQ - validation qualifier

REG - regular sample
FD - field duplicate

Validation Qualifier Definitions
U - Not detected. The compound/analyte was analyzed for, but not detected above the associated reporting limit
J - The compound/analyte was positively identified; the reported value is the estimated concentration of the constituent detected in the sample analyzed
R - The reported sample results are rejected due to the following: 1. Severe deficiencies in the supporting quality control data, 2. Anomalies noted in the sampling and/or analysis process which could affect the validity of the reported data, 3. The presence or absence of the constituent cannot be verified based on the data provided, 4. To indicate not to use a particular result in the event of a reanalysis
UJ - The compound/analyte was analyzed for, but not detected above the established reporting limit. However, review and evaluation of supporting QC data and/or sampling and analysis process have indicated that the reporting limit may be inaccurate or imprecise. The nondetect result should be estimated

Table G-7e

Comparison of Quartermaster's Wharf Sediment Results to Site Inspection Screening Levels
Fort Flagler Military Reservation

Location							**039A017**			
Sample Date							**21-Feb-07**			
Sample Number							**NWO-039-0013**			
Sample Depth (bgs) (ft)							**0 to 0.5**			
Sample Purpose							**REG**			
Fraction	**Parameter**	**Units**	**Maximum Concentration from Media Background Sample**	**"3x" Maximum Concentration from Media Background Sample**	**Site Inspection Ecological Screening Level**	**EPA Region 9 PRGs - Residential Soil**	**Result**	**PQL**	**MDL**	**VQ**
Explosives	1,3,5-Trinitrobenzene	mg/kg	No criteria	No criteria	0.024	1800	< 0.012	0.04	0.012	U
Explosives	1,3-Dinitrobenzene	mg/kg	No criteria	No criteria	0.067	6.1	< 0.002	0.04	0.002	U
Explosives	2,4,6-Trinitrotoluene	mg/kg	No criteria	No criteria	0.92	16	< 0.008	0.04	0.008	U
Explosives	2,4-Dinitrotoluene	mg/kg	No criteria	No criteria	0.29	0.72	< 0.014	0.04	0.014	U
Explosives	2,6-Dinitrotoluene	mg/kg	No criteria	No criteria	1.9	0.72	< 0.007	0.04	0.007	U
Explosives	2-Amino-4,6-dinitrotoluene	mg/kg	No criteria	No criteria	7	12	< 0.01	0.04	0.01	U
Explosives	2-Nitrotoluene	mg/kg	No criteria	No criteria	5.6	0.88	< 0.009	0.08	0.009	U
Explosives	3-Nitrotoluene	mg/kg	No criteria	No criteria	4.9	730	< 0.022	0.08	0.022	U
Explosives	4-Amino-2,6-dinitrotoluene	mg/kg	No criteria	No criteria	1.9	12	< 0.006	0.04	0.006	U
Explosives	4-Nitrotoluene	mg/kg	No criteria	No criteria	10	12	< 0.036	0.08	0.036	U
Explosives	HMX	mg/kg	No criteria	No criteria	0.047	3100	< 0.012	0.08	0.012	U
Explosives	Nitrobenzene	mg/kg	No criteria	No criteria	32	20	< 0.006	0.04	0.006	U
Explosives	Nitroglycerine	mg/kg	No criteria	No criteria	1700	35	< 0.04	4	0.04	U
Explosives	PETN	mg/kg	No criteria	No criteria	120000	0.5	< 0.042	0.2	0.042	U
Explosives	RDX	mg/kg	No criteria	No criteria	0.13	4.4	< 0.071	0.08	0.071	U
Explosives	Tetryl	mg/kg	No criteria	No criteria	100	610	< 0.004	0.08	0.004	U

Notes:
[**Bold Face**] - Result exceeds "3x" Maximum Concentration from Media Background Sample
[*Italicized*] - Result exceeds Site Inspection Ecological Screening Level
[UNDERLINED] - Result exceeds EPA Region 9 PRG - Residential Soil

ft - feet
bgs - below ground surface
EPA - Environmenal Protection Agency
PRG - Preliminary Remediation Goal
mg/kg - milligram per kilogram
VQ - validation qualifier

REG - regular sample
FD - field duplicate
HMX - octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine
PETN - Pentaerythritol tetranitrate
RDX - hexahydro-1,3,5-trinitro-1,3,5-triazine
Tetryl - methyl-2,4,6-trinitrophenylnitramine

Validation Qualifier Definitions
U - Not detected. The compound/analyte was analyzed for, but not detected above the associated reporting limit
J - The compound/analyte was positively identified; the reported value is the estimated concentration of the constituent detected in the sample analyzed
R - The reported sample results are rejected due to the following: 1. Severe deficiencies in the supporting quality control data, 2. Anomalies noted in the sampling and/or analysis process which could affect the validity of the reported data, 3. The presence or absence of the constituent cannot be verified based on the data provided, 4. To indicate not to use a particular result in the event of a reanalysis
UJ - The compound/analyte was analyzed for, but not detected above the established reporting limit. However, review and evaluation of supporting QC data and/or sampling and analysis process have indicated that the reporting limit may be inaccurate or imprecise. The nondetect result should be estimated

Table G-8a

Background Soil Results
Fort Flagler Military Reservation

Location			039A018				039A019				039A020				039A021				039A022			
Sample Date			21-Feb-07				20-Feb-07				20-Feb-07				20-Feb-07				20-Feb-07			
Sample Number			NWO-039-5001				NWO-039-5002				NWO-039-5003				NWO-039-5004				NWO-039-5005			
Sample Depth (bgs) (ft)			0 to 0.5				0 to 0.5				0 to 0.5				0 to 0.5				0 to 0.5			
Sample Purpose			REG				REG				REG				REG				REG			
Fraction	Parameter	Units	Result	PQL	MDL	VQ	Result	PQL	MDL	VQ	Result	PQL	MDL	VQ	Result	PQL	MDL	VQ	Result	PQL	MDL	VQ
Metals	Aluminum	mg/kg	11000	74.6	2		9870	75.2	2		10700	75.2	2		8590	72.5	2		9860	71.4	1.9	
Metals	Antimony	mg/kg	< 0.13	0.75	0.13	UJ	< 0.13	0.75	0.13	U	0.2	0.75	0.13	J	< 0.12	0.72	0.12	U	0.22	0.71	0.12	J
Metals	Arsenic	mg/kg	3.7	3.7	0.46		3.1	3.8	0.46	J	5.8	3.8	0.46		3.2	3.6	0.44	J	5.5	3.6	0.44	
Metals	Barium	mg/kg	128	3.7	0.17		73.1	3.8	0.17		181	3.8	0.17		164	3.6	0.17		122	3.6	0.16	
Metals	Beryllium	mg/kg	0.18	0.15	0.024		0.17	0.15	0.024		0.18	0.15	0.024		0.15	0.14	0.023		0.18	0.14	0.023	
Metals	Cadmium	mg/kg	< 0.1	0.37	0.1	U	0.14	0.38	0.11	J	0.17	0.38	0.11	J	0.26	0.36	0.1	J	0.23	0.36	0.1	J
Metals	Calcium	mg/kg	4300	746	4.2		4110	752	4.2		5700	752	4.2		8510	725	4.1		6540	714	4	
Metals	Chromium	mg/kg	30.7	1.5	0.21		24.7	1.5	0.21		22.4	1.5	0.21		15.4	1.4	0.2		23.3	1.4	0.2	
Metals	Cobalt	mg/kg	8.4	0.75	0.013		6.3	0.75	0.013		7.2	0.75	0.013		4.9	0.72	0.012		6.3	0.71	0.012	
Metals	Copper	mg/kg	7.6	1.5	0.15		9.4	1.5	0.15		8	1.5	0.15		8.8	1.4	0.14		9.4	1.4	0.14	
Metals	Iron	mg/kg	16000	37.3	2.4		13200	37.6	2.4		12900	37.6	2.4		10600	36.2	2.3		13800	35.7	2.3	
Metals	Lead	mg/kg	17.7	1.5	0.059		12.9	1.5	0.059		27.1	1.5	0.059		17.1	1.4	0.057		24	1.4	0.056	
Metals	Magnesium	mg/kg	4700	74.6	1.3		4310	75.2	1.4		3250	75.2	1.4		3050	72.5	1.3		3930	71.4	1.3	
Metals	Manganese	mg/kg	948	1.5	0.043		454	1.5	0.043		1430	1.5	0.043		812	1.4	0.041		557	1.4	0.041	
Metals	Mercury	mg/kg	0.062	0.032	0.0032		0.052	0.032	0.0032		0.15	0.032	0.0032		0.13	0.033	0.0033		0.091	0.033	0.0033	
Metals	Molybdenum	mg/kg	0.27	3.7	0.22	J	< 0.22	3.8	0.22	U	0.31	3.8	0.22	J	0.23	3.6	0.21	J	0.25	3.6	0.21	J
Metals	Nickel	mg/kg	66.8	0.75	0.066		32.5	0.75	0.066		43.8	0.75	0.066		26.1	0.72	0.064		36.4	0.71	0.063	
Metals	Potassium	mg/kg	445	746	1.5	J	760	752	1.5		467	752	1.5	J	737	725	1.4		640	714	1.4	J
Metals	Selenium	mg/kg	0.75	3.7	0.72	J	< 0.73	3.8	0.73	U	< 0.73	3.8	0.73	U	< 0.7	3.6	0.7	U	< 0.69	3.6	0.69	U
Metals	Silver	mg/kg	0.038	0.22	0.014	J	< 0.047	0.23	0.014	U	< 0.068	0.23	0.014	U	< 0.079	0.22	0.014	U	< 0.051	0.21	0.014	U
Metals	Sodium	mg/kg	124	746	7	J	128	752	7.1	J	123	752	7.1	J	199	725	6.8	J	167	714	6.7	J
Metals	Thallium	mg/kg	< 0.23	1.5	0.13	U	< 0.13	1.5	0.13	U	< 0.13	1.5	0.13	U	< 0.12	1.4	0.12	U	< 0.12	1.4	0.12	U
Metals	Vanadium	mg/kg	32.7	7.5	1.9		29.9	7.5	1.9		29.1	7.5	1.9		24.5	7.2	1.8		32.4	7.1	1.8	
Metals	Zinc	mg/kg	41.2	7.5	0.37		36.1	7.5	0.37		53	7.5	0.37		53.7	7.2	0.36		40.4	7.1	0.35	

bgs - below ground surface
ft - feet
PQL - practical quantitation limit
MDL - method detection limit
REG - regular sample
FD - field duplicate
VQ - validation qualifier

Validation Qualifier Definitions
U - Not detected. The compound/analyte was analyzed for, but not detected above the associated reporting limit
J - The compound/analyte was positively identified; the reported value is the estimated concentration of the constituent detected in the sample analyzed
R - The reported sample results are rejected due to the following: 1. Severe deficiencies in the supporting quality control data, 2. Anomalies noted in the sampling and/or analysis process which could affect the validity of the reported data, 3. The presence or absence of the constituent cannot be verified based on the data provided, 4. To indicate not to use a particular result in the event of a reanalysis
UJ - The compound/analyte was analyzed for, but not detected above the established reporting limit. However, review and evaluation of supporting QC data and/or sampling and analysis process have indicated that the reporting limit may be inaccurate or imprecise. The nondetect result should be estimated

Table G-8a

Background Soil Results
Fort Flagler Military Reservation

Location			039A023				039A024				039A025				039A026				039A027			
Sample Date			20-Feb-07				20-Feb-07				21-Feb-07				20-Feb-07				20-Feb-07			
Sample Number			NWO-039-5006				NWO-039-5007				NWO-039-5008				NWO-039-5009				NWO-039-5010			
Sample Depth (bgs) (ft)			0 to 0.5				0 to 0.5				0 to 0.5				0 to 0.5				0 to 0.5			
Sample Purpose			REG				REG				REG				REG				REG			
Fraction	Parameter	Units	Result	PQL	MDL	VQ	Result	PQL	MDL	VQ	Result	PQL	MDL	VQ	Result	PQL	MDL	VQ	Result	PQL	MDL	VQ
Metals	Aluminum	mg/kg	9850	75.8	2		9820	72.5	2		10800	72.5	2		10200	71.9	1.9		11000	71.4	1.9	
Metals	Antimony	mg/kg	0.17	0.76	0.13	J	< 0.12	0.72	0.12	U	< 0.12	0.72	0.12	U	< 0.12	0.72	0.12	U	< 0.12	0.71	0.12	U
Metals	Arsenic	mg/kg	6.6	3.8	0.46		5	3.6	0.44		4	3.6	0.44		2.3	3.6	0.44	J	2.4	3.6	0.44	J
Metals	Barium	mg/kg	157	3.8	0.17		179	3.6	0.17		282	3.6	0.17		109	3.6	0.17		93.8	3.6	0.16	
Metals	Beryllium	mg/kg	0.19	0.15	0.024		0.17	0.14	0.023		0.22	0.14	0.023		0.14	0.14	0.023		0.18	0.14	0.023	
Metals	Cadmium	mg/kg	0.27	0.38	0.11	J	0.2	0.36	0.1	J	0.22	0.36	0.1	J	0.18	0.36	0.1	J	< 0.1	0.36	0.1	U
Metals	Calcium	mg/kg	6560	758	4.2		5770	725	4.1		4180	725	4.1		4930	719	4		3030	714	4	
Metals	Chromium	mg/kg	24	1.5	0.21		23.4	1.4	0.2		21.1	1.4	0.2		22.2	1.4	0.2		27.6	1.4	0.2	
Metals	Cobalt	mg/kg	8.9	0.76	0.013		6.8	0.72	0.012		7.4	0.72	0.012		5.9	0.72	0.012		7.5	0.71	0.012	
Metals	Copper	mg/kg	11.5	1.5	0.15		7.8	1.4	0.14		8.1	1.4	0.14		6.9	1.4	0.14		9.6	1.4	0.14	
Metals	Iron	mg/kg	14500	37.9	2.4		12400	36.2	2.3		13700	36.2	2.3		12500	36	2.3		14900	35.7	2.3	
Metals	Lead	mg/kg	20.1	1.5	0.06		16.6	1.4	0.057		11.9	1.4	0.057		18.4	1.4	0.057		22.3	1.4	0.056	
Metals	Magnesium	mg/kg	4150	75.8	1.4		2860	72.5	1.3		1970	72.5	1.3		3350	71.9	1.3		3520	71.4	1.3	
Metals	Manganese	mg/kg	1260	1.5	0.043		912	1.4	0.041		1950	1.4	0.041		392	1.4	0.041		345	1.4	0.041	
Metals	Mercury	mg/kg	0.12	0.032	0.0032		0.089	0.032	0.0032		0.072	0.031	0.0031		0.079	0.032	0.0032		0.095	0.032	0.0032	
Metals	Molybdenum	mg/kg	0.24	3.8	0.22	J	< 0.21	3.6	0.21	U	< 0.21	3.6	0.21	U	< 0.21	3.6	0.21	U	0.32	3.6	0.21	J
Metals	Nickel	mg/kg	44.3	0.76	0.067		35.6	0.72	0.064		39	0.72	0.064		39.6	0.72	0.063		42.3	0.71	0.063	
Metals	Potassium	mg/kg	701	758	1.5	J	612	725	1.4	J	271	725	1.4	J	466	719	1.4	J	597	714	1.4	J
Metals	Selenium	mg/kg	< 0.73	3.8	0.73	U	< 0.7	3.6	0.7	U	< 0.7	3.6	0.7	U	< 0.7	3.6	0.7	U	< 0.69	3.6	0.69	U
Metals	Silver	mg/kg	< 0.065	0.23	0.014	U	< 0.047	0.22	0.014	U	< 0.056	0.22	0.014	U	0.16	0.22	0.014	J	< 0.06	0.21	0.014	U
Metals	Sodium	mg/kg	203	758	7.1	J	147	725	6.8	J	135	725	6.8	J	128	719	6.8	J	175	714	6.7	J
Metals	Thallium	mg/kg	< 0.13	1.5	0.13	U	< 0.12	1.4	0.12	U	< 0.12	1.4	0.12	U	< 0.12	1.4	0.12	U	< 0.12	1.4	0.12	U
Metals	Vanadium	mg/kg	32	7.6	1.9		28.9	7.2	1.8		27.6	7.2	1.8		29.1	7.2	1.8		38.1	7.1	1.8	
Metals	Zinc	mg/kg	56.5	7.6	0.37		58.9	7.2	0.36		81.2	7.2	0.36		53.8	7.2	0.35		41.2	7.1	0.35	

bgs - below ground surface
ft - feet
PQL - practical quantitation limit
MDL - method detection limit
REG - regular sample
FD - field duplicate
VQ - validation qualifier

Validation Qualifier Definitions
U - Not detected. The compound/analyte was analyzed for, but not detected above the associated reporting limit
J - The compound/analyte was positively identified; the reported value is the estimated concentration of the constituent detected in the sample analyzed
R - The reported sample results are rejected due to the following: 1. Severe deficiencies in the supporting quality control data, 2. Anomalies noted in the sampling and/or analysis process which could affect the validity of the reported data, 3. The presence or absence of the constituent cannot be verified based on the data provided, 4. To indicate not to use a particular result in the event of a reanalysis
UJ - The compound/analyte was analyzed for, but not detected above the established reporting limit. However, review and evaluation of supporting QC data and/or sampling and analysis process have indicated that the reporting limit may be inaccurate or imprecise. The nondetect result should be estimated

Table G-8a

Background Soil Results
Fort Flagler Military Reservation

Location			039A027			
Sample Date			20-Feb-07			
Sample Number			NWO-039-5011			
Sample Depth (bgs) (ft)			0 to 0.5			
Sample Purpose			FD			
Fraction	**Parameter**	**Units**	**Result**	**PQL**	**MDL**	**VQ**
Metals	Aluminum	mg/kg	10600	75.8	2	
Metals	Antimony	mg/kg	< 0.13	0.76	0.13	U
Metals	Arsenic	mg/kg	2.8	3.8	0.46	J
Metals	Barium	mg/kg	89.1	3.8	0.17	
Metals	Beryllium	mg/kg	0.17	0.15	0.024	
Metals	Cadmium	mg/kg	0.12	0.38	0.11	J
Metals	Calcium	mg/kg	2870	758	4.2	
Metals	Chromium	mg/kg	26.9	1.5	0.21	
Metals	Cobalt	mg/kg	7.2	0.76	0.013	
Metals	Copper	mg/kg	9.3	1.5	0.15	
Metals	Iron	mg/kg	14400	37.9	2.4	
Metals	Lead	mg/kg	20.2	1.5	0.06	
Metals	Magnesium	mg/kg	3340	75.8	1.4	
Metals	Manganese	mg/kg	331	1.5	0.043	
Metals	Mercury	mg/kg	0.097	0.032	0.0032	
Metals	Molybdenum	mg/kg	0.31	3.8	0.22	J
Metals	Nickel	mg/kg	41.1	0.76	0.067	
Metals	Potassium	mg/kg	590	758	1.5	J
Metals	Selenium	mg/kg	< 0.73	3.8	0.73	U
Metals	Silver	mg/kg	< 0.059	0.23	0.014	U
Metals	Sodium	mg/kg	173	758	7.1	J
Metals	Thallium	mg/kg	< 0.13	1.5	0.13	U
Metals	Vanadium	mg/kg	36.7	7.6	1.9	
Metals	Zinc	mg/kg	39.7	7.6	0.37	

bgs - below ground surface
ft - feet
PQL - practical quantitation limit
MDL - method detection limit
REG - regular sample
FD - field duplicate
VQ - validation qualifier

Validation Qualifier Definitions
U - Not detected. The compound/analyte was analyzed for, but not detected above the associated reporting limit
J - The compound/analyte was positively identified; the reported value is the estimated concentration of the constituent detected in the sample analyzed
R - The reported sample results are rejected due to the following: 1. Severe deficiencies in the supporting quality control data, 2. Anomalies noted in the sampling and/or analysis process which could affect the validity of the reported data, 3. The presence or absence of the constituent cannot be verified based on the data provided, 4. To indicate not to use a particular result in the event of a reanalysis
UJ - The compound/analyte was analyzed for, but not detected above the established reporting limit. However, review and evaluation of supporting QC data and/or sampling and analysis process have indicated that the reporting limit may be inaccurate or imprecise. The nondetect result should be estimated

Table G-8b

Background Sediment Results
Fort Flagler Military Reservation

Location			039A028				039A029			
Sample Date			20-Feb-07				21-Feb-07			
Sample Number			NWO-039-5012				NWO-039-5013			
Sample Depth (bgs) (ft)			0 to 0.5				0 to 0.5			
Sample Purpose			REG				REG			
Fraction	**Parameter**	**Units**	**Result**	**PQL**	**MDL**	**VQ**	**Result**	**PQL**	**MDL**	**VQ**
Metals	Aluminum	mg/kg	*10800*	75.8	2		*6250*	69	1.9	
Metals	Antimony	mg/kg	< 0.13	0.76	0.13	U	< 0.12	0.69	0.12	U
Metals	Arsenic	mg/kg	3.9	3.8	0.46		1.3	3.4	0.42	J
Metals	Barium	mg/kg	131	3.8	0.17		25.8	3.4	0.16	
Metals	Beryllium	mg/kg	0.19	0.15	0.024		0.091	0.14	0.022	J
Metals	Cadmium	mg/kg	0.19	0.38	0.11	J	< 0.097	0.34	0.097	U
Metals	Calcium	mg/kg	6410	758	4.2		3590	690	3.9	
Metals	Chromium	mg/kg	28.5	1.5	0.21		23.5	1.4	0.19	
Metals	Cobalt	mg/kg	8.4	0.76	0.013		5.3	0.69	0.012	
Metals	Copper	mg/kg	11.1	1.5	0.15		7.9	1.4	0.14	
Metals	Iron	mg/kg	*15600*	37.9	2.4		*11600*	34.5	2.2	
Metals	Lead	mg/kg	12.8	1.5	0.06		1.5	1.4	0.054	
Metals	Magnesium	mg/kg	5660	75.8	1.4		6220	69	1.2	
Metals	Manganese	mg/kg	590	1.5	0.043		174	1.4	0.039	
Metals	Mercury	mg/kg	0.082	0.031	0.0031		0.0066	0.032	0.0032	J
Metals	Molybdenum	mg/kg	< 0.22	3.8	0.22	U	< 0.2	3.4	0.2	U
Metals	Nickel	mg/kg	46.9	0.76	0.067		41.6	0.69	0.061	
Metals	Potassium	mg/kg	979	758	1.5		360	690	1.4	J
Metals	Selenium	mg/kg	< 0.73	3.8	0.73	U	< 0.67	3.4	0.67	U
Metals	Silver	mg/kg	< 0.11	0.23	0.014	U	< 0.022	0.21	0.013	U
Metals	Sodium	mg/kg	301	758	7.1	J	373	690	6.5	J
Metals	Thallium	mg/kg	< 0.13	1.5	0.13	U	< 0.12	1.4	0.12	U
Metals	Vanadium	mg/kg	33.9	7.6	1.9		28.7	6.9	1.7	
Metals	Zinc	mg/kg	45.3	7.6	0.37		20.3	6.9	0.34	

Notes:
ft - feet
bgs - below ground surface
REG - regular field sample
mg/kg - milligram per kilogram
VQ - validation qualifier

Validation Qualifier Definitions
U - Not detected. The compound/analyte was analyzed for, but not detected above the associated reporting limit
J - The compound/analyte was positively identified; the reported value is the estimated concentration of the constituent detected in the sample analyzed
R - The reported sample results are rejected due to the following: 1. Severe deficiencies in the supporting quality control data, 2. Anomalies noted in the sampling and/or analysis process which could affect the validity of the reported data, 3. The presence or absence of the constituent cannot be verified based on the data provided, 4. To indicate not to use a particular result in the event of a reanalysis
UJ - The compound/analyte was analyzed for, but not detected above the established reporting limit. However, review and evaluation of supporting QC data and/or sampling and analysis process have indicated that the reporting limit may be inaccurate or imprecise. The nondetect result should be estimated

ATTACHMENT 1

Summary of Analytical Results

Attachment 1

Summary of Analytical Results
Fort Flagler Military Reservation

Location	Sample Number	Sample Date	Sample Type	Start Depth (ft)	End Depth (ft)	Sample Purpose	Fraction	CAS No.	Parameter	Result	PQL	MDL	Units	LQ	VQ	R1	DF
039A003	NWO-039-0002	2/21/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	13.8	1.7	0.066	mg/kg	DB			10
039A004	NWO-039-0003	2/21/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	18.6	1.5	0.059	mg/kg	DB			10
039A005	NWO-039-1002	2/21/2007	SD	0	0.5	REG	Metals	7439-92-1	Lead	40.4	1.7	0.066	mg/kg	DB			10
039A006	NWO-039-0004	2/21/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	6.7	1.6	0.062	mg/kg	DB			10
039A007	NWO-039-0005	2/21/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	8.5	1.5	0.06	mg/kg	DB			10
039A008	NWO-039-1003	2/21/2007	SD	0	0.5	REG	Metals	7439-92-1	Lead	28.4	1.7	0.065	mg/kg	DB			10
039A008	NWO-039-1004	2/21/2007	SD	0	0.5	FD	Metals	7439-92-1	Lead	22	1.5	0.059	mg/kg	DB			10
039A009	NWO-039-0006	2/21/2007	SS	0	0.5	REG	Explosives	99-35-4	1,3,5-Trinitrobenzene	0.012	0.04	0.012	mg/kg	U	U		1
039A009	NWO-039-0006	2/21/2007	SS	0	0.5	REG	Explosives	99-65-0	1,3-Dinitrobenzene	0.002	0.04	0.002	mg/kg	U	U		1
039A009	NWO-039-0006	2/21/2007	SS	0	0.5	REG	Explosives	118-96-7	2,4,6-Trinitrotoluene	0.008	0.04	0.008	mg/kg	U	U		1
039A009	NWO-039-0006	2/21/2007	SS	0	0.5	REG	Explosives	121-14-2	2,4-Dinitrotoluene	0.014	0.04	0.014	mg/kg	U	U		1
039A009	NWO-039-0006	2/21/2007	SS	0	0.5	REG	Explosives	606-20-2	2,6-Dinitrotoluene	0.007	0.04	0.007	mg/kg	U	U		1
039A009	NWO-039-0006	2/21/2007	SS	0	0.5	REG	Explosives	35572-78-2	2-Amino-4,6-dinitrotoluene	0.01	0.04	0.01	mg/kg	U	U		1
039A009	NWO-039-0006	2/21/2007	SS	0	0.5	REG	Explosives	88-72-2	2-Nitrotoluene	0.009	0.08	0.009	mg/kg	U	U		1
039A009	NWO-039-0006	2/21/2007	SS	0	0.5	REG	Explosives	99-08-1	3-Nitrotoluene	0.022	0.08	0.022	mg/kg	U	U		1
039A009	NWO-039-0006	2/21/2007	SS	0	0.5	REG	Explosives	19406-51-0	4-Amino-2,6-dinitrotoluene	0.006	0.04	0.006	mg/kg	U	U		1
039A009	NWO-039-0006	2/21/2007	SS	0	0.5	REG	Explosives	99-99-0	4-Nitrotoluene	0.036	0.08	0.036	mg/kg	U	U		1
039A009	NWO-039-0006	2/21/2007	SS	0	0.5	REG	Explosives	2691-41-0	HMX	0.012	0.08	0.012	mg/kg	U	U		1
039A009	NWO-039-0006	2/21/2007	SS	0	0.5	REG	Explosives	98-95-3	Nitrobenzene	0.006	0.04	0.006	mg/kg	U	U		1
039A009	NWO-039-0006	2/21/2007	SS	0	0.5	REG	Explosives	55-63-0	Nitroglycerine	0.04	4	0.04	mg/kg	U	U		1
039A009	NWO-039-0006	2/21/2007	SS	0	0.5	REG	Explosives	78-11-5	PETN	0.042	0.2	0.042	mg/kg	U	U		1
039A009	NWO-039-0006	2/21/2007	SS	0	0.5	REG	Explosives	121-82-4	RDX	0.071	0.08	0.071	mg/kg	U	U		1
039A009	NWO-039-0006	2/21/2007	SS	0	0.5	REG	Explosives	479-45-8	Tetryl	0.004	0.08	0.004	mg/kg	U	U		1
039A009	NWO-039-0006	2/21/2007	SS	0	0.5	REG	Metals	7429-90-5	Aluminum	8470	82.6	2.2	mg/kg	D			10
039A009	NWO-039-0006	2/21/2007	SS	0	0.5	REG	Metals	7440-47-3	Chromium	25.9	1.7	0.23	mg/kg	DB			10
039A009	NWO-039-0006	2/21/2007	SS	0	0.5	REG	Metals	7440-50-8	Copper	9.3	1.7	0.17	mg/kg	DB			10
039A009	NWO-039-0006	2/21/2007	SS	0	0.5	REG	Metals	7439-89-6	Iron	13200	41.3	2.6	mg/kg	D			10
039A009	NWO-039-0006	2/21/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	4.3	1.7	0.065	mg/kg	D			10
039A009	NWO-039-0006	2/21/2007	SS	0	0.5	REG	Metals	7439-96-5	Manganese	218	1.7	0.047	mg/kg	ND	J	08A	10
039A009	NWO-039-0006	2/21/2007	SS	0	0.5	REG	Metals	7439-98-7	Molybdenum	0.47	4.1	0.24	mg/kg	JD	J	15	10
039A009	NWO-039-0006	2/21/2007	SS	0	0.5	REG	Metals	7440-02-0	Nickel	38.3	0.83	0.073	mg/kg	DB			10
039A010	NWO-039-0007	2/21/2007	SS	0	0.5	REG	Explosives	99-35-4	1,3,5-Trinitrobenzene	0.012	0.04	0.012	mg/kg	U	U		1
039A010	NWO-039-0007	2/21/2007	SS	0	0.5	REG	Explosives	99-65-0	1,3-Dinitrobenzene	0.002	0.04	0.002	mg/kg	U	U		1
039A010	NWO-039-0007	2/21/2007	SS	0	0.5	REG	Explosives	118-96-7	2,4,6-Trinitrotoluene	0.008	0.04	0.008	mg/kg	U	U		1
039A010	NWO-039-0007	2/21/2007	SS	0	0.5	REG	Explosives	121-14-2	2,4-Dinitrotoluene	0.014	0.04	0.014	mg/kg	U	U		1
039A010	NWO-039-0007	2/21/2007	SS	0	0.5	REG	Explosives	606-20-2	2,6-Dinitrotoluene	0.007	0.04	0.007	mg/kg	U	U		1
039A010	NWO-039-0007	2/21/2007	SS	0	0.5	REG	Explosives	35572-78-2	2-Amino-4,6-dinitrotoluene	0.01	0.04	0.01	mg/kg	U	U		1
039A010	NWO-039-0007	2/21/2007	SS	0	0.5	REG	Explosives	88-72-2	2-Nitrotoluene	0.009	0.08	0.009	mg/kg	U	U		1
039A010	NWO-039-0007	2/21/2007	SS	0	0.5	REG	Explosives	99-08-1	3-Nitrotoluene	0.022	0.08	0.022	mg/kg	U	U		1
039A010	NWO-039-0007	2/21/2007	SS	0	0.5	REG	Explosives	19406-51-0	4-Amino-2,6-dinitrotoluene	0.006	0.04	0.006	mg/kg	U	U		1
039A010	NWO-039-0007	2/21/2007	SS	0	0.5	REG	Explosives	99-99-0	4-Nitrotoluene	0.036	0.08	0.036	mg/kg	U	U		1
039A010	NWO-039-0007	2/21/2007	SS	0	0.5	REG	Explosives	2691-41-0	HMX	0.012	0.08	0.012	mg/kg	U	U		1
039A010	NWO-039-0007	2/21/2007	SS	0	0.5	REG	Explosives	98-95-3	Nitrobenzene	0.006	0.04	0.006	mg/kg	U	U		1
039A010	NWO-039-0007	2/21/2007	SS	0	0.5	REG	Explosives	55-63-0	Nitroglycerine	0.04	4	0.04	mg/kg	U	U		1
039A010	NWO-039-0007	2/21/2007	SS	0	0.5	REG	Explosives	78-11-5	PETN	0.042	0.2	0.042	mg/kg	U	U		1
039A010	NWO-039-0007	2/21/2007	SS	0	0.5	REG	Explosives	121-82-4	RDX	0.071	0.08	0.071	mg/kg	U	U		1
039A010	NWO-039-0007	2/21/2007	SS	0	0.5	REG	Explosives	479-45-8	Tetryl	0.004	0.08	0.004	mg/kg	U	U		1
039A010	NWO-039-0007	2/21/2007	SS	0	0.5	REG	Metals	7429-90-5	Aluminum	9470	80.6	2.2	mg/kg	D			10
039A010	NWO-039-0007	2/21/2007	SS	0	0.5	REG	Metals	7440-47-3	Chromium	23.4	1.6	0.23	mg/kg	DB			10
039A010	NWO-039-0007	2/21/2007	SS	0	0.5	REG	Metals	7440-50-8	Copper	7.9	1.6	0.16	mg/kg	DB			10
039A010	NWO-039-0007	2/21/2007	SS	0	0.5	REG	Metals	7439-89-6	Iron	13600	40.3	2.6	mg/kg	D			10

Summary of Analytical Results
Fort Flagler Military Reservation

Location	Sample Number	Sample Date	Sample Type	Start Depth (ft)	End Depth (ft)	Sample Purpose	Fraction	CAS No.	Parameter	Result	PQL	MDL	Units	LQ	VQ	R1	DF
039A010	NWO-039-0007	2/21/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	3	1.6	0.064	mg/kg	D			10
039A010	NWO-039-0007	2/21/2007	SS	0	0.5	REG	Metals	7439-96-5	Manganese	245	1.6	0.046	mg/kg	ND			10
039A010	NWO-039-0007	2/21/2007	SS	0	0.5	REG	Metals	7439-98-7	Molybdenum	0.23	4	0.23	mg/kg	UD	U		10
039A010	NWO-039-0007	2/21/2007	SS	0	0.5	REG	Metals	7440-02-0	Nickel	42.2	0.81	0.071	mg/kg	DB			10
039A011	NWO-039-0008	2/21/2007	SS	0	0.5	REG	Explosives	99-35-4	1,3,5-Trinitrobenzene	0.012	0.04	0.012	mg/kg	U	U		1
039A011	NWO-039-0008	2/21/2007	SS	0	0.5	REG	Explosives	99-65-0	1,3-Dinitrobenzene	0.002	0.04	0.002	mg/kg	U	U		1
039A011	NWO-039-0008	2/21/2007	SS	0	0.5	REG	Explosives	118-96-7	2,4,6-Trinitrotoluene	0.008	0.04	0.008	mg/kg	U	U		1
039A011	NWO-039-0008	2/21/2007	SS	0	0.5	REG	Explosives	121-14-2	2,4-Dinitrotoluene	0.014	0.04	0.014	mg/kg	U	U		1
039A011	NWO-039-0008	2/21/2007	SS	0	0.5	REG	Explosives	606-20-2	2,6-Dinitrotoluene	0.007	0.04	0.007	mg/kg	U	U		1
039A011	NWO-039-0008	2/21/2007	SS	0	0.5	REG	Explosives	35572-78-2	2-Amino-4,6-dinitrotoluene	0.01	0.04	0.01	mg/kg	U	U		1
039A011	NWO-039-0008	2/21/2007	SS	0	0.5	REG	Explosives	88-72-2	2-Nitrotoluene	0.009	0.08	0.009	mg/kg	U	U		1
039A011	NWO-039-0008	2/21/2007	SS	0	0.5	REG	Explosives	99-08-1	3-Nitrotoluene	0.022	0.08	0.022	mg/kg	U	U		1
039A011	NWO-039-0008	2/21/2007	SS	0	0.5	REG	Explosives	19406-51-0	4-Amino-2,6-dinitrotoluene	0.006	0.04	0.006	mg/kg	U	U		1
039A011	NWO-039-0008	2/21/2007	SS	0	0.5	REG	Explosives	99-99-0	4-Nitrotoluene	0.036	0.08	0.036	mg/kg	U	U		1
039A011	NWO-039-0008	2/21/2007	SS	0	0.5	REG	Explosives	2691-41-0	HMX	0.012	0.08	0.012	mg/kg	U	U		1
039A011	NWO-039-0008	2/21/2007	SS	0	0.5	REG	Explosives	98-95-3	Nitrobenzene	0.006	0.04	0.006	mg/kg	U	U		1
039A011	NWO-039-0008	2/21/2007	SS	0	0.5	REG	Explosives	55-63-0	Nitroglycerine	0.04	4	0.04	mg/kg	U	U		1
039A011	NWO-039-0008	2/21/2007	SS	0	0.5	REG	Explosives	78-11-5	PETN	0.042	0.2	0.042	mg/kg	U	U		1
039A011	NWO-039-0008	2/21/2007	SS	0	0.5	REG	Explosives	121-82-4	RDX	0.071	0.08	0.071	mg/kg	U	U		1
039A011	NWO-039-0008	2/21/2007	SS	0	0.5	REG	Explosives	479-45-8	Tetryl	0.004	0.08	0.004	mg/kg	U	U		1
039A011	NWO-039-0008	2/21/2007	SS	0	0.5	REG	Metals	7429-90-5	Aluminum	8060	84	2.3	mg/kg	D			10
039A011	NWO-039-0008	2/21/2007	SS	0	0.5	REG	Metals	7440-47-3	Chromium	17.9	1.7	0.24	mg/kg	DB			10
039A011	NWO-039-0008	2/21/2007	SS	0	0.5	REG	Metals	7440-50-8	Copper	10.8	1.7	0.17	mg/kg	DB			10
039A011	NWO-039-0008	2/21/2007	SS	0	0.5	REG	Metals	7439-89-6	Iron	11500	42	2.7	mg/kg	D			10
039A011	NWO-039-0008	2/21/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	17.3	1.7	0.066	mg/kg	D			10
039A011	NWO-039-0008	2/21/2007	SS	0	0.5	REG	Metals	7439-96-5	Manganese	998	1.7	0.048	mg/kg	ND			10
039A011	NWO-039-0008	2/21/2007	SS	0	0.5	REG	Metals	7439-98-7	Molybdenum	0.28	4.2	0.24	mg/kg	JD	J	15	10
039A011	NWO-039-0008	2/21/2007	SS	0	0.5	REG	Metals	7440-02-0	Nickel	27.9	0.84	0.074	mg/kg	DB			10
039A011	NWO-039-0009	2/21/2007	SS	0	0.5	FD	Explosives	99-35-4	1,3,5-Trinitrobenzene	0.012	0.04	0.012	mg/kg	U	U		1
039A011	NWO-039-0009	2/21/2007	SS	0	0.5	FD	Explosives	99-65-0	1,3-Dinitrobenzene	0.002	0.04	0.002	mg/kg	U	U		1
039A011	NWO-039-0009	2/21/2007	SS	0	0.5	FD	Explosives	118-96-7	2,4,6-Trinitrotoluene	0.008	0.04	0.008	mg/kg	U	U		1
039A011	NWO-039-0009	2/21/2007	SS	0	0.5	FD	Explosives	121-14-2	2,4-Dinitrotoluene	0.014	0.04	0.014	mg/kg	U	U		1
039A011	NWO-039-0009	2/21/2007	SS	0	0.5	FD	Explosives	606-20-2	2,6-Dinitrotoluene	0.007	0.04	0.007	mg/kg	U	U		1
039A011	NWO-039-0009	2/21/2007	SS	0	0.5	FD	Explosives	35572-78-2	2-Amino-4,6-dinitrotoluene	0.01	0.04	0.01	mg/kg	U	U		1
039A011	NWO-039-0009	2/21/2007	SS	0	0.5	FD	Explosives	88-72-2	2-Nitrotoluene	0.009	0.08	0.009	mg/kg	U	U		1
039A011	NWO-039-0009	2/21/2007	SS	0	0.5	FD	Explosives	99-08-1	3-Nitrotoluene	0.022	0.08	0.022	mg/kg	U	U		1
039A011	NWO-039-0009	2/21/2007	SS	0	0.5	FD	Explosives	19406-51-0	4-Amino-2,6-dinitrotoluene	0.006	0.04	0.006	mg/kg	U	U		1
039A011	NWO-039-0009	2/21/2007	SS	0	0.5	FD	Explosives	99-99-0	4-Nitrotoluene	0.036	0.08	0.036	mg/kg	U	U		1
039A011	NWO-039-0009	2/21/2007	SS	0	0.5	FD	Explosives	2691-41-0	HMX	0.012	0.08	0.012	mg/kg	U	U		1
039A011	NWO-039-0009	2/21/2007	SS	0	0.5	FD	Explosives	98-95-3	Nitrobenzene	0.006	0.04	0.006	mg/kg	U	U		1
039A011	NWO-039-0009	2/21/2007	SS	0	0.5	FD	Explosives	55-63-0	Nitroglycerine	0.04	4	0.04	mg/kg	U	U		1
039A011	NWO-039-0009	2/21/2007	SS	0	0.5	FD	Explosives	78-11-5	PETN	0.041	0.2	0.041	mg/kg	U	U		1
039A011	NWO-039-0009	2/21/2007	SS	0	0.5	FD	Explosives	121-82-4	RDX	0.071	0.08	0.071	mg/kg	U	U		1
039A011	NWO-039-0009	2/21/2007	SS	0	0.5	FD	Explosives	479-45-8	Tetryl	0.004	0.08	0.004	mg/kg	U	U		1
039A011	NWO-039-0009	2/21/2007	SS	0	0.5	FD	Metals	7429-90-5	Aluminum	8210	84	2.3	mg/kg	D			10
039A011	NWO-039-0009	2/21/2007	SS	0	0.5	FD	Metals	7440-47-3	Chromium	19.9	1.7	0.24	mg/kg	DB			10
039A011	NWO-039-0009	2/21/2007	SS	0	0.5	FD	Metals	7440-50-8	Copper	10.3	1.7	0.17	mg/kg	DB			10
039A011	NWO-039-0009	2/21/2007	SS	0	0.5	FD	Metals	7439-89-6	Iron	11600	42	2.7	mg/kg	D			10
039A011	NWO-039-0009	2/21/2007	SS	0	0.5	FD	Metals	7439-92-1	Lead	15.9	1.7	0.066	mg/kg	D			10
039A011	NWO-039-0009	2/21/2007	SS	0	0.5	FD	Metals	7439-96-5	Manganese	950	1.7	0.048	mg/kg	ND			10
039A011	NWO-039-0009	2/21/2007	SS	0	0.5	FD	Metals	7439-98-7	Molybdenum	0.28	4.2	0.24	mg/kg	JD	J	15	10

Summary of Analytical Results
Fort Flagler Military Reservation

Location	Sample Number	Sample Date	Sample Type	Start Depth (ft)	End Depth (ft)	Sample Purpose	Fraction	CAS No.	Parameter	Result	PQL	MDL	Units	LQ	VQ	R1	DF
039A011	NWO-039-0009	2/21/2007	SS	0	0.5	FD	Metals	7440-02-0	Nickel	27.2	0.84	0.074	mg/kg	DB			10
039A012	NWO-039-1005	2/21/2007	SD	0	0.5	REG	Explosives	99-35-4	1,3,5-Trinitrobenzene	0.012	0.04	0.012	mg/kg	U	U		1
039A012	NWO-039-1005	2/21/2007	SD	0	0.5	REG	Explosives	99-65-0	1,3-Dinitrobenzene	0.002	0.04	0.002	mg/kg	U	U		1
039A012	NWO-039-1005	2/21/2007	SD	0	0.5	REG	Explosives	118-96-7	2,4,6-Trinitrotoluene	0.008	0.04	0.008	mg/kg	U	U		1
039A012	NWO-039-1005	2/21/2007	SD	0	0.5	REG	Explosives	121-14-2	2,4-Dinitrotoluene	0.014	0.04	0.014	mg/kg	U	U		1
039A012	NWO-039-1005	2/21/2007	SD	0	0.5	REG	Explosives	606-20-2	2,6-Dinitrotoluene	0.007	0.04	0.007	mg/kg	U	U		1
039A012	NWO-039-1005	2/21/2007	SD	0	0.5	REG	Explosives	35572-78-2	2-Amino-4,6-dinitrotoluene	0.01	0.04	0.01	mg/kg	U	U		1
039A012	NWO-039-1005	2/21/2007	SD	0	0.5	REG	Explosives	88-72-2	2-Nitrotoluene	0.009	0.08	0.009	mg/kg	U	U		1
039A012	NWO-039-1005	2/21/2007	SD	0	0.5	REG	Explosives	99-08-1	3-Nitrotoluene	0.022	0.08	0.022	mg/kg	U	U		1
039A012	NWO-039-1005	2/21/2007	SD	0	0.5	REG	Explosives	19406-51-0	4-Amino-2,6-dinitrotoluene	0.006	0.04	0.006	mg/kg	U	U		1
039A012	NWO-039-1005	2/21/2007	SD	0	0.5	REG	Explosives	99-99-0	4-Nitrotoluene	0.036	0.08	0.036	mg/kg	U	U		1
039A012	NWO-039-1005	2/21/2007	SD	0	0.5	REG	Explosives	2691-41-0	HMX	0.012	0.08	0.012	mg/kg	U	U		1
039A012	NWO-039-1005	2/21/2007	SD	0	0.5	REG	Explosives	98-95-3	Nitrobenzene	0.006	0.04	0.006	mg/kg	U	U		1
039A012	NWO-039-1005	2/21/2007	SD	0	0.5	REG	Explosives	55-63-0	Nitroglycerine	0.04	4	0.04	mg/kg	U	U		1
039A012	NWO-039-1005	2/21/2007	SD	0	0.5	REG	Explosives	78-11-5	PETN	0.042	0.2	0.042	mg/kg	U	U		1
039A012	NWO-039-1005	2/21/2007	SD	0	0.5	REG	Explosives	121-82-4	RDX	0.071	0.08	0.071	mg/kg	U	U		1
039A012	NWO-039-1005	2/21/2007	SD	0	0.5	REG	Explosives	479-45-8	Tetryl	0.004	0.08	0.004	mg/kg	U	U		1
039A012	NWO-039-1005	2/21/2007	SD	0	0.5	REG	Metals	7429-90-5	Aluminum	7860	80.6	2.2	mg/kg	D			10
039A012	NWO-039-1005	2/21/2007	SD	0	0.5	REG	Metals	7440-47-3	Chromium	25.5	1.6	0.23	mg/kg	DB			10
039A012	NWO-039-1005	2/21/2007	SD	0	0.5	REG	Metals	7440-50-8	Copper	8	1.6	0.16	mg/kg	DB			10
039A012	NWO-039-1005	2/21/2007	SD	0	0.5	REG	Metals	7439-89-6	Iron	13100	40.3	2.6	mg/kg	DB			10
039A012	NWO-039-1005	2/21/2007	SD	0	0.5	REG	Metals	7439-92-1	Lead	3.6	1.6	0.064	mg/kg	DB			10
039A012	NWO-039-1005	2/21/2007	SD	0	0.5	REG	Metals	7439-96-5	Manganese	175	1.6	0.046	mg/kg	NDB			10
039A012	NWO-039-1005	2/21/2007	SD	0	0.5	REG	Metals	7439-98-7	Molybdenum	0.25	4	0.23	mg/kg	JD	J	15	10
039A012	NWO-039-1005	2/21/2007	SD	0	0.5	REG	Metals	7440-02-0	Nickel	37.7	0.81	0.071	mg/kg	DB			10
039A013	NWO-039-0010	2/21/2007	SS	0	0.5	REG	Explosives	99-35-4	1,3,5-Trinitrobenzene	0.012	0.04	0.012	mg/kg	U	U		1
039A013	NWO-039-0010	2/21/2007	SS	0	0.5	REG	Explosives	99-65-0	1,3-Dinitrobenzene	0.002	0.04	0.002	mg/kg	U	U		1
039A013	NWO-039-0010	2/21/2007	SS	0	0.5	REG	Explosives	118-96-7	2,4,6-Trinitrotoluene	0.008	0.04	0.008	mg/kg	U	U		1
039A013	NWO-039-0010	2/21/2007	SS	0	0.5	REG	Explosives	121-14-2	2,4-Dinitrotoluene	0.014	0.04	0.014	mg/kg	U	U		1
039A013	NWO-039-0010	2/21/2007	SS	0	0.5	REG	Explosives	606-20-2	2,6-Dinitrotoluene	0.007	0.04	0.007	mg/kg	U	U		1
039A013	NWO-039-0010	2/21/2007	SS	0	0.5	REG	Explosives	35572-78-2	2-Amino-4,6-dinitrotoluene	0.01	0.04	0.01	mg/kg	U	U		1
039A013	NWO-039-0010	2/21/2007	SS	0	0.5	REG	Explosives	88-72-2	2-Nitrotoluene	0.009	0.08	0.009	mg/kg	U	U		1
039A013	NWO-039-0010	2/21/2007	SS	0	0.5	REG	Explosives	99-08-1	3-Nitrotoluene	0.022	0.08	0.022	mg/kg	U	U		1
039A013	NWO-039-0010	2/21/2007	SS	0	0.5	REG	Explosives	19406-51-0	4-Amino-2,6-dinitrotoluene	0.006	0.04	0.006	mg/kg	U	U		1
039A013	NWO-039-0010	2/21/2007	SS	0	0.5	REG	Explosives	99-99-0	4-Nitrotoluene	0.036	0.08	0.036	mg/kg	U	U		1
039A013	NWO-039-0010	2/21/2007	SS	0	0.5	REG	Explosives	2691-41-0	HMX	0.012	0.08	0.012	mg/kg	U	U		1
039A013	NWO-039-0010	2/21/2007	SS	0	0.5	REG	Explosives	98-95-3	Nitrobenzene	0.006	0.04	0.006	mg/kg	U	U		1
039A013	NWO-039-0010	2/21/2007	SS	0	0.5	REG	Explosives	55-63-0	Nitroglycerine	0.04	4	0.04	mg/kg	U	U		1
039A013	NWO-039-0010	2/21/2007	SS	0	0.5	REG	Explosives	78-11-5	PETN	0.042	0.2	0.042	mg/kg	U	U		1
039A013	NWO-039-0010	2/21/2007	SS	0	0.5	REG	Explosives	121-82-4	RDX	0.071	0.08	0.071	mg/kg	U	U		1
039A013	NWO-039-0010	2/21/2007	SS	0	0.5	REG	Explosives	479-45-8	Tetryl	0.004	0.08	0.004	mg/kg	U	U		1
039A013	NWO-039-0010	2/21/2007	SS	0	0.5	REG	Metals	7429-90-5	Aluminum	12200	82	2.2	mg/kg	D			10
039A013	NWO-039-0010	2/21/2007	SS	0	0.5	REG	Metals	7440-47-3	Chromium	36.3	1.6	0.23	mg/kg	DB			10
039A013	NWO-039-0010	2/21/2007	SS	0	0.5	REG	Metals	7440-50-8	Copper	7.6	1.6	0.16	mg/kg	DB			10
039A013	NWO-039-0010	2/21/2007	SS	0	0.5	REG	Metals	7439-89-6	Iron	16700	41	2.6	mg/kg	DB			10
039A013	NWO-039-0010	2/21/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	10	1.6	0.065	mg/kg	DB			10
039A013	NWO-039-0010	2/21/2007	SS	0	0.5	REG	Metals	7439-96-5	Manganese	562	1.6	0.047	mg/kg	NDB			10
039A013	NWO-039-0010	2/21/2007	SS	0	0.5	REG	Metals	7439-98-7	Molybdenum	0.24	4.1	0.24	mg/kg	UD	U		10
039A013	NWO-039-0010	2/21/2007	SS	0	0.5	REG	Metals	7440-02-0	Nickel	85.8	0.82	0.072	mg/kg	DB			10
039A014	NWO-039-0011	2/21/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	235	1.6	0.062	mg/kg	DB			10
039A015	NWO-039-0012	2/21/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	587	1.7	0.068	mg/kg	DB			10

Summary of Analytical Results
Fort Flagler Military Reservation

Location	Sample Number	Sample Date	Sample Type	Start Depth (ft)	End Depth (ft)	Sample Purpose	Fraction	CAS No.	Parameter	Result	PQL	MDL	Units	LQ	VQ	R1	DF
039A016	NWO-039-1006	2/21/2007	SD	0	0.5	REG	Metals	7439-92-1	Lead	219	1.6	0.063	mg/kg	DB			10
039A017	NWO-039-0013	2/21/2007	SS	0	0.5	REG	Explosives	99-35-4	1,3,5-Trinitrobenzene	0.012	0.04	0.012	mg/kg	U	U		1
039A017	NWO-039-0013	2/21/2007	SS	0	0.5	REG	Explosives	99-65-0	1,3-Dinitrobenzene	0.002	0.04	0.002	mg/kg	U	U		1
039A017	NWO-039-0013	2/21/2007	SS	0	0.5	REG	Explosives	118-96-7	2,4,6-Trinitrotoluene	0.008	0.04	0.008	mg/kg	U	U		1
039A017	NWO-039-0013	2/21/2007	SS	0	0.5	REG	Explosives	121-14-2	2,4-Dinitrotoluene	0.014	0.04	0.014	mg/kg	U	U		1
039A017	NWO-039-0013	2/21/2007	SS	0	0.5	REG	Explosives	606-20-2	2,6-Dinitrotoluene	0.007	0.04	0.007	mg/kg	U	U		1
039A017	NWO-039-0013	2/21/2007	SS	0	0.5	REG	Explosives	35572-78-2	2-Amino-4,6-dinitrotoluene	0.01	0.04	0.01	mg/kg	U	U		1
039A017	NWO-039-0013	2/21/2007	SS	0	0.5	REG	Explosives	88-72-2	2-Nitrotoluene	0.009	0.08	0.009	mg/kg	U	U		1
039A017	NWO-039-0013	2/21/2007	SS	0	0.5	REG	Explosives	99-08-1	3-Nitrotoluene	0.022	0.08	0.022	mg/kg	U	U		1
039A017	NWO-039-0013	2/21/2007	SS	0	0.5	REG	Explosives	19406-51-0	4-Amino-2,6-dinitrotoluene	0.006	0.04	0.006	mg/kg	U	U		1
039A017	NWO-039-0013	2/21/2007	SS	0	0.5	REG	Explosives	99-99-0	4-Nitrotoluene	0.036	0.08	0.036	mg/kg	U	U		1
039A017	NWO-039-0013	2/21/2007	SS	0	0.5	REG	Explosives	2691-41-0	HMX	0.012	0.08	0.012	mg/kg	U	U		1
039A017	NWO-039-0013	2/21/2007	SS	0	0.5	REG	Explosives	98-95-3	Nitrobenzene	0.006	0.04	0.006	mg/kg	U	U		1
039A017	NWO-039-0013	2/21/2007	SS	0	0.5	REG	Explosives	55-63-0	Nitroglycerine	0.04	4	0.04	mg/kg	U	U		1
039A017	NWO-039-0013	2/21/2007	SS	0	0.5	REG	Explosives	78-11-5	PETN	0.042	0.2	0.042	mg/kg	U	U		1
039A017	NWO-039-0013	2/21/2007	SS	0	0.5	REG	Explosives	121-82-4	RDX	0.071	0.08	0.071	mg/kg	U	U		1
039A017	NWO-039-0013	2/21/2007	SS	0	0.5	REG	Explosives	479-45-8	Tetryl	0.004	0.08	0.004	mg/kg	U	U		1
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7429-90-5	Aluminum	11000	74.6	2	mg/kg	D			10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7440-36-0	Antimony	0.13	0.75	0.13	mg/kg	UND	UJ	08A	10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7440-38-2	Arsenic	3.7	3.7	0.46	mg/kg	D			10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7440-39-3	Barium	128	3.7	0.17	mg/kg	NDB			10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7440-41-7	Beryllium	0.18	0.15	0.024	mg/kg	D			10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7440-43-9	Cadmium	0.1	0.37	0.1	mg/kg	UD	U		10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7440-70-2	Calcium	4300	746	4.2	mg/kg	DB			10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7440-47-3	Chromium	30.7	1.5	0.21	mg/kg	ND			10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7440-48-4	Cobalt	8.4	0.75	0.013	mg/kg	DB			10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7440-50-8	Copper	7.6	1.5	0.15	mg/kg	DB			10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7439-89-6	Iron	16000	37.3	2.4	mg/kg	DB			10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	17.7	1.5	0.059	mg/kg	DB			10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7439-95-4	Magnesium	4700	74.6	1.3	mg/kg	D			10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7439-96-5	Manganese	948	1.5	0.043	mg/kg	D			10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7439-97-6	Mercury	0.062	0.032	0.0032	mg/kg				1
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7439-98-7	Molybdenum	0.27	3.7	0.22	mg/kg	JD	J	15	10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7440-02-0	Nickel	66.8	0.75	0.066	mg/kg	NDB			10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7440-09-7	Potassium	445	746	1.5	mg/kg	JNDB	J	15	10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7782-49-2	Selenium	0.75	3.7	0.72	mg/kg	JDB	J	15	10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7440-22-4	Silver	0.038	0.22	0.014	mg/kg	JDB	J	15	10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7440-23-5	Sodium	124	746	7	mg/kg	JD	J	15	10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7440-28-0	Thallium	0.23	1.5	0.13	mg/kg	JDB	U	06A	10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7440-62-2	Vanadium	32.7	7.5	1.9	mg/kg	D			10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7440-66-6	Zinc	41.2	7.5	0.37	mg/kg	DB			10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7429-90-5	Aluminum	9870	75.2	2	mg/kg	D			10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7440-36-0	Antimony	0.13	0.75	0.13	mg/kg	UND	U		10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7440-38-2	Arsenic	3.1	3.8	0.46	mg/kg	JD	J	15	10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7440-39-3	Barium	73.1	3.8	0.17	mg/kg	NDB			10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7440-41-7	Beryllium	0.17	0.15	0.024	mg/kg	D			10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7440-43-9	Cadmium	0.14	0.38	0.11	mg/kg	JD	J	15	10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7440-70-2	Calcium	4110	752	4.2	mg/kg	D			10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7440-47-3	Chromium	24.7	1.5	0.21	mg/kg	ND			10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7440-48-4	Cobalt	6.3	0.75	0.013	mg/kg	DB			10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7440-50-8	Copper	9.4	1.5	0.15	mg/kg	DB			10

Summary of Analytical Results
Fort Flagler Military Reservation

Location	Sample Number	Sample Date	Sample Type	Start Depth (ft)	End Depth (ft)	Sample Purpose	Fraction	CAS No.	Parameter	Result	PQL	MDL	Units	LQ	VQ	R1	DF
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7439-89-6	Iron	13200	37.6	2.4	mg/kg	D			10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	12.9	1.5	0.059	mg/kg	D			10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7439-95-4	Magnesium	4310	75.2	1.4	mg/kg	DB			10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7439-96-5	Manganese	454	1.5	0.043	mg/kg	D			10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7439-97-6	Mercury	0.052	0.032	0.0032	mg/kg				1
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7439-98-7	Molybdenum	0.22	3.8	0.22	mg/kg	UD	U		10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7440-02-0	Nickel	32.5	0.75	0.066	mg/kg	ND			10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7440-09-7	Potassium	760	752	1.5	mg/kg	NDB			10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7782-49-2	Selenium	0.73	3.8	0.73	mg/kg	UD	U		10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7440-22-4	Silver	0.047	0.23	0.014	mg/kg	JDB	U	06B	10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7440-23-5	Sodium	128	752	7.1	mg/kg	JD	J	15	10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7440-28-0	Thallium	0.13	1.5	0.13	mg/kg	UDB	U		10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7440-62-2	Vanadium	29.9	7.5	1.9	mg/kg	D			10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7440-66-6	Zinc	36.1	7.5	0.37	mg/kg	DB			10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7429-90-5	Aluminum	10700	75.2	2	mg/kg	D			10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7440-36-0	Antimony	0.2	0.75	0.13	mg/kg	JND	J	15	10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7440-38-2	Arsenic	5.8	3.8	0.46	mg/kg	D			10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7440-39-3	Barium	181	3.8	0.17	mg/kg	NDB			10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7440-41-7	Beryllium	0.18	0.15	0.024	mg/kg	D			10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7440-43-9	Cadmium	0.17	0.38	0.11	mg/kg	JD	J	15	10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7440-70-2	Calcium	5700	752	4.2	mg/kg	D			10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7440-47-3	Chromium	22.4	1.5	0.21	mg/kg	ND			10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7440-48-4	Cobalt	7.2	0.75	0.013	mg/kg	DB			10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7440-50-8	Copper	8	1.5	0.15	mg/kg	DB			10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7439-89-6	Iron	12900	37.6	2.4	mg/kg	D			10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	27.1	1.5	0.059	mg/kg	D			10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7439-95-4	Magnesium	3250	75.2	1.4	mg/kg	DB			10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7439-96-5	Manganese	1430	1.5	0.043	mg/kg	D			10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7439-97-6	Mercury	0.15	0.032	0.0032	mg/kg				1
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7439-98-7	Molybdenum	0.31	3.8	0.22	mg/kg	JD	J	15	10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7440-02-0	Nickel	43.8	0.75	0.066	mg/kg	ND			10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7440-09-7	Potassium	467	752	1.5	mg/kg	JNDB	J	15	10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7782-49-2	Selenium	0.73	3.8	0.73	mg/kg	UD	U		10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7440-22-4	Silver	0.068	0.23	0.014	mg/kg	JDB	U	06B	10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7440-23-5	Sodium	123	752	7.1	mg/kg	JD	J	15	10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7440-28-0	Thallium	0.13	1.5	0.13	mg/kg	UDB	U		10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7440-62-2	Vanadium	29.1	7.5	1.9	mg/kg	D			10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7440-66-6	Zinc	53	7.5	0.37	mg/kg	DB			10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7429-90-5	Aluminum	8590	72.5	2	mg/kg	D			10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7440-36-0	Antimony	0.12	0.72	0.12	mg/kg	UND	U		10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7440-38-2	Arsenic	3.2	3.6	0.44	mg/kg	JD	J	15	10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7440-39-3	Barium	164	3.6	0.17	mg/kg	NDB			10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7440-41-7	Beryllium	0.15	0.14	0.023	mg/kg	D			10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7440-43-9	Cadmium	0.26	0.36	0.1	mg/kg	JD	J	15	10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7440-70-2	Calcium	8510	725	4.1	mg/kg	D			10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7440-47-3	Chromium	15.4	1.4	0.2	mg/kg	ND			10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7440-48-4	Cobalt	4.9	0.72	0.012	mg/kg	DB			10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7440-50-8	Copper	8.8	1.4	0.14	mg/kg	DB			10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7439-89-6	Iron	10600	36.2	2.3	mg/kg	D			10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	17.1	1.4	0.057	mg/kg	D			10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7439-95-4	Magnesium	3050	72.5	1.3	mg/kg	DB			10

Summary of Analytical Results
Fort Flagler Military Reservation

Location	Sample Number	Sample Date	Sample Type	Start Depth (ft)	End Depth (ft)	Sample Purpose	Fraction	CAS No.	Parameter	Result	PQL	MDL	Units	LQ	VQ	R1	DF
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7439-96-5	Manganese	812	1.4	0.041	mg/kg	D			10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7439-97-6	Mercury	0.13	0.033	0.0033	mg/kg				1
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7439-98-7	Molybdenum	0.23	3.6	0.21	mg/kg	JD	J	15	10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7440-02-0	Nickel	26.1	0.72	0.064	mg/kg	ND			10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7440-09-7	Potassium	737	725	1.4	mg/kg	NDB			10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7782-49-2	Selenium	0.7	3.6	0.7	mg/kg	UD	U		10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7440-22-4	Silver	0.079	0.22	0.014	mg/kg	JDB	U	06B	10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7440-23-5	Sodium	199	725	6.8	mg/kg	JD	J	15	10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7440-28-0	Thallium	0.12	1.4	0.12	mg/kg	UDB	U		10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7440-62-2	Vanadium	24.5	7.2	1.8	mg/kg	D			10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7440-66-6	Zinc	53.7	7.2	0.36	mg/kg	DB			10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7429-90-5	Aluminum	9860	71.4	1.9	mg/kg	D			10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7440-36-0	Antimony	0.22	0.71	0.12	mg/kg	JND	J	15	10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7440-38-2	Arsenic	5.5	3.6	0.44	mg/kg	D			10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7440-39-3	Barium	122	3.6	0.16	mg/kg	NDB			10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7440-41-7	Beryllium	0.18	0.14	0.023	mg/kg	D			10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7440-43-9	Cadmium	0.23	0.36	0.1	mg/kg	JD	J	15	10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7440-70-2	Calcium	6540	714	4	mg/kg	D			10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7440-47-3	Chromium	23.3	1.4	0.2	mg/kg	ND			10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7440-48-4	Cobalt	6.3	0.71	0.012	mg/kg	DB			10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7440-50-8	Copper	9.4	1.4	0.14	mg/kg	DB			10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7439-89-6	Iron	13800	35.7	2.3	mg/kg	D			10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	24	1.4	0.056	mg/kg	D			10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7439-95-4	Magnesium	3930	71.4	1.3	mg/kg	DB			10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7439-96-5	Manganese	557	1.4	0.041	mg/kg	DB			10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7439-97-6	Mercury	0.091	0.033	0.0033	mg/kg				1
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7439-98-7	Molybdenum	0.25	3.6	0.21	mg/kg	JD	J	15	10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7440-02-0	Nickel	36.4	0.71	0.063	mg/kg	ND			10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7440-09-7	Potassium	640	714	1.4	mg/kg	JNDB	J	15	10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7782-49-2	Selenium	0.69	3.6	0.69	mg/kg	UD	U		10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7440-22-4	Silver	0.051	0.21	0.014	mg/kg	JDB	U	06B	10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7440-23-5	Sodium	167	714	6.7	mg/kg	JD	J	15	10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7440-28-0	Thallium	0.12	1.4	0.12	mg/kg	UD	U		10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7440-62-2	Vanadium	32.4	7.1	1.8	mg/kg	D			10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7440-66-6	Zinc	40.4	7.1	0.35	mg/kg	DB			10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7429-90-5	Aluminum	9850	75.8	2	mg/kg	D			10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7440-36-0	Antimony	0.17	0.76	0.13	mg/kg	JND	J	15	10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7440-38-2	Arsenic	6.6	3.8	0.46	mg/kg	D			10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7440-39-3	Barium	157	3.8	0.17	mg/kg	NDB			10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7440-41-7	Beryllium	0.19	0.15	0.024	mg/kg	D			10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7440-43-9	Cadmium	0.27	0.38	0.11	mg/kg	JD	J	15	10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7440-70-2	Calcium	6560	758	4.2	mg/kg	D			10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7440-47-3	Chromium	24	1.5	0.21	mg/kg	ND			10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7440-48-4	Cobalt	8.9	0.76	0.013	mg/kg	DB			10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7440-50-8	Copper	11.5	1.5	0.15	mg/kg	DB			10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7439-89-6	Iron	14500	37.9	2.4	mg/kg	D			10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	20.1	1.5	0.06	mg/kg	D			10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7439-95-4	Magnesium	4150	75.8	1.4	mg/kg	DB			10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7439-96-5	Manganese	1260	1.5	0.043	mg/kg	DB			10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7439-97-6	Mercury	0.12	0.032	0.0032	mg/kg				1
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7439-98-7	Molybdenum	0.24	3.8	0.22	mg/kg	JD	J	15	10

Summary of Analytical Results
Fort Flagler Military Reservation

Location	Sample Number	Sample Date	Sample Type	Start Depth (ft)	End Depth (ft)	Sample Purpose	Fraction	CAS No.	Parameter	Result	PQL	MDL	Units	LQ	VQ	R1	DF
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7440-02-0	Nickel	44.3	0.76	0.067	mg/kg	ND			10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7440-09-7	Potassium	701	758	1.5	mg/kg	JNDB	J	15	10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7782-49-2	Selenium	0.73	3.8	0.73	mg/kg	UD	U		10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7440-22-4	Silver	0.065	0.23	0.014	mg/kg	JDB	U	06B	10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7440-23-5	Sodium	203	758	7.1	mg/kg	JD	J	15	10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7440-28-0	Thallium	0.13	1.5	0.13	mg/kg	UD	U		10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7440-62-2	Vanadium	32	7.6	1.9	mg/kg	D			10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7440-66-6	Zinc	56.5	7.6	0.37	mg/kg	DB			10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7429-90-5	Aluminum	9820	72.5	2	mg/kg	D			10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7440-36-0	Antimony	0.12	0.72	0.12	mg/kg	UND	U		10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7440-38-2	Arsenic	5	3.6	0.44	mg/kg	D			10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7440-39-3	Barium	179	3.6	0.17	mg/kg	NDB			10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7440-41-7	Beryllium	0.17	0.14	0.023	mg/kg	D			10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7440-43-9	Cadmium	0.2	0.36	0.1	mg/kg	JD	J	15	10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7440-70-2	Calcium	5770	725	4.1	mg/kg	D			10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7440-47-3	Chromium	23.4	1.4	0.2	mg/kg	ND			10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7440-48-4	Cobalt	6.8	0.72	0.012	mg/kg	DB			10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7440-50-8	Copper	7.8	1.4	0.14	mg/kg	DB			10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7439-89-6	Iron	12400	36.2	2.3	mg/kg	D			10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	16.6	1.4	0.057	mg/kg	D			10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7439-95-4	Magnesium	2860	72.5	1.3	mg/kg	DB			10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7439-96-5	Manganese	912	1.4	0.041	mg/kg	DB			10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7439-97-6	Mercury	0.089	0.032	0.0032	mg/kg				1
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7439-98-7	Molybdenum	0.21	3.6	0.21	mg/kg	UD	U		10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7440-02-0	Nickel	35.6	0.72	0.064	mg/kg	ND			10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7440-09-7	Potassium	612	725	1.4	mg/kg	JNDB	J	15	10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7782-49-2	Selenium	0.7	3.6	0.7	mg/kg	UD	U		10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7440-22-4	Silver	0.047	0.22	0.014	mg/kg	JDB	U	06B	10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7440-23-5	Sodium	147	725	6.8	mg/kg	JD	J	15	10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7440-28-0	Thallium	0.12	1.4	0.12	mg/kg	UD	U		10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7440-62-2	Vanadium	28.9	7.2	1.8	mg/kg	D			10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7440-66-6	Zinc	58.9	7.2	0.36	mg/kg	DB			10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7429-90-5	Aluminum	10800	72.5	2	mg/kg	D			10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7440-36-0	Antimony	0.12	0.72	0.12	mg/kg	UND	U		10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7440-38-2	Arsenic	4	3.6	0.44	mg/kg	D			10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7440-39-3	Barium	282	3.6	0.17	mg/kg	NDB			10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7440-41-7	Beryllium	0.22	0.14	0.023	mg/kg	D			10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7440-43-9	Cadmium	0.22	0.36	0.1	mg/kg	JD	J	15	10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7440-70-2	Calcium	4180	725	4.1	mg/kg	D			10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7440-47-3	Chromium	21.1	1.4	0.2	mg/kg	ND			10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7440-48-4	Cobalt	7.4	0.72	0.012	mg/kg	DB			10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7440-50-8	Copper	8.1	1.4	0.14	mg/kg	DB			10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7439-89-6	Iron	13700	36.2	2.3	mg/kg	D			10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	11.9	1.4	0.057	mg/kg	D			10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7439-95-4	Magnesium	1970	72.5	1.3	mg/kg	DB			10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7439-96-5	Manganese	1950	1.4	0.041	mg/kg	DB			10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7439-97-6	Mercury	0.072	0.031	0.0031	mg/kg				1
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7439-98-7	Molybdenum	0.21	3.6	0.21	mg/kg	UD	U		10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7440-02-0	Nickel	39	0.72	0.064	mg/kg	ND			10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7440-09-7	Potassium	271	725	1.4	mg/kg	JNDB	J	15	10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7782-49-2	Selenium	0.7	3.6	0.7	mg/kg	UD	U		10

Summary of Analytical Results
Fort Flagler Military Reservation

Location	Sample Number	Sample Date	Sample Type	Start Depth (ft)	End Depth (ft)	Sample Purpose	Fraction	CAS No.	Parameter	Result	PQL	MDL	Units	LQ	VQ	R1	DF
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7440-22-4	Silver	0.056	0.22	0.014	mg/kg	JDB	U	06B	10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7440-23-5	Sodium	135	725	6.8	mg/kg	JD	J	15	10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7440-28-0	Thallium	0.12	1.4	0.12	mg/kg	UD	U		10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7440-62-2	Vanadium	27.6	7.2	1.8	mg/kg	D			10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7440-66-6	Zinc	81.2	7.2	0.36	mg/kg	DB			10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7429-90-5	Aluminum	10200	71.9	1.9	mg/kg	D			10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7440-36-0	Antimony	0.12	0.72	0.12	mg/kg	UND	U		10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7440-38-2	Arsenic	2.3	3.6	0.44	mg/kg	JD	J	15	10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7440-39-3	Barium	109	3.6	0.17	mg/kg	NDB			10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7440-41-7	Beryllium	0.14	0.14	0.023	mg/kg	JD			10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7440-43-9	Cadmium	0.18	0.36	0.1	mg/kg	JD	J	15	10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7440-70-2	Calcium	4930	719	4	mg/kg	D			10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7440-47-3	Chromium	22.2	1.4	0.2	mg/kg	ND			10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7440-48-4	Cobalt	5.9	0.72	0.012	mg/kg	DB			10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7440-50-8	Copper	6.9	1.4	0.14	mg/kg	DB			10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7439-89-6	Iron	12500	36	2.3	mg/kg	D			10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	18.4	1.4	0.057	mg/kg	D			10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7439-95-4	Magnesium	3350	71.9	1.3	mg/kg	DB			10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7439-96-5	Manganese	392	1.4	0.041	mg/kg	DB			10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7439-97-6	Mercury	0.079	0.032	0.0032	mg/kg				1
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7439-98-7	Molybdenum	0.21	3.6	0.21	mg/kg	UD	U		10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7440-02-0	Nickel	39.6	0.72	0.063	mg/kg	ND			10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7440-09-7	Potassium	466	719	1.4	mg/kg	JNDB	J	15	10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7782-49-2	Selenium	0.7	3.6	0.7	mg/kg	UD	U		10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7440-22-4	Silver	0.16	0.22	0.014	mg/kg	JDB	J	15	10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7440-23-5	Sodium	128	719	6.8	mg/kg	JD	J	15	10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7440-28-0	Thallium	0.12	1.4	0.12	mg/kg	UD	U		10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7440-62-2	Vanadium	29.1	7.2	1.8	mg/kg	D			10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7440-66-6	Zinc	53.8	7.2	0.35	mg/kg	DB			10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7429-90-5	Aluminum	11000	71.4	1.9	mg/kg	D			10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7440-36-0	Antimony	0.12	0.71	0.12	mg/kg	UND	U		10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7440-38-2	Arsenic	2.4	3.6	0.44	mg/kg	JD	J	15	10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7440-39-3	Barium	93.8	3.6	0.16	mg/kg	NDB			10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7440-41-7	Beryllium	0.18	0.14	0.023	mg/kg	D			10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7440-43-9	Cadmium	0.1	0.36	0.1	mg/kg	UD	U		10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7440-70-2	Calcium	3030	714	4	mg/kg	D			10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7440-47-3	Chromium	27.6	1.4	0.2	mg/kg	ND			10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7440-48-4	Cobalt	7.5	0.71	0.012	mg/kg	DB			10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7440-50-8	Copper	9.6	1.4	0.14	mg/kg	DB			10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7439-89-6	Iron	14900	35.7	2.3	mg/kg	D			10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	22.3	1.4	0.056	mg/kg	D			10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7439-95-4	Magnesium	3520	71.4	1.3	mg/kg	DB			10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7439-96-5	Manganese	345	1.4	0.041	mg/kg	DB			10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7439-97-6	Mercury	0.095	0.032	0.0032	mg/kg				1
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7439-98-7	Molybdenum	0.32	3.6	0.21	mg/kg	JD	J	15	10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7440-02-0	Nickel	42.3	0.71	0.063	mg/kg	ND			10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7440-09-7	Potassium	597	714	1.4	mg/kg	JNDB	J	15	10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7782-49-2	Selenium	0.69	3.6	0.69	mg/kg	UD	U		10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7440-22-4	Silver	0.06	0.21	0.014	mg/kg	JDB	U	06B	10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7440-23-5	Sodium	175	714	6.7	mg/kg	JD	J	15	10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7440-28-0	Thallium	0.12	1.4	0.12	mg/kg	UD	U		10

Summary of Analytical Results
Fort Flagler Military Reservation

Location	Sample Number	Sample Date	Sample Type	Start Depth (ft)	End Depth (ft)	Sample Purpose	Fraction	CAS No.	Parameter	Result	PQL	MDL	Units	LQ	VQ	R1	DF
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7440-62-2	Vanadium	38.1	7.1	1.8	mg/kg	D			10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7440-66-6	Zinc	41.2	7.1	0.35	mg/kg	DB			10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7429-90-5	Aluminum	10600	75.8	2	mg/kg	D			10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7440-36-0	Antimony	0.13	0.76	0.13	mg/kg	UND	U		10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7440-38-2	Arsenic	2.8	3.8	0.46	mg/kg	JD	J	15	10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7440-39-3	Barium	89.1	3.8	0.17	mg/kg	NDB			10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7440-41-7	Beryllium	0.17	0.15	0.024	mg/kg	D			10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7440-43-9	Cadmium	0.12	0.38	0.11	mg/kg	JD	J	15	10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7440-70-2	Calcium	2870	758	4.2	mg/kg	D			10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7440-47-3	Chromium	26.9	1.5	0.21	mg/kg	ND			10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7440-48-4	Cobalt	7.2	0.76	0.013	mg/kg	DB			10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7440-50-8	Copper	9.3	1.5	0.15	mg/kg	DB			10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7439-89-6	Iron	14400	37.9	2.4	mg/kg	D			10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7439-92-1	Lead	20.2	1.5	0.06	mg/kg	D			10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7439-95-4	Magnesium	3340	75.8	1.4	mg/kg	DB			10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7439-96-5	Manganese	331	1.5	0.043	mg/kg	DB			10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7439-97-6	Mercury	0.097	0.032	0.0032	mg/kg				1
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7439-98-7	Molybdenum	0.31	3.8	0.22	mg/kg	JD	J	15	10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7440-02-0	Nickel	41.1	0.76	0.067	mg/kg	ND			10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7440-09-7	Potassium	590	758	1.5	mg/kg	JNDB	J	15	10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7782-49-2	Selenium	0.73	3.8	0.73	mg/kg	UD	U		10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7440-22-4	Silver	0.059	0.23	0.014	mg/kg	JDB	U	06B	10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7440-23-5	Sodium	173	758	7.1	mg/kg	JD	J	15	10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7440-28-0	Thallium	0.13	1.5	0.13	mg/kg	UD	U		10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7440-62-2	Vanadium	36.7	7.6	1.9	mg/kg	D			10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7440-66-6	Zinc	39.7	7.6	0.37	mg/kg	DB			10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7429-90-5	Aluminum	10800	75.8	2	mg/kg	D			10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7440-36-0	Antimony	0.13	0.76	0.13	mg/kg	UND	U		10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7440-38-2	Arsenic	3.9	3.8	0.46	mg/kg	D			10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7440-39-3	Barium	131	3.8	0.17	mg/kg	NDB			10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7440-41-7	Beryllium	0.19	0.15	0.024	mg/kg	D			10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7440-43-9	Cadmium	0.19	0.38	0.11	mg/kg	JD	J	15	10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7440-70-2	Calcium	6410	758	4.2	mg/kg	D			10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7440-47-3	Chromium	28.5	1.5	0.21	mg/kg	ND			10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7440-48-4	Cobalt	8.4	0.76	0.013	mg/kg	DB			10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7440-50-8	Copper	11.1	1.5	0.15	mg/kg	DB			10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7439-89-6	Iron	15600	37.9	2.4	mg/kg	D			10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7439-92-1	Lead	12.8	1.5	0.06	mg/kg	D			10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7439-95-4	Magnesium	5660	75.8	1.4	mg/kg	DB			10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7439-96-5	Manganese	590	1.5	0.043	mg/kg	DB			10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7439-97-6	Mercury	0.082	0.031	0.0031	mg/kg				1
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7439-98-7	Molybdenum	0.22	3.8	0.22	mg/kg	UD	U		10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7440-02-0	Nickel	46.9	0.76	0.067	mg/kg	ND			10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7440-09-7	Potassium	979	758	1.5	mg/kg	NDB			10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7782-49-2	Selenium	0.73	3.8	0.73	mg/kg	UD	U		10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7440-22-4	Silver	0.11	0.23	0.014	mg/kg	JDB	U	06B	10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7440-23-5	Sodium	301	758	7.1	mg/kg	JD	J	15	10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7440-28-0	Thallium	0.13	1.5	0.13	mg/kg	UD	U		10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7440-62-2	Vanadium	33.9	7.6	1.9	mg/kg	D			10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7440-66-6	Zinc	45.3	7.6	0.37	mg/kg	DB			10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7429-90-5	Aluminum	6250	69	1.9	mg/kg	D			10

Attachment 1

Summary of Analytical Results
Fort Flagler Military Reservation

Location	Sample Number	Sample Date	Sample Type	Start Depth (ft)	End Depth (ft)	Sample Purpose	Fraction	CAS No.	Parameter	Result	PQL	MDL	Units	LQ	VQ	R1	DF
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7440-36-0	Antimony	0.12	0.69	0.12	mg/kg	UND	U		10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7440-38-2	Arsenic	1.3	3.4	0.42	mg/kg	JD	J	15	10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7440-39-3	Barium	25.8	3.4	0.16	mg/kg	NDB			10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7440-41-7	Beryllium	0.091	0.14	0.022	mg/kg	JD	J	15	10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7440-43-9	Cadmium	0.097	0.34	0.097	mg/kg	UD	U		10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7440-70-2	Calcium	3590	690	3.9	mg/kg	D			10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7440-47-3	Chromium	23.5	1.4	0.19	mg/kg	ND			10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7440-48-4	Cobalt	5.3	0.69	0.012	mg/kg	DB			10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7440-50-8	Copper	7.9	1.4	0.14	mg/kg	DB			10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7439-89-6	Iron	11600	34.5	2.2	mg/kg	D			10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7439-92-1	Lead	1.5	1.4	0.054	mg/kg	D			10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7439-95-4	Magnesium	6220	69	1.2	mg/kg	DB			10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7439-96-5	Manganese	174	1.4	0.039	mg/kg	DB			10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7439-97-6	Mercury	0.0066	0.032	0.0032	mg/kg	J	J	15	1
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7439-98-7	Molybdenum	0.2	3.4	0.2	mg/kg	UD	U		10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7440-02-0	Nickel	41.6	0.69	0.061	mg/kg	ND			10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7440-09-7	Potassium	360	690	1.4	mg/kg	JNDB	J	15	10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7782-49-2	Selenium	0.67	3.4	0.67	mg/kg	UD	U		10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7440-22-4	Silver	0.022	0.21	0.013	mg/kg	JDB	U	06B	10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7440-23-5	Sodium	373	690	6.5	mg/kg	JD	J	15	10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7440-28-0	Thallium	0.12	1.4	0.12	mg/kg	UD	U		10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7440-62-2	Vanadium	28.7	6.9	1.7	mg/kg	D			10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7440-66-6	Zinc	20.3	6.9	0.34	mg/kg	DB			10

ft - feet
REG - regular field sample
FD - field duplicate
SS - surface soil (0 - 0.5ft)
SD - sediment
PQL - practical quantitation limit
MDL - method detection limit
LQ - laboratory qualifier
VQ - validation qualifier
R1 - reason code no. 1
DF - dilution factor
RDX - hexahydro-1,3,5-trinitro-1,3,5-triazine
Tetryl - methyl-2,4,6-trinitrophenylnitramine
HMX - octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine

ATTACHMENT 2

Summary of Analytical Results greater than the MDL

Attachment 2

Summary of Analytical Results greater than the MDL
Fort Flagler Military Reservation

Location	Sample Number	Sample Date	Sample Type	Start Depth (ft)	End Depth (ft)	Sample Purpose	Fraction	CAS No.	Parameter	Result	PQL	MDL	Units	LQ	VQ	R1	DF
039A003	NWO-039-0002	2/21/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	13.8	1.7	0.066	mg/kg	DB			10
039A004	NWO-039-0003	2/21/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	18.6	1.5	0.059	mg/kg	DB			10
039A005	NWO-039-1002	2/21/2007	SD	0	0.5	REG	Metals	7439-92-1	Lead	40.4	1.7	0.066	mg/kg	DB			10
039A006	NWO-039-0004	2/21/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	6.7	1.6	0.062	mg/kg	DB			10
039A007	NWO-039-0005	2/21/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	8.5	1.5	0.06	mg/kg	DB			10
039A008	NWO-039-1003	2/21/2007	SD	0	0.5	REG	Metals	7439-92-1	Lead	28.4	1.7	0.065	mg/kg	DB			10
039A008	NWO-039-1004	2/21/2007	SD	0	0.5	FD	Metals	7439-92-1	Lead	22	1.5	0.059	mg/kg	DB			10
039A009	NWO-039-0006	2/21/2007	SS	0	0.5	REG	Metals	7429-90-5	Aluminum	8470	82.6	2.2	mg/kg	D			10
039A009	NWO-039-0006	2/21/2007	SS	0	0.5	REG	Metals	7440-47-3	Chromium	25.9	1.7	0.23	mg/kg	DB			10
039A009	NWO-039-0006	2/21/2007	SS	0	0.5	REG	Metals	7440-50-8	Copper	9.3	1.7	0.17	mg/kg	DB			10
039A009	NWO-039-0006	2/21/2007	SS	0	0.5	REG	Metals	7439-89-6	Iron	13200	41.3	2.6	mg/kg	D			10
039A009	NWO-039-0006	2/21/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	4.3	1.7	0.065	mg/kg	D			10
039A009	NWO-039-0006	2/21/2007	SS	0	0.5	REG	Metals	7439-96-5	Manganese	218	1.7	0.047	mg/kg	ND	J	08A	10
039A009	NWO-039-0006	2/21/2007	SS	0	0.5	REG	Metals	7439-98-7	Molybdenum	0.47	4.1	0.24	mg/kg	JD	J	15	10
039A009	NWO-039-0006	2/21/2007	SS	0	0.5	REG	Metals	7440-02-0	Nickel	38.3	0.83	0.073	mg/kg	DB			10
039A010	NWO-039-0007	2/21/2007	SS	0	0.5	REG	Metals	7429-90-5	Aluminum	9470	80.6	2.2	mg/kg	D			10
039A010	NWO-039-0007	2/21/2007	SS	0	0.5	REG	Metals	7440-47-3	Chromium	23.4	1.6	0.23	mg/kg	DB			10
039A010	NWO-039-0007	2/21/2007	SS	0	0.5	REG	Metals	7440-50-8	Copper	7.9	1.6	0.16	mg/kg	DB			10
039A010	NWO-039-0007	2/21/2007	SS	0	0.5	REG	Metals	7439-89-6	Iron	13600	40.3	2.6	mg/kg	D			10
039A010	NWO-039-0007	2/21/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	3	1.6	0.064	mg/kg	D			10
039A010	NWO-039-0007	2/21/2007	SS	0	0.5	REG	Metals	7439-96-5	Manganese	245	1.6	0.046	mg/kg	ND			10
039A010	NWO-039-0007	2/21/2007	SS	0	0.5	REG	Metals	7440-02-0	Nickel	42.2	0.81	0.071	mg/kg	DB			10
039A011	NWO-039-0008	2/21/2007	SS	0	0.5	REG	Metals	7429-90-5	Aluminum	8060	84	2.3	mg/kg	D			10
039A011	NWO-039-0008	2/21/2007	SS	0	0.5	REG	Metals	7440-47-3	Chromium	17.9	1.7	0.24	mg/kg	DB			10
039A011	NWO-039-0008	2/21/2007	SS	0	0.5	REG	Metals	7440-50-8	Copper	10.8	1.7	0.17	mg/kg	DB			10
039A011	NWO-039-0008	2/21/2007	SS	0	0.5	REG	Metals	7439-89-6	Iron	11500	42	2.7	mg/kg	D			10
039A011	NWO-039-0008	2/21/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	17.3	1.7	0.066	mg/kg	D			10
039A011	NWO-039-0008	2/21/2007	SS	0	0.5	REG	Metals	7439-96-5	Manganese	998	1.7	0.048	mg/kg	ND			10
039A011	NWO-039-0008	2/21/2007	SS	0	0.5	REG	Metals	7439-98-7	Molybdenum	0.28	4.2	0.24	mg/kg	JD	J	15	10
039A011	NWO-039-0008	2/21/2007	SS	0	0.5	REG	Metals	7440-02-0	Nickel	27.9	0.84	0.074	mg/kg	DB			10
039A011	NWO-039-0009	2/21/2007	SS	0	0.5	FD	Metals	7429-90-5	Aluminum	8210	84	2.3	mg/kg	D			10
039A011	NWO-039-0009	2/21/2007	SS	0	0.5	FD	Metals	7440-47-3	Chromium	19.9	1.7	0.24	mg/kg	DB			10
039A011	NWO-039-0009	2/21/2007	SS	0	0.5	FD	Metals	7440-50-8	Copper	10.3	1.7	0.17	mg/kg	DB			10
039A011	NWO-039-0009	2/21/2007	SS	0	0.5	FD	Metals	7439-89-6	Iron	11600	42	2.7	mg/kg	D			10
039A011	NWO-039-0009	2/21/2007	SS	0	0.5	FD	Metals	7439-92-1	Lead	15.9	1.7	0.066	mg/kg	D			10
039A011	NWO-039-0009	2/21/2007	SS	0	0.5	FD	Metals	7439-96-5	Manganese	950	1.7	0.048	mg/kg	ND			10
039A011	NWO-039-0009	2/21/2007	SS	0	0.5	FD	Metals	7439-98-7	Molybdenum	0.28	4.2	0.24	mg/kg	JD	J	15	10
039A011	NWO-039-0009	2/21/2007	SS	0	0.5	FD	Metals	7440-02-0	Nickel	27.2	0.84	0.074	mg/kg	DB			10
039A012	NWO-039-1005	2/21/2007	SD	0	0.5	REG	Metals	7429-90-5	Aluminum	7860	80.6	2.2	mg/kg	D			10
039A012	NWO-039-1005	2/21/2007	SD	0	0.5	REG	Metals	7440-47-3	Chromium	25.5	1.6	0.23	mg/kg	DB			10
039A012	NWO-039-1005	2/21/2007	SD	0	0.5	REG	Metals	7440-50-8	Copper	8	1.6	0.16	mg/kg	DB			10
039A012	NWO-039-1005	2/21/2007	SD	0	0.5	REG	Metals	7439-89-6	Iron	13100	40.3	2.6	mg/kg	DB			10
039A012	NWO-039-1005	2/21/2007	SD	0	0.5	REG	Metals	7439-92-1	Lead	3.6	1.6	0.064	mg/kg	DB			10
039A012	NWO-039-1005	2/21/2007	SD	0	0.5	REG	Metals	7439-96-5	Manganese	175	1.6	0.046	mg/kg	NDB			10
039A012	NWO-039-1005	2/21/2007	SD	0	0.5	REG	Metals	7439-98-7	Molybdenum	0.25	4	0.23	mg/kg	JD	J	15	10
039A012	NWO-039-1005	2/21/2007	SD	0	0.5	REG	Metals	7440-02-0	Nickel	37.7	0.81	0.071	mg/kg	DB			10
039A013	NWO-039-0010	2/21/2007	SS	0	0.5	REG	Metals	7429-90-5	Aluminum	12200	82	2.2	mg/kg	D			10
039A013	NWO-039-0010	2/21/2007	SS	0	0.5	REG	Metals	7440-47-3	Chromium	36.3	1.6	0.23	mg/kg	DB			10
039A013	NWO-039-0010	2/21/2007	SS	0	0.5	REG	Metals	7440-50-8	Copper	7.6	1.6	0.16	mg/kg	DB			10

Attachment 2

Summary of Analytical Results greater than the MDL
Fort Flagler Military Reservation

Location	Sample Number	Sample Date	Sample Type	Start Depth (ft)	End Depth (ft)	Sample Purpose	Fraction	CAS No.	Parameter	Result	PQL	MDL	Units	LQ	VQ	R1	DF
039A013	NWO-039-0010	2/21/2007	SS	0	0.5	REG	Metals	7439-89-6	Iron	16700	41	2.6	mg/kg	DB			10
039A013	NWO-039-0010	2/21/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	10	1.6	0.065	mg/kg	DB			10
039A013	NWO-039-0010	2/21/2007	SS	0	0.5	REG	Metals	7439-96-5	Manganese	562	1.6	0.047	mg/kg	NDB			10
039A013	NWO-039-0010	2/21/2007	SS	0	0.5	REG	Metals	7440-02-0	Nickel	85.8	0.82	0.072	mg/kg	DB			10
039A014	NWO-039-0011	2/21/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	235	1.6	0.062	mg/kg	DB			10
039A015	NWO-039-0012	2/21/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	587	1.7	0.068	mg/kg	DB			10
039A016	NWO-039-1006	2/21/2007	SD	0	0.5	REG	Metals	7439-92-1	Lead	219	1.6	0.063	mg/kg	DB			10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7429-90-5	Aluminum	11000	74.6	2	mg/kg	D			10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7440-38-2	Arsenic	3.7	3.7	0.46	mg/kg	D			10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7440-39-3	Barium	128	3.7	0.17	mg/kg	NDB			10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7440-41-7	Beryllium	0.18	0.15	0.024	mg/kg	D			10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7440-70-2	Calcium	4300	746	4.2	mg/kg	DB			10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7440-47-3	Chromium	30.7	1.5	0.21	mg/kg	ND			10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7440-48-4	Cobalt	8.4	0.75	0.013	mg/kg	DB			10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7440-50-8	Copper	7.6	1.5	0.15	mg/kg	DB			10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7439-89-6	Iron	16000	37.3	2.4	mg/kg	DB			10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	17.7	1.5	0.059	mg/kg	DB			10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7439-95-4	Magnesium	4700	74.6	1.3	mg/kg	D			10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7439-96-5	Manganese	948	1.5	0.043	mg/kg	D			10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7439-97-6	Mercury	0.062	0.032	0.0032	mg/kg				1
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7439-98-7	Molybdenum	0.27	3.7	0.22	mg/kg	JD	J	15	10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7440-02-0	Nickel	66.8	0.75	0.066	mg/kg	NDB			10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7440-09-7	Potassium	445	746	1.5	mg/kg	JNDB	J	15	10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7782-49-2	Selenium	0.75	3.7	0.72	mg/kg	JDB	J	15	10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7440-22-4	Silver	0.038	0.22	0.014	mg/kg	JDB	J	15	10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7440-23-5	Sodium	124	746	7	mg/kg	JD	J	15	10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7440-62-2	Vanadium	32.7	7.5	1.9	mg/kg	D			10
039A018	NWO-039-5001	2/21/2007	SS	0	0.5	REG	Metals	7440-66-6	Zinc	41.2	7.5	0.37	mg/kg	DB			10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7429-90-5	Aluminum	9870	75.2	2	mg/kg	D			10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7440-38-2	Arsenic	3.1	3.8	0.46	mg/kg	JD	J	15	10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7440-39-3	Barium	73.1	3.8	0.17	mg/kg	NDB			10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7440-41-7	Beryllium	0.17	0.15	0.024	mg/kg	D			10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7440-43-9	Cadmium	0.14	0.38	0.11	mg/kg	JD	J	15	10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7440-70-2	Calcium	4110	752	4.2	mg/kg	D			10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7440-47-3	Chromium	24.7	1.5	0.21	mg/kg	ND			10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7440-48-4	Cobalt	6.3	0.75	0.013	mg/kg	DB			10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7440-50-8	Copper	9.4	1.5	0.15	mg/kg	DB			10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7439-89-6	Iron	13200	37.6	2.4	mg/kg	D			10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	12.9	1.5	0.059	mg/kg	D			10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7439-95-4	Magnesium	4310	75.2	1.4	mg/kg	DB			10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7439-96-5	Manganese	454	1.5	0.043	mg/kg	D			10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7439-97-6	Mercury	0.052	0.032	0.0032	mg/kg				1
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7440-02-0	Nickel	32.5	0.75	0.066	mg/kg	ND			10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7440-09-7	Potassium	760	752	1.5	mg/kg	NDB			10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7440-23-5	Sodium	128	752	7.1	mg/kg	JD	J	15	10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7440-62-2	Vanadium	29.9	7.5	1.9	mg/kg	D			10
039A019	NWO-039-5002	2/20/2007	SS	0	0.5	REG	Metals	7440-66-6	Zinc	36.1	7.5	0.37	mg/kg	DB			10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7429-90-5	Aluminum	10700	75.2	2	mg/kg	D			10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7440-36-0	Antimony	0.2	0.75	0.13	mg/kg	JND	J	15	10

Summary of Analytical Results greater than the MDL
Fort Flagler Military Reservation

Location	Sample Number	Sample Date	Sample Type	Start Depth (ft)	End Depth (ft)	Sample Purpose	Fraction	CAS No.	Parameter	Result	PQL	MDL	Units	LQ	VQ	R1	DF
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7440-38-2	Arsenic	5.8	3.8	0.46	mg/kg	D			10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7440-39-3	Barium	181	3.8	0.17	mg/kg	NDB			10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7440-41-7	Beryllium	0.18	0.15	0.024	mg/kg	D			10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7440-43-9	Cadmium	0.17	0.38	0.11	mg/kg	JD	J	15	10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7440-70-2	Calcium	5700	752	4.2	mg/kg	D			10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7440-47-3	Chromium	22.4	1.5	0.21	mg/kg	ND			10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7440-48-4	Cobalt	7.2	0.75	0.013	mg/kg	DB			10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7440-50-8	Copper	8	1.5	0.15	mg/kg	DB			10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7439-89-6	Iron	12900	37.6	2.4	mg/kg	D			10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	27.1	1.5	0.059	mg/kg	D			10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7439-95-4	Magnesium	3250	75.2	1.4	mg/kg	DB			10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7439-96-5	Manganese	1430	1.5	0.043	mg/kg	D			10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7439-97-6	Mercury	0.15	0.032	0.0032	mg/kg				1
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7439-98-7	Molybdenum	0.31	3.8	0.22	mg/kg	JD	J	15	10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7440-02-0	Nickel	43.8	0.75	0.066	mg/kg	ND			10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7440-09-7	Potassium	467	752	1.5	mg/kg	JNDB	J	15	10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7440-23-5	Sodium	123	752	7.1	mg/kg	JD	J	15	10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7440-62-2	Vanadium	29.1	7.5	1.9	mg/kg	D			10
039A020	NWO-039-5003	2/20/2007	SS	0	0.5	REG	Metals	7440-66-6	Zinc	53	7.5	0.37	mg/kg	DB			10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7429-90-5	Aluminum	8590	72.5	2	mg/kg	D			10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7440-38-2	Arsenic	3.2	3.6	0.44	mg/kg	JD	J	15	10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7440-39-3	Barium	164	3.6	0.17	mg/kg	NDB			10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7440-41-7	Beryllium	0.15	0.14	0.023	mg/kg	D			10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7440-43-9	Cadmium	0.26	0.36	0.1	mg/kg	JD	J	15	10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7440-70-2	Calcium	8510	725	4.1	mg/kg	D			10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7440-47-3	Chromium	15.4	1.4	0.2	mg/kg	ND			10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7440-48-4	Cobalt	4.9	0.72	0.012	mg/kg	DB			10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7440-50-8	Copper	8.8	1.4	0.14	mg/kg	DB			10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7439-89-6	Iron	10600	36.2	2.3	mg/kg	D			10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	17.1	1.4	0.057	mg/kg	D			10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7439-95-4	Magnesium	3050	72.5	1.3	mg/kg	DB			10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7439-96-5	Manganese	812	1.4	0.041	mg/kg	D			10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7439-97-6	Mercury	0.13	0.033	0.0033	mg/kg				1
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7439-98-7	Molybdenum	0.23	3.6	0.21	mg/kg	JD	J	15	10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7440-02-0	Nickel	26.1	0.72	0.064	mg/kg	ND			10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7440-09-7	Potassium	737	725	1.4	mg/kg	NDB			10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7440-23-5	Sodium	199	725	6.8	mg/kg	JD	J	15	10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7440-62-2	Vanadium	24.5	7.2	1.8	mg/kg	D			10
039A021	NWO-039-5004	2/20/2007	SS	0	0.5	REG	Metals	7440-66-6	Zinc	53.7	7.2	0.36	mg/kg	DB			10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7429-90-5	Aluminum	9860	71.4	1.9	mg/kg	D			10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7440-36-0	Antimony	0.22	0.71	0.12	mg/kg	JND	J	15	10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7440-38-2	Arsenic	5.5	3.6	0.44	mg/kg	D			10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7440-39-3	Barium	122	3.6	0.16	mg/kg	NDB			10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7440-41-7	Beryllium	0.18	0.14	0.023	mg/kg	D			10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7440-43-9	Cadmium	0.23	0.36	0.1	mg/kg	JD	J	15	10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7440-70-2	Calcium	6540	714	4	mg/kg	D			10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7440-47-3	Chromium	23.3	1.4	0.2	mg/kg	ND			10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7440-48-4	Cobalt	6.3	0.71	0.012	mg/kg	DB			10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7440-50-8	Copper	9.4	1.4	0.14	mg/kg	DB			10

Summary of Analytical Results greater than the MDL
Fort Flagler Military Reservation

Location	Sample Number	Sample Date	Sample Type	Start Depth (ft)	End Depth (ft)	Sample Purpose	Fraction	CAS No.	Parameter	Result	PQL	MDL	Units	LQ	VQ	R1	DF
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7439-89-6	Iron	13800	35.7	2.3	mg/kg	D			10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	24	1.4	0.056	mg/kg	D			10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7439-95-4	Magnesium	3930	71.4	1.3	mg/kg	DB			10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7439-96-5	Manganese	557	1.4	0.041	mg/kg	DB			10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7439-97-6	Mercury	0.091	0.033	0.0033	mg/kg				1
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7439-98-7	Molybdenum	0.25	3.6	0.21	mg/kg	JD	J	15	10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7440-02-0	Nickel	36.4	0.71	0.063	mg/kg	ND			10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7440-09-7	Potassium	640	714	1.4	mg/kg	JNDB	J	15	10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7440-23-5	Sodium	167	714	6.7	mg/kg	JD	J	15	10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7440-62-2	Vanadium	32.4	7.1	1.8	mg/kg	D			10
039A022	NWO-039-5005	2/20/2007	SS	0	0.5	REG	Metals	7440-66-6	Zinc	40.4	7.1	0.35	mg/kg	DB			10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7429-90-5	Aluminum	9850	75.8	2	mg/kg	D			10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7440-36-0	Antimony	0.17	0.76	0.13	mg/kg	JND	J	15	10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7440-38-2	Arsenic	6.6	3.8	0.46	mg/kg	D			10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7440-39-3	Barium	157	3.8	0.17	mg/kg	NDB			10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7440-41-7	Beryllium	0.19	0.15	0.024	mg/kg	D			10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7440-43-9	Cadmium	0.27	0.38	0.11	mg/kg	JD	J	15	10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7440-70-2	Calcium	6560	758	4.2	mg/kg	D			10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7440-47-3	Chromium	24	1.5	0.21	mg/kg	ND			10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7440-48-4	Cobalt	8.9	0.76	0.013	mg/kg	DB			10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7440-50-8	Copper	11.5	1.5	0.15	mg/kg	DB			10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7439-89-6	Iron	14500	37.9	2.4	mg/kg	D			10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	20.1	1.5	0.06	mg/kg	D			10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7439-95-4	Magnesium	4150	75.8	1.4	mg/kg	DB			10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7439-96-5	Manganese	1260	1.5	0.043	mg/kg	DB			10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7439-97-6	Mercury	0.12	0.032	0.0032	mg/kg				1
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7439-98-7	Molybdenum	0.24	3.8	0.22	mg/kg	JD	J	15	10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7440-02-0	Nickel	44.3	0.76	0.067	mg/kg	ND			10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7440-09-7	Potassium	701	758	1.5	mg/kg	JNDB	J	15	10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7440-23-5	Sodium	203	758	7.1	mg/kg	JD	J	15	10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7440-62-2	Vanadium	32	7.6	1.9	mg/kg	D			10
039A023	NWO-039-5006	2/20/2007	SS	0	0.5	REG	Metals	7440-66-6	Zinc	56.5	7.6	0.37	mg/kg	DB			10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7429-90-5	Aluminum	9820	72.5	2	mg/kg	D			10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7440-38-2	Arsenic	5	3.6	0.44	mg/kg	D			10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7440-39-3	Barium	179	3.6	0.17	mg/kg	NDB			10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7440-41-7	Beryllium	0.17	0.14	0.023	mg/kg	D			10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7440-43-9	Cadmium	0.2	0.36	0.1	mg/kg	JD	J	15	10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7440-70-2	Calcium	5770	725	4.1	mg/kg	D			10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7440-47-3	Chromium	23.4	1.4	0.2	mg/kg	ND			10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7440-48-4	Cobalt	6.8	0.72	0.012	mg/kg	DB			10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7440-50-8	Copper	7.8	1.4	0.14	mg/kg	DB			10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7439-89-6	Iron	12400	36.2	2.3	mg/kg	D			10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	16.6	1.4	0.057	mg/kg	D			10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7439-95-4	Magnesium	2860	72.5	1.3	mg/kg	DB			10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7439-96-5	Manganese	912	1.4	0.041	mg/kg	DB			10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7439-97-6	Mercury	0.089	0.032	0.0032	mg/kg				1
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7440-02-0	Nickel	35.6	0.72	0.064	mg/kg	ND			10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7440-09-7	Potassium	612	725	1.4	mg/kg	JNDB	J	15	10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7440-23-5	Sodium	147	725	6.8	mg/kg	JD	J	15	10

Summary of Analytical Results greater than the MDL
Fort Flagler Military Reservation

Location	Sample Number	Sample Date	Sample Type	Start Depth (ft)	End Depth (ft)	Sample Purpose	Fraction	CAS No.	Parameter	Result	PQL	MDL	Units	LQ	VQ	R1	DF
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7440-62-2	Vanadium	28.9	7.2	1.8	mg/kg	D			10
039A024	NWO-039-5007	2/20/2007	SS	0	0.5	REG	Metals	7440-66-6	Zinc	58.9	7.2	0.36	mg/kg	DB			10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7429-90-5	Aluminum	10800	72.5	2	mg/kg	D			10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7440-38-2	Arsenic	4	3.6	0.44	mg/kg	D			10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7440-39-3	Barium	282	3.6	0.17	mg/kg	NDB			10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7440-41-7	Beryllium	0.22	0.14	0.023	mg/kg	D			10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7440-43-9	Cadmium	0.22	0.36	0.1	mg/kg	JD	J	15	10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7440-70-2	Calcium	4180	725	4.1	mg/kg	D			10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7440-47-3	Chromium	21.1	1.4	0.2	mg/kg	ND			10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7440-48-4	Cobalt	7.4	0.72	0.012	mg/kg	DB			10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7440-50-8	Copper	8.1	1.4	0.14	mg/kg	DB			10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7439-89-6	Iron	13700	36.2	2.3	mg/kg	D			10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	11.9	1.4	0.057	mg/kg	D			10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7439-95-4	Magnesium	1970	72.5	1.3	mg/kg	DB			10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7439-96-5	Manganese	1950	1.4	0.041	mg/kg	DB			10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7439-97-6	Mercury	0.072	0.031	0.0031	mg/kg				1
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7440-02-0	Nickel	39	0.72	0.064	mg/kg	ND			10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7440-09-7	Potassium	271	725	1.4	mg/kg	JNDB	J	15	10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7440-23-5	Sodium	135	725	6.8	mg/kg	JD	J	15	10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7440-62-2	Vanadium	27.6	7.2	1.8	mg/kg	D			10
039A025	NWO-039-5008	2/21/2007	SS	0	0.5	REG	Metals	7440-66-6	Zinc	81.2	7.2	0.36	mg/kg	DB			10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7429-90-5	Aluminum	10200	71.9	1.9	mg/kg	D			10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7440-38-2	Arsenic	2.3	3.6	0.44	mg/kg	JD	J	15	10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7440-39-3	Barium	109	3.6	0.17	mg/kg	NDB			10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7440-41-7	Beryllium	0.14	0.14	0.023	mg/kg	JD			10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7440-43-9	Cadmium	0.18	0.36	0.1	mg/kg	JD	J	15	10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7440-70-2	Calcium	4930	719	4	mg/kg	D			10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7440-47-3	Chromium	22.2	1.4	0.2	mg/kg	ND			10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7440-48-4	Cobalt	5.9	0.72	0.012	mg/kg	DB			10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7440-50-8	Copper	6.9	1.4	0.14	mg/kg	DB			10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7439-89-6	Iron	12500	36	2.3	mg/kg	D			10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	18.4	1.4	0.057	mg/kg	D			10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7439-95-4	Magnesium	3350	71.9	1.3	mg/kg	DB			10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7439-96-5	Manganese	392	1.4	0.041	mg/kg	DB			10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7439-97-6	Mercury	0.079	0.032	0.0032	mg/kg				1
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7440-02-0	Nickel	39.6	0.72	0.063	mg/kg	ND			10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7440-09-7	Potassium	466	719	1.4	mg/kg	JNDB	J	15	10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7440-22-4	Silver	0.16	0.22	0.014	mg/kg	JDB	J	15	10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7440-23-5	Sodium	128	719	6.8	mg/kg	JD	J	15	10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7440-62-2	Vanadium	29.1	7.2	1.8	mg/kg	D			10
039A026	NWO-039-5009	2/20/2007	SS	0	0.5	REG	Metals	7440-66-6	Zinc	53.8	7.2	0.35	mg/kg	DB			10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7429-90-5	Aluminum	11000	71.4	1.9	mg/kg	D			10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7440-38-2	Arsenic	2.4	3.6	0.44	mg/kg	JD	J	15	10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7440-39-3	Barium	93.8	3.6	0.16	mg/kg	NDB			10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7440-41-7	Beryllium	0.18	0.14	0.023	mg/kg	D			10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7440-70-2	Calcium	3030	714	4	mg/kg	D			10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7440-47-3	Chromium	27.6	1.4	0.2	mg/kg	ND			10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7440-48-4	Cobalt	7.5	0.71	0.012	mg/kg	DB			10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7440-50-8	Copper	9.6	1.4	0.14	mg/kg	DB			10

Summary of Analytical Results greater than the MDL
Fort Flagler Military Reservation

Location	Sample Number	Sample Date	Sample Type	Start Depth (ft)	End Depth (ft)	Sample Purpose	Fraction	CAS No.	Parameter	Result	PQL	MDL	Units	LQ	VQ	R1	DF
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7439-89-6	Iron	14900	35.7	2.3	mg/kg	D			10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7439-92-1	Lead	22.3	1.4	0.056	mg/kg	D			10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7439-95-4	Magnesium	3520	71.4	1.3	mg/kg	DB			10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7439-96-5	Manganese	345	1.4	0.041	mg/kg	DB			10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7439-97-6	Mercury	0.095	0.032	0.0032	mg/kg				1
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7439-98-7	Molybdenum	0.32	3.6	0.21	mg/kg	JD	J	15	10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7440-02-0	Nickel	42.3	0.71	0.063	mg/kg	ND			10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7440-09-7	Potassium	597	714	1.4	mg/kg	JNDB	J	15	10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7440-23-5	Sodium	175	714	6.7	mg/kg	JD	J	15	10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7440-62-2	Vanadium	38.1	7.1	1.8	mg/kg	D			10
039A027	NWO-039-5010	2/20/2007	SS	0	0.5	REG	Metals	7440-66-6	Zinc	41.2	7.1	0.35	mg/kg	DB			10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7429-90-5	Aluminum	10600	75.8	2	mg/kg	D			10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7440-38-2	Arsenic	2.8	3.8	0.46	mg/kg	JD	J	15	10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7440-39-3	Barium	89.1	3.8	0.17	mg/kg	NDB			10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7440-41-7	Beryllium	0.17	0.15	0.024	mg/kg	D			10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7440-43-9	Cadmium	0.12	0.38	0.11	mg/kg	JD	J	15	10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7440-70-2	Calcium	2870	758	4.2	mg/kg	D			10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7440-47-3	Chromium	26.9	1.5	0.21	mg/kg	ND			10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7440-48-4	Cobalt	7.2	0.76	0.013	mg/kg	DB			10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7440-50-8	Copper	9.3	1.5	0.15	mg/kg	DB			10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7439-89-6	Iron	14400	37.9	2.4	mg/kg	D			10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7439-92-1	Lead	20.2	1.5	0.06	mg/kg	D			10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7439-95-4	Magnesium	3340	75.8	1.4	mg/kg	DB			10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7439-96-5	Manganese	331	1.5	0.043	mg/kg	DB			10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7439-97-6	Mercury	0.097	0.032	0.0032	mg/kg				1
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7439-98-7	Molybdenum	0.31	3.8	0.22	mg/kg	JD	J	15	10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7440-02-0	Nickel	41.1	0.76	0.067	mg/kg	ND			10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7440-09-7	Potassium	590	758	1.5	mg/kg	JNDB	J	15	10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7440-23-5	Sodium	173	758	7.1	mg/kg	JD	J	15	10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7440-62-2	Vanadium	36.7	7.6	1.9	mg/kg	D			10
039A027	NWO-039-5011	2/20/2007	SS	0	0.5	FD	Metals	7440-66-6	Zinc	39.7	7.6	0.37	mg/kg	DB			10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7429-90-5	Aluminum	10800	75.8	2	mg/kg	D			10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7440-38-2	Arsenic	3.9	3.8	0.46	mg/kg	D			10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7440-39-3	Barium	131	3.8	0.17	mg/kg	NDB			10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7440-41-7	Beryllium	0.19	0.15	0.024	mg/kg	D			10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7440-43-9	Cadmium	0.19	0.38	0.11	mg/kg	JD	J	15	10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7440-70-2	Calcium	6410	758	4.2	mg/kg	D			10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7440-47-3	Chromium	28.5	1.5	0.21	mg/kg	ND			10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7440-48-4	Cobalt	8.4	0.76	0.013	mg/kg	DB			10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7440-50-8	Copper	11.1	1.5	0.15	mg/kg	DB			10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7439-89-6	Iron	15600	37.9	2.4	mg/kg	D			10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7439-92-1	Lead	12.8	1.5	0.06	mg/kg	D			10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7439-95-4	Magnesium	5660	75.8	1.4	mg/kg	DB			10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7439-96-5	Manganese	590	1.5	0.043	mg/kg	DB			10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7439-97-6	Mercury	0.082	0.031	0.0031	mg/kg				1
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7440-02-0	Nickel	46.9	0.76	0.067	mg/kg	ND			10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7440-09-7	Potassium	979	758	1.5	mg/kg	NDB			10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7440-23-5	Sodium	301	758	7.1	mg/kg	JD	J	15	10
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7440-62-2	Vanadium	33.9	7.6	1.9	mg/kg	D			10

Attachment 2

Summary of Analytical Results greater than the MDL
Fort Flagler Military Reservation

Location	Sample Number	Sample Date	Sample Type	Start Depth (ft)	End Depth (ft)	Sample Purpose	Fraction	CAS No.	Parameter	Result	PQL	MDL	Units	LQ	VQ	R1	DF
039A028	NWO-039-5012	2/20/2007	SD	0	0.5	REG	Metals	7440-66-6	Zinc	45.3	7.6	0.37	mg/kg	DB			10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7429-90-5	Aluminum	6250	69	1.9	mg/kg	D			10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7440-38-2	Arsenic	1.3	3.4	0.42	mg/kg	JD	J	15	10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7440-39-3	Barium	25.8	3.4	0.16	mg/kg	NDB			10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7440-41-7	Beryllium	0.091	0.14	0.022	mg/kg	JD	J	15	10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7440-70-2	Calcium	3590	690	3.9	mg/kg	D			10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7440-47-3	Chromium	23.5	1.4	0.19	mg/kg	ND			10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7440-48-4	Cobalt	5.3	0.69	0.012	mg/kg	DB			10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7440-50-8	Copper	7.9	1.4	0.14	mg/kg	DB			10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7439-89-6	Iron	11600	34.5	2.2	mg/kg	D			10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7439-92-1	Lead	1.5	1.4	0.054	mg/kg	D			10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7439-95-4	Magnesium	6220	69	1.2	mg/kg	DB			10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7439-96-5	Manganese	174	1.4	0.039	mg/kg	DB			10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7439-97-6	Mercury	0.0066	0.032	0.0032	mg/kg	J	J	15	1
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7440-02-0	Nickel	41.6	0.69	0.061	mg/kg	ND			10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7440-09-7	Potassium	360	690	1.4	mg/kg	JNDB	J	15	10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7440-23-5	Sodium	373	690	6.5	mg/kg	JD	J	15	10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7440-62-2	Vanadium	28.7	6.9	1.7	mg/kg	D			10
039A029	NWO-039-5013	2/21/2007	SD	0	0.5	REG	Metals	7440-66-6	Zinc	20.3	6.9	0.34	mg/kg	DB			10

ft - feet
REG - regular field sample
FD - field duplicate
SS - surface soil (0 - 0.5ft)
SD - sediment
PQL - practical quantitation limit
MDL - method detection limit
LQ - laboratory qualifier
VQ - validation qualifier
R1 - reason code no. 1
DF - dilution factor

ATTACHMENT 3

Approved Variances

Shaw
Shaw Environmental & Infrastructure, Inc.

Project Name	FUDS SI NWO	Project Number:	116188
Date Of Issue	4/13/06	Linked w/NC No: (if applicable)	N/A

- - Variance Report - -

V. Summary of the Change: (by the person identifying the change)

Section of DoD QSM or MMRP SI PSAP	DoD QSM or MMRP SI PSAP Requirement	Variance Request	Justification for Variance Request
QSM Appendix DoD-B Table B-2 Page 134 (8330A) (RT window width)	The Retention Time width is +/- 3x Standard Deviation from 72-hour study	The Retention Time window is the greater of +/- 3x Standard Deviation or ½ average peak width	Small Retention Time Standard Deviation can produce unrealistic windows. Employing ½ average peak width does not allow overlap between target analytes per method SW8330A. A comparison between the calculated retention time window and ½ the peak width for method SW8330A is provided for USACE review.
QSM D.1.2.1 (LOD) Page 88 (Limit of Detection)	The ratio between the mean recovered concentration and the calculated MDL should be 1 to 5 for water and 1 to 10 for other matrices.	Under our current MDL study the following analytes did not meet the ratio: SW8330A (soil only) Nitrobenzene 1,3 – Dinitrobenzene 1,3,5 –Trinitrobenzene 2,4,6 –Trinitrotoluene SW8330A (water only) 2-Nitrotoluene	MDL verification check was analyzed and supported the calculated MDL study for 2005. GPL will change the spike concentration to meet the QSM criteria for the MDL study scheduled for 2006. The MDL verification check sample chromatograph demonstrates good signal-to-noise ratio (>3x the level of noise) and a table comparing the MDL, the RL and the MDL check standard reported in "ug/l" units for method SW8330A is provided for USACE review.
MMRP SI PSAP Table 4-D Page D-31 (method 6020) IDL study	IDL less than or equal to MDL	GPL's IDLs are not required to be less than or equal to MDL	An IDL determines the detection limit based on the differences produced when reading the base line. The MDL determines a detection limit based on analyte concentration and the variations in the readings, just above the base line. The standard deviation obtained from MDLs above, and IDLs at the base line are very similar therefore, it would not be possible to produce IDLs that are always lower than the MDLs. Comparisons of GPL's IDLs and MDLs for method SW6020 are provided for USACE review.

Variance Chem-001Re.doc

Shaw
Shaw Environmental & Infrastructure, Inc.

Project Name	FUDS SI NWO	Project Number:	116188
Date Of Issue	4/13/06	Linked w/NC No: (if applicable)	N/A

V. Summary of the Change: (by the person identifying the change)

Section of DoD QSM or MMRP SI PSAP	DoD QSM or MMRP SI PSAP Requirement	Variance Request	Justification for Variance Request
MMRP SI PSAP Table 4-C; Page D-28 (6010B) Table 4-D; page D-33 (6020) ICBs / CCBs Interference Check Solutions	No metals detected ≥ 2X MDL	"B" flag data where the ICS-A, ICB and/or CCB: absolute value is ≥ 2X MDL.	To identify the possibility of error or bias in the reporting of data; GPL will "B" flag all metals whose ICS-A, ICB and/or CCB exceeds 2x MDL. GPL will conduct the following corrective action measures to reduce the possibility of carry-over contamination from biasing metal results: GPL will increase rinse time between analyses to 3 minutes (triple the method requirement). GPL will re-analyze all impacted metal results where contamination is detected in associated blanks at levels >1/2 RL.

Section of DoD QSM or MMRP SI PSAP	DoD QSM or MMRP SI PSAP Requirement	Point of Clarification
MMRP SI PSAP Section 7.1.1 Laboratory Report Requirements Page QAPP-7-1	All soils reported on a dry weight basis	Soil samples from MMRP FUDS firing ranges are required to pass through a No. 10 sieve before sample digestion and analysis. However, soils collected from these sites may exhibit characteristics (i.e., clayey) that prevent effective sieving. To standardize sample preparation for all samples collected at Shaw's MMRP FUDS firing ranges; GPL will follow homogenization procedures referenced in GPL's SOP H.36. GPL SOP H.36 involves air drying soil samples for a minimum of 24 hours before the sample is homogenized and passed through a No. 10 sieve. In addition to identifying all soil samples that require sieving on the CoC, Shaw will reference GPL's SOP H.36 "Homogenization Procedures for Firing Range Soil Samples". GPL's SOP H.36 is provided for USACE review.
Identified by: Tim Roth		Date: 4/13/06

Variance Chem-001Re.doc

Shaw
Shaw Environmental & Infrastructure, Inc.

Project Name	FUDS SI NWO	Project Number:	116188
Date Of Issue	4/13/06	Linked w/NC No: (if applicable)	N/A

VI. Variance Requested: (by the person identifying the variance and the review committee)

Tim Roth

To Be Performed by:	GPL, LLLC	Date:	
To Be Verified by:	Elsa Tai	Date:	

VII. Justification of Variance: (by the review committee)

See Section V. Justification of Variance

VIII. Applicable Document/Work Plan: (by the person identifying the change)

Shaw Environmental, Inc., 2006, Type I Work Plan, Site Inspections at Multiple Sites, NWO Region, Formerly Used Defense Sites, Military Munitions Response Program, February.

Distribution List:	-- Signatures --
Shaw Project Files Paul Ioannides, GPL, LLLP Sean Cupolo, GPL, LLLP Elsa, Tai, GPL, LLLP Mark Meacham, USACE-NWO Cheryl Groenjes, USACE-NWO Cheryl Groenjes 5/16/06	Requested by: **Tim Roth** Date: **5/10/06** (printed name and date) Signature: 5/10/06 Approved by: MARK MEACHAM Date: 5/16/06 (printed name and date) Signature: Proj. Mgr Approval: PETER KERSAW Date: 5/20/06 (printed name and date) Signature: QA Approval: RANDAL MCGEHEE Date: 6-22-06 (printed name and date) Signature:

Variance Chem-001R (2).doc

Appendix H
Geographical Information Systems Data

This appendix will be in the Final SI Report.

Fort Flagler Military Reservation - Coordinates

Name	Description	X_UTM	Y_UTM	UTM_Zone
001	20-FEB-07 10:13:00; Start Point, start track log	522709	5326863	10N
002	20-FEB-07 11:14:16; Live grenade court recon; minor subsurface anamolies, no surface MEC encountered; heavy vegatation; 4 photos 039-FFMR-1-20FEB07, 039-FFMR-2-20FEB07, 039-FFMR-3-20FEB07, 039-FFMR-4-20FEB07; NESW	522769	5326093	10N
003	20-FEB-07 11:37:52; Practice grenade court recon; minor subsurface anamolies, no surface MEC encountered; heavy vegatation; 2 photos 039-FFMR-5-20FEB07, 039-FFMR-6-20FEB07	522735	5326022	10N
012	20-FEB-07 16:16:18; Photo of reported amunition bunker, not found, 1 photo 039-FFMR-15-20FEB07	521986	5327542	10N
020	21-FEB-07 11:00:19; Possible berm location; 1 photo 039-FFMR-24-21FEB07	522826	5326742	10N
033	22-FEB-07 9:36:16; Visual surface recon of Battery Wansboro; No evidence of MEC/MC; 1 photo 039-FFMR-37-22FEB07	522848	5326678	10N
034	22-FEB-07 9:55:02; Visual surface recon of Transition Range 1; No evidence of MEC/MC; 1 photo 039-FFMR-38-22FEB07	522684	5326524	10N
035	22-FEB-07 10:13:34; Visual surface recon of Rifle Range; No evidence of MEC/MC; 1 photo 039-FFMR-39-22FEB07	523006	5327568	10N
036	22-FEB-07 10:32:07; Northern most tip of Rifle Range; No evidence of MEC/MC; 1 photo 039-FFMR-40-22FEB07	523029	5327734	10N
037	22-FEB-07 10:49:38; Visual surface recon of Battery Gratton; No evidence of MEC/MC; 1 photo 039-FFMR-41-22FEB07	522897	5327468	10N
038	22-FEB-07 11:30:20; Visual surface recon of Battery Rawlins; No evidence of MEC/MC; 1 photo 039-FFMR-42-22FEB07	522849	5327615	10N
039	22-FEB-07 11:33:13; Visual surface recon of Battery Wilhelm; No evidence of MEC/MC; 1 photo 039-FFMR-43-22FEB07	522764	5327671	10N
039A003	21-FEB-07 10:53:16; Sample location for ID# NWO-039-0002; 1 photo 039-FFMR-23-21FEB07	522704	5326726	10N
039A004	21-FEB-07 10:45:34; Sample location for ID# NWO-039-0003; 1 photo 039-FFMR-22-21FEB07	522722	5326699	10N
039A005	21-FEB-07 10:39:53; Sample location for ID# NWO-039-1002; 1 photo 039-FFMR-21-21FEB07	522767	5326682	10N
039A006	21-FEB-07 16:07:45; Sample location for ID# NWO-039-0004; 1 photo 039-FFMR-36-21FEB07	522337	5326038	10N
039A007	21-FEB-07 15:53:12; Sample location for ID# NWO-039-0005; 1 photo 039-FFMR-34-21FEB07	522309	5325989	10N
039A008	21-FEB-07 15:59:42; Sample location for ID# NWO-039-1003, NWO-039-1004; 1 photo 039-FFMR-35-21FEB07	522327	5325980	10N
039A009	21-FEB-07 13:53:31; Sample location for ID# NWO-039-0006; 1 photo 039-FFMR-30-21FEB07	521019	5327129	10N
039A010	21-FEB-07 13:37:57; Sample location for ID# NWO-039-0007; 1 photo 039-FFMR-29-21FEB07	521151	5327163	10N
039A011	21-FEB-07 13:09:03; Sample location for ID# NWO-039-0008, NWO-039-0009 Field dup; 1 photo 039-FFMR-28-21FEB07	521233	5327191	10N
039A012	21-FEB-07 13:57:09; Sample location for ID# NWO-039-1005; 1 photo 039-FFMR-31-21FEB07	520986	5327161	10N
039A013	21-FEB-07 10:02:56; Sample location for ID# NWO-039-0010; 1 photo 039-FFMR-18-21FEB07	522765	5326099	10N
039A014	21-FEB-07 11:35:04; Sample location for ID# NWO-039-0011; 1 photo 039-FFMR-26-21FEB07	523018	5327634	10N
039A015	21-FEB-07 11:39:59; Sample location for ID# NWO-039-0012; 1 photo 039-FFMR-27-21FEB07	523005	5327628	10N
039A016	21-FEB-07 11:29:43; Sample location for ID# NWO-039-1006; 1 photo 039-FFMR-25-21FEB07	523013	5327622	10N
039A017	21-FEB-07 10:25:17; Sample location for ID# NWO-039-0013; 1 photo 039-FFMR-19-21FEB07, 039-FFMR-20-21FEB07	522901	5326448	10N
039A018	21-FEB-07 9:38:16; Sample location for ID# NWO-039-5001; 1 photo 039-FFMR-17-21FEB07	522533	5325930	10N
039A019	20-FEB-07 12:51:57; Sample location for ID# NWO-039-5002; 1 photo 039-FFMR-7-20FEB07	522246	5326220	10N
039A020	20-FEB-07 13:22:00; Sample location for ID# NWO-039-5003; 1 photo 039-FFMR-8-20FEB07	521655	5326113	10N
039A021	20-FEB-07 14:21:48; Sample location for ID# NWO-039-5004; 1 photo 039-FFMR-11-20FEB07	521442	5326598	10N
039A022	20-FEB-07 14:00:53; Sample location for ID# NWO-039-5005; 1 photo 039-FFMR-10-20FEB07	521011	5326645	10N
039A023	20-FEB-07 15:49:45; Sample location for ID# NWO-039-5006; 1 photo 039-FFMR-14-20FEB07	521536	5327333	10N
039A024	20-FEB-07 14:41:41; Sample location for ID# NWO-039-5007; 1 photo 039-FFMR-12-20FEB07	522261	5326846	10N
039A025	21-FEB-07 14:48:17; Sample location for ID# NWO-039-5008; 1 photo 039-FFMR-32-21FEB07	522441	5326587	10N
039A026	20-FEB-07 16:44:52; Sample location for ID# NWO-039-5009; 1 photo 039-FFMR-16-20FEB07	522494	5326828	10N
039A027	20-FEB-07 15:13:52; Sample location for ID# NWO-039-5010; 1 photo 039-FFMR-13-20FEB07	522472	5327183	10N
039A028	20-FEB-07 13:40:54; Sample location for ID# NWO-039-5012; 1 photo 039-FFMR-9-20FEB07	521097	5326528	10N
039A029	21-FEB-07 15:04:51; Sample location for ID# NWO-039-5013; 1 photo 039-FFMR-33-21FEB07	522920	5327020	10N
040	22-FEB-07 11:36:49; Visual surface recon of Battery Revere; No evidence of MEC/MC; 1 photo 039-FFMR-44-22FEB07	522663	5327692	10N
041	22-FEB-07 11:42:41; Visual surface recon of Battery Lee; No evidence of MEC/MC; 1 photo 039-FFMR-45-22FEB07	522981	5327736	10N
042	22-FEB-07 14:34:47; Visual surface recon of Battery Bankhead; No evidence of MEC/MC; 1 photo 039-FFMR-46-22FEB07	521854	5326657	10N
043	22-FEB-07 15:00:45; Visual surface recon of Demolition Area; No evidence of MEC/MC; 1 photo 039-FFMR-47-22FEB07	520574	5326774	10N
044	22-FEB-07 15:30:40; Visual surface recon of Battery Calwell; No evidence of MEC/MC; 1 photo 039-FFMR-48-22FEB07	522033	5327519	10N
045	22-FEB-07 15:39:57; Visual surface recon of Battery Downes; No evidence of MEC/MC; 1 photo 039-FFMR-49-22FEB07	522288	5327652	10N

Appendix I
Geophysical Data

This appendix is not used.

Appendix J
Conceptual Site Model

Overview

This conceptual site model (CSM) for the Ft. Flagler Military Reservation is taken from the *Final Site-Specific Work Plan, Fort Flagler Military Reservation* (Shaw, 2006c) and has been updated with the Site Inspection (SI) results. Tables and figures referenced in this appendix are from the *Final Technical Project Planning Memorandum, Fort Flagler Military Reservation* (TPP Memo) (Shaw, 2006b) or the SI Report to which this appendix is attached.

A site-specific CSM summarizes available site information and identifies relationships between exposure pathways and associated receptors. A CSM is used to determine the data types necessary to describe site conditions and quantify receptor exposure, and discusses the following information:

- Current site conditions and future land use;
- Potential contaminant sources (e.g., lead projectiles in an impact berm);
- Affected media;
- Governing fate and transport processes (e.g., surface water runoff and/or groundwater migration);
- Exposure media (i.e., media through which receptors could contact site-related contamination);
- Routes of exposure (e.g., inhalation, incidental ingestion, and dermal contact); and
- Potential human and/or representative ecological receptors at the exposure point. Receptors likely to be exposed to site contaminants are identified based on current and expected future land uses.

The CSM evaluates potential exposure pathways related to range operation and configuration relative to physical features and land use. Based on the CSM, sampling schemes are proposed for each area to evaluate potential human health and ecological impacts. Historical photos of the ranges (if available) are carefully examined for possible disturbances or other site features of interest in order to focus the efforts on areas where MC contamination is most likely to occur. The CSM is evaluated for completeness and further developed as needed through TPP meetings.

Based on a review of documents and the discussion during the TPP process, the following AOCs have been identified within the Ft. Flagler FUDS:

- Range Complex (includes 10 subranges/batteries):
    - Battery Bankhead,
    - Battery Calwell,
    - Battery Downes,
    - Battery Gratton,
    - Battery Lee,
    - Battery Rawlins (includes Anti-torpedo Boat Battery),
    - Battery Revere,
    - Battery Wansboro,
    - Battery Wilhelm, and

    - Anti-Aircraft Artillery Battery.
- Ammunition Bunker,
- Transition Range 1,
- Transition Range 2,
- Gas Chamber,
- Rifle Grenade/Anti-Tank Rocket Range,
- Live Grenade Court,
- Practice Grenade Court,
- Rifle Range,
- Demolition Area, and
- Quartermaster Wharf Disposal Area.

CSMs are provided for these AOCs. MEC and MC are evaluated individually within each of the CSMs.

The location of two potential AOCs could not be identified. The Pistol Range has not been located, but it is suspected that it was collocated with the Rifle Range. The location of the 37-mm mobile artillery is unknown. The ASR stated that the assessment team thought that the likely location of the 37-mm mobile artillery was at the gun batteries that were abandoned prior to World War II. The .50-caliber machine gun range is located within the footprint of the Rifle Grenade/Anti-Tank Rocket Range as shown on a World War II map.

The Off Shore Ordnance Area consists of the impact areas used for test firing the artillery guns. The impact areas are within Puget Sound at least several hundred yards offshore. The offshore area is not discussed in this CSM and is not addressed under FUDS.

Conceptual Site Model – Range Complex AOC

The Range Complex is a single AOC that includes the ten coastal artillery batteries listed below:

- Battery Bankhead,
- Battery Calwell,
- Battery Downes,
- Battery Gratton,
- Battery Lee,
- Battery Rawlins,
- Battery Revere (Anti-Torpedo Boat Battery),
- Battery Wansboro,
- Battery Wilhelm, and
- Anti-Aircraft Artillery Battery.

The coastal artillery batteries were part of a coastal defense installation used to protect Puget Sound. The batteries consisted of artillery guns ranging in size from between 3-inch and 12-inch. The batteries were used from between 1899 and 1946.

Figure 3-1 of the SI Report shows the location of the Range Complex AOC and batteries. Figure 4 in the TPP Memo is a graphic representation of the CSM for the artillery batteries.

Current and Future Land Use

- Currently, the Range Complex AOC is part of the Ft. Flagler State Park, which offers camping, boating, fishing, shoreline use, hiking, and historical interpretive information.
- For the foreseeable future, it is likely that the Range Complex AOC will continue to be part of the Ft. Flagler State Park.

Potential Contaminant Sources

- According to the ASR, the Range Complex AOC was used as a coastal defense battery. The range fans for the batteries extended beyond the FUDS boundary and over the waters of Puget Sound. No firing onto land occurred. The Anti-Torpedo Boat Battery was located at Battery Revere after the original 10-inch gun tubes were removed in 1941. It is unknown how often the artillery guns were fired or whether the firing included high explosive rounds in addition to spotting charges practice rounds. In a report dated 1933, it was stated that the two guns at Battery Revere were fired 111 and 94 times, respectively, as part of a testing program.

MEC Evaluation

Types of MEC

- Potential MEC within the Range Complex are listed on Table 2-1 of the SI Report and include propellant charges, artillery shells, and projectiles. An explosive hazard could exist if artillery shells or propellant charges were improperly handled at the batteries and discarded nearby.

- The batteries are permanent structures in which the guns were emplaced in concrete structures and serviced by paved roads. It is unlikely that there was casual disposal of MEC in the vicinity of the battery.
- Based on over 50 years of park use surrounding the batteries, no evidence of MEC has been reported. MEC is not expected at the coastal batteries.

Surface Exposure Pathway

- Because of the unlikely occurrence of MEC at the batteries, the surface exposure pathway is considered incomplete.

Subsurface Exposure Pathway

- Because of the unlikely occurrence of MEC at the batteries, the subsurface exposure pathway is considered incomplete.

MEC Evaluation/Investigation Completed

- Visual reconnaissance was performed during the SI. No evidence of MEC or munitions debris were identified.

<u>MC Evaluation</u>

Types of MC

- The potential MC at the Ft. Flagler Range Complex includes explosives (2,4,6-trinitrotoluene [TNT] and ammonium picrate) and lead and steel from projectiles. Propellants were either single-base (nitrocellulose), double-base (nitrocellulose and NG [NG]), or triple-base (nitrocellulose, NG, and nitroguanidine).
- The projectiles were fired at offshore targets. Therefore, there is no exposure path for MC associated with projectiles near the batteries.
- There is potential for MC deposited from muzzle releases in front of the batteries.

Overview of Pathways

Based on the discussion above, there are no exposure pathways for MC at the Range Complex AOC. No MC sampling was conducted during the SI.

Conceptual Site Model – Ammunition Bunker AOC

The Ammunition Bunker is a single AOC. Figure 3-1 of the SI Report shows the location of the Ammunition Bunker AOC. The location of this AOC is taken from the War Department map that was obtained during the TPP meeting. The ammunition bunker was likely used from between 1942 and 1954 to store munitions used for training following World War II. The War Department map is included in Appendix L of the SI Report.

Current and Future Land Use

- Currently, the Ammunition Bunker AOC is part of the Ft. Flagler State Park, which offers camping, boating, fishing, shoreline use, hiking, and historical interpretive information.
- For the foreseeable future, it is likely that the Ammunition Bunker AOC will continue to be part of the Ft. Flagler State Park.

Potential Contaminant Sources

- The Ammunition Bunker was used between 1942 and 1954 for ammunition storage.

MEC Evaluation

Types of MEC

- All types of munitions used at Ft. Flagler between 1942 and 1954 may have been stored here. However, munitions for the artillery batteries would not have been stored at this location as each battery had its own storage bunker. The types of MEC may have included small arms, hand grenades, training grenade containing riot control gas (chloroacetophenone [CN]), 2.36-inch and 3.5-inch practice and high explosive rockets, practice and live hand grenades, and candles, etc that were used for gas training.

Surface Exposure Pathway

- The potential route of human exposure to MEC or munitions debris includes direct contact by vehicles, foot traffic, or handling. This would include park workers and visitors.
- The potential route of wildlife exposure to MEC or munitions debris would be by directly walking on them.

Subsurface Exposure Pathway

- The potential routes of human exposure to MEC or munitions debris would be by intrusive drilling or digging activities. This includes park workers and visitors.
- The potential route of wildlife exposure to MEC or munitions debris would be by burrowing activities.

MEC Evaluation/Investigation Completed

- A visual reconnaissance was performed to locate the ammunition bunker. No evidence was found of the AOC. The reported location is heavily forested with thick underbrush.

MC Evaluation

Types of MC

- The anticipated MC at the Ft. Flagler Ammunition Bunker AOC is lead from small arms, metals from munitions, propellants (single- or double-base powder), explosives (including NG and pentaerythritol tetranitrate [PETN]), and perchlorate.

Overview of Pathways

Affected media and potential pathways for MC include:

- Soil: At the Ammunition Bunker AOC, soil is the primary medium of concern because of possible MC in the soil from training activities. The soil also serves as a secondary source of potential air, sediment, surface water, or groundwater contamination.
- Sediment/Surface Water: Sediments may accumulate in the area through ponding of precipitation. Sediment also serves as a secondary source for surface water and groundwater contamination. There is no established surface water drainage at the AOC; however, there are intermittent streams. The only nearby surface water is Puget Sound, a very large, tidal, saltwater body that contains abundant ecological receptors. Surface water will be evaluated via sediments.
- Groundwater: Groundwater is considered a potentially affected media because it is present within 100 ft of ground surface. However, the groundwater pathway is not complete as there are no downgradient groundwater users in the area.
- Air: Air is a potential medium of concern because of the possibility of inhalation of contaminated soil particles. However, air is not an affected media under current land use, thus the pathway is incomplete.

Exposure media at the Ammunition Bunker AOC include soil, sediment, and surface water.

Soil Exposure Pathway

Exposure Routes

- The potential routes of human exposure to contaminated soils include incidental ingestion of and dermal contact with contaminated media, as well as inhalation of soil particulates during intrusive work.
- The potential routes of wildlife exposure to contaminated soils include ingestion of and direct contact with contaminated media. Plants may uptake MC and then subsequently be eaten by wildlife. Burrowing animals may ingest MC-contaminated soil and subsequently be eaten by predators.

Receptors

- State Park workers and visitors.
- Wildlife.

MC Soil Evaluation/Investigation Completed

- No evidence of the AOC was found during a visual reconnaissance. No sampling was completed as the AOC could not be located.

Sediment and Surface Water Exposure Pathway

Exposure Routes

- The potential routes of human exposure to contaminated sediment include incidental ingestion and dermal contact with sediments/surface water.
- The potential routes of wildlife (including aquatic organisms) exposure to contaminated sediment include ingestion of and direct contact with sediment/surface water.

Receptors

- State Park workers and visitors.
- Wildlife.

MC Sediment and Surface Water Evaluation/Investigation Completed

- No evidence of the AOC was found during a visual reconnaissance. No sampling was completed as the AOC could not be located.

Conceptual Site Model – Transition Range 1 AOC

Transition Range 1 is a single AOC shown on Figures 3-1 and 6-1 of the SI Report. The boundaries of this AOC were taken from the INPR Supplement. The Transition Range 1 consisted of individual firing lanes which soldiers transitioned along engaging targets from various positions (fox hole, window, and prone) and at varying distances.

Figure 6 of the TPP Memo illustrates the CSM for the Transition Range 1 AOC and potential pathways of MC contamination.

Current and Future Land Use

- Currently, the Transition Range 1 AOC is part of the Ft. Flagler State Park, which offers camping, boating, fishing, shoreline use, hiking, and historical interpretive information. The AOC is located south of the Cantonment Area, park administrative offices, and visitor areas.
- Hiking trails traverse the Transition Range 1 AOC.
- For the foreseeable future, it is likely that the Transition Range 1 AOC will continue to be part of the Ft. Flagler State Park.

Potential Contaminant Sources

- According to the INPR Supplement, Transition Range 1 was used between 1942 and 1954 for small arms use.

MEC Evaluation

Types of MEC

- Because this AOC was used for small arms only, MEC (other than small arms) is not expected to be present. The potential for live small arms rounds exists, but these do not pose a significant explosive hazard.

Surface Exposure Pathway

- Because there is no MEC with significant explosive hazard at this AOC, the surface exposure pathway is incomplete.

Subsurface Exposure Pathway

- Because there is no MEC with significant explosive hazard at this AOC, the subsurface exposure pathway is incomplete.

MEC Evaluation/Investigation Completed

- A visual reconnaissance of the range was completed. Due to very heavy forest and dense undergrowth, no evidence of the AOC was identified other than a berm that separates the northern end of the range from the cantonment area. No evidence of MEC was identified.

MC Evaluation

Types of MC

- The anticipated MC at the Ft. Flagler Transition Range 1 AOC is lead from small arms. Propellants (single- or double-base powder) for the small arms are not thought to pose a significant impact.

Overview of Pathways

Affected media and potential pathways for MC include:

- Soil: At the Transition Range 1 AOC, soil is the primary medium of concern because of possible MC in the soil from training activities. The soil also serves as a secondary source of potential air, sediment, surface water, or groundwater contamination.
- Sediment and Surface Water: Sediments may accumulate in the area through ponding of precipitation. Sediment also serves as a secondary source for surface water and groundwater contamination. There is no established surface water drainage at the AOC. The only nearby surface water is Puget Sound, a very large, tidal, saltwater body that contains abundant ecological receptors. Surface water will be evaluated via sediments.
- Groundwater: Groundwater is considered a potentially affected media because it is present within 100 ft of ground surface. However, the groundwater pathway is not complete as there are no downgradient groundwater users in the area.
- Air: Air is a potential medium of concern because of the possibility of inhalation of contaminated soil particles. However, air is not an affected media under current land use, thus the pathway is incomplete.

Exposure media at the Transition Range 1 AOC include soil, sediment, and surface water.

Soil Exposure Pathway

Exposure Routes

- The potential routes of human exposure to contaminated soils include incidental ingestion of and dermal contact with contaminated media, as well as inhalation of soil particulates during intrusive work.
- The potential routes of wildlife exposure to contaminated soils include ingestion of and direct contact with contaminated media. Plants may uptake MC and then subsequently be eaten by wildlife. Burrowing animals may ingest MC-contaminated soil and subsequently be eaten by predators.

Receptors

- State Park workers and visitors.
- Wildlife.

MC Soil Evaluation/Investigation Completed

- Two composite soil samples were collected from the AOC and analyzed for lead. All analytical results were below the site background concentrations.

Sediment and Surface Water Exposure Pathways

Exposure Routes

- The potential routes of human exposure to contaminated sediment include incidental ingestion and dermal contact with sediment/surface water.
- The potential routes of wildlife (including aquatic organisms) exposure to contaminated sediment include ingestion of and direct contact with sediment/surface water.

Receptors

- State Park workers and visitors.
- Wildlife.

MC Sediment and Surface Water Evaluation/Investigation Completed

- One sediment sample was collected from an area where water collects within the range and analyzed for lead. The analytical result indicated an elevated concentration lead in sediments. However, the lead concentration was below human health and ecological screening levels.

Conceptual Site Model – Transition Range 2 AOC

Transition Range 2 is a single AOC shown on Figures 3-1 and 7-1 of the SI Report. The location of this AOC is taken from the War Department map that was obtained during the TPP meeting. This War Department map is included in Appendix L of the SI Report. The Transition Range consisted of individual firing lanes which soldiers transitioned along engaging targets from various positions (fox hole, window, and prone) and at varying distances. Figure 6 of the TPP Memo illustrates the CSM for the Transition Range 2 AOC and potential pathway of MC contamination.

Current and Future Land Use

- Currently, the Transition Range 2 AOC is part of the Ft. Flagler State Park, which offers camping, boating, fishing, shoreline use, hiking, and historical interpretive information. The AOC is located along the southern boundary of the State Park, near the main entrance road.
- An access road traverses the southern boundary of the Transition Range 2 AOC.
- It is likely that for the foreseeable future, the Transition Range 2 AOC will continue to be part of the Ft. Flagler State Park.

Potential Contaminant Sources

- According to the ASR and INPR Supplement, available information indicated that the range was 55 x 130 yards in size and contained 12 targets; however, the location of the AOC was not known.
- Small arms were used at the AOC between 1942 and 1954.

MEC Evaluation

Types of MEC

- Because this AOC was used for small arms only, MEC (other than small arms) is not expected to be present. The potential for live small arms rounds exists, but these do not pose a significant explosive hazard.

Surface Exposure Pathway

- Because there is no MEC with significant explosive hazard at this AOC, the surface exposure pathway is incomplete.

Subsurface Exposure Pathway

- Because there is no MEC with significant explosive hazard at this AOC, the subsurface exposure pathway is incomplete.

MEC Evaluation/Investigation Completed

- A visual reconnaissance was completed. The AOC is heavily forested with dense underbrush. The only indication of the range was that the forest trees were primarily alder and fir, while the surrounding area was a more mature forest of fir, hemlock, and cedar. No evidence of MEC was identified.

MC Evaluation

Types of MC

- The MC anticipated at the Ft. Flagler Transition Range 2 AOC is lead from small arms. Propellants (single- or double-base powder) for the small arms are not thought to pose a significant impact.

Overview of Pathways

Affected media and potential pathways for MC include:

- Soil: At the Transition Range 2 AOC, soil is the primary medium of concern because of possible MC in the soil from training activities. The soil also serves as a secondary source of potential air, sediment, surface water, or groundwater contamination.
- Sediment and Surface Water: Sediments may accumulate in the area through ponding of precipitation. Sediment also serves as a secondary source for surface water and groundwater contamination. There is no established surface water drainage at the AOC. The only nearby surface water is Puget Sound, a very large, tidal, saltwater body that contains abundant ecological receptors. Surface water will be evaluated via sediments.
- Groundwater: Groundwater is considered a potentially affected media because it is present within 100 ft of ground surface. However, the groundwater pathway is not complete as there are no downgradient groundwater users in the area.
- Air: Air is a potential medium of concern because of the possibility of inhalation of contaminated soil particles. However, air is not an affected media under current land use, thus the pathway is incomplete.

Exposure media at the Transition Range 2 AOC include soil, sediment, and surface water.

Soil Exposure Pathway

Exposure Routes

- The potential routes of human exposure to contaminated soils include incidental ingestion of and dermal contact with contaminated media, as well as inhalation of soil particulates during intrusive work.
- The potential routes of wildlife exposure to contaminated soils include ingestion of and direct contact with contaminated media. Plants may uptake MC and then subsequently be eaten by wildlife. Burrowing animals may ingest MC-contaminated soil and subsequently be eaten by predators.

Receptors

- State Park workers and visitors.
- Wildlife.

MC Soil Evaluation/Investigation Completed

- Two composite soil samples were collected and analyzed for lead. Lead was detected in both samples but at concentrations below the Ft. Flagler background concentration.

Sediment and Surface Water Exposure Pathway

Exposure Routes

- The potential routes of human exposure to contaminated sediment include incidental ingestion and dermal contact with sediment/surface water.
- The potential routes of wildlife (including aquatic organisms) exposure to contaminated sediment include ingestion of and direct contact with sediment/surface water.

Receptors

- State Park workers and visitors.
- Wildlife.

MC Sediment and Surface Water Evaluation/Investigation Completed

- One sediment sample was collected from a water accumulation area within the AOC. The sample was analyzed for lead only. Lead was detected in the sediment sample but not at significant concentrations.

Conceptual Site Model – Gas Chamber AOC

The Gas Chamber is a single AOC shown on Figures 3-1 and 8-1 of the SI Report. The boundaries of this AOC were taken from the INPR Supplement. The Gas Chamber was located within the bunkered area of Battery Wansboro after the artillery guns were removed. The Gas Chamber was used to familiarize and train troops in the use of gas masks. The room used for the gas chamber is empty.

Current and Future Land Use

- Currently, the Gas Chamber AOC is part of the Ft. Flagler State Park, which offers camping, boating, fishing, shoreline use, hiking, and historical interpretive information. The AOC is located within Battery Wansboro on the southeast side of the FUDS.
- The AOC is used by visitors on a daily basis.
- For the foreseeable future, it is likely that the Gas Chamber AOC will continue to be part of the Ft. Flagler State Park.

Potential Contaminant Sources

- According to the INPR Supplement the Gas Chamber was used between 1942 and 1954 for gas training of troops.

MEC Evaluation

Types of MEC

- The only munitions identified as used at this AOC were gas grenades containing riot control agent CN-1. There is minimal explosive hazard associated with gas grenades.

Surface Exposure Pathway

- Because there is no MEC at this AOC, the surface exposure pathway is incomplete.

Subsurface Exposure Pathway

- Because there is no MEC at this AOC, the subsurface exposure pathway is incomplete.

MEC Evaluation/Investigation Completed

- A visual reconnaissance was conducted to verify current conditions at the site. No MEC was identified.

MC Evaluation

Types of MC

- The MC at the Ft. Flagler Gas Chamber AOC is riot control agent CN-1. CN-1 is an irritant that is similar to mace.

Overview of Pathways

Affected media and potential pathways for MC include:

- Soil: Soil is the primary medium of concern because of possible MC in the soil from training activities. However, riot control agents are not persistent and any release to soil would be expected to be neutralized by weathering and time and not be present in the soil today. There is no complete soil pathway.

- Sediment and Surface Water: Sediments may accumulate in the area through ponding of precipitation. There is no established surface water drainage at the AOC. The only surface water is Puget Sound. Riot control agents are not persistent and any release to sediment or surface water would be expected to be neutralized by weathering and time and not be present today. There is no complete sediment or surface water pathway.
- Groundwater: Groundwater is considered a potentially affected media because it is present within 100 ft of ground surface. However, riot control agents are not persistent and any release to soil and eventually groundwater would be expected to be neutralized by weathering and time and not be present in the soil today. There is no complete groundwater pathway.
- Air: Air is a potential medium of concern because of the possibility of inhalation of contaminated soil particles. However, air is not an affected media under current land use, thus the pathway is incomplete.

Based on the discussion above, there are no complete exposure pathways for MC at the Gas Chamber AOC. No MC sampling was proposed.

Conceptual Site Model – Rifle Grenade/Anti-Tank Rocket Range AOC

The Rifle Grenade/Anti-Tank Rocket Range AOC is an amphibious assault training area located near the lower campground at the Ft. Flagler State Park. This AOC is shown on Figures 3-1 and 9-1 of the SI Report. A portion of this AOC was cleared of UXO in 1992 (IT, 1992). The cleared area is shown on Figure 9-2 of the SI Report. All vegetation (except standing trees) was removed from most of the clearance area and 100 percent of the ground surface of the clearance area was cleared using a handheld magnetometer. The eastern leg of the clearance area did not receive a 100 percent clearance because of heavy forestation and downed trees. This AOC includes a 1000-inch/Machine Gun Range, which was identified on the War Department map that was obtained during the TPP meeting. This War Department map is included in Appendix L of the SI Report.

Current and Future Land Use

- Currently, the Rifle Grenade/Anti-Tank Rocket Range AOC is part of the Ft. Flagler State Park, which offers camping, boating, fishing, shoreline use, hiking, and historical interpretive information. A camping area is located within this AOC.
- For the foreseeable future, it is likely that the Range Complex AOC will continue to be part of the Ft. Flagler State Park.

Potential Contaminant Sources

- According to the ASR the Rifle Grenade/Anti-Tank Rocket Range was used between 1942 and 1954 for amphibious assault exercises. Munitions used included 3.5-inch and 2.36-inch rockets, and small arms.
- The 1000-inch/Machine Gun Range included small arms and machine gun use.
- The location of the beach portion of this AOC coincides with the Debarkation Area identified in the War Department map (Attachment A). The two areas are included as one AOC in the TPP Memo. The map identified the Debarkation Area as having "beach obstacles."
- During the 1992 UXO Clearance, the following MEC and MEC debris were recovered:
    - 2.36-inch expended rocket motors (172 items);
    - 2.36-inch rockets with live warhead (3 items);
    - 2.36-inch rockets with live fuse (2 items);
    - 3.5-inch expended rocket motors (2 items);
    - 1 live training hand grenade;
    - 1 Bangalore torpedo fuse housing, inert;
    - Anti-tank/anti-vehicle mines, inert (12 items); and
    - Empty .30-caliber casings (16 items).

MEC Evaluation

Types of MEC

- Potential MEC within the Rifle Grenade/Anti-Tank Rocket Range AOC are listed on Table 2-1 of the SI Report and include rockets, hand grenades, mines, and small arms. Explosive hazards from the mines and small arms are not expected.

Surface Exposure Pathway

- The potential route of human exposure to MEC or munitions debris includes direct contact by vehicles, foot traffic, or handling. This would include park workers and visitors.
- The potential route of wildlife exposure to MEC or munitions debris would be by directly walking on them.

Subsurface Exposure Pathway

- The potential routes of human exposure to MEC or munitions debris would be by intrusive drilling or digging activities. This includes park workers and visitors.
- The potential route of wildlife exposure to MEC or munitions debris would be by burrowing activities.

MEC Evaluation/Investigation Completed

- Visual reconnaissance aided by a handheld magnetometer was performed by a trained UXO technician within a portion of the Rifle Grenade/Anti-Tank Rocket Range AOC. Based on the 1992 UXO clearance, there is a possibility that MEC is present in the eastern portion of the clearance area, which was not cleared to 100 percent because of heavy vegetation and downed trees. The visual reconnaissance did not identify any MEC or munitions debris. However, it should be noted that this area is very heavily forested with fallen trees and heavy underbrush and only limited reconnaissance could be performed.

MC Evaluation

Types of MC

- The anticipated MC at the Ft. Flagler Rifle Grenade/Anti-Tank Rocket Range AOC is steel from rockets, lead from small arms, propellant from the rocket motors, and explosives.
- The propellant for the 3.5-inch rockets likely contained potassium perchlorate.

Overview of Pathways

Affected media and potential pathways for MC include:

- Soil: At the Rifle Grenade/Anti-Tank Rocket Range, soil is the primary medium of concern because of possible MC in the soil from training activities. The soil also serves as a secondary source of potential air, sediment, surface water, or groundwater contamination.
- Sediment and Surface Water: Sediments may accumulate in the area in small ponds or puddles. Sediment serves as a potential source for surface water, groundwater, and air

contamination. There is no established surface water drainage at the AOC. The only surface water is Puget Sound. Surface water will be evaluated via sediments.

- Groundwater: Groundwater is considered a potentially affected media because it is present within 100 ft of ground surface. However, the groundwater pathway is not complete as there are no downgradient groundwater users in the area.
- Air: Air is a potential medium of concern because of the possibility of inhalation of contaminated soil particles. However, air is not an affected media under current land use, thus the pathway is incomplete.

Exposure media at the Rifle Grenade/Anti-Tank Rocket Range AOC include only soil and sediment.

Soil Exposure Pathway

Exposure Routes

- The potential routes of human exposure to contaminated soils include incidental ingestion of and dermal contact with contaminated media, as well as inhalation of soil particulates during intrusive work.
- The potential routes for wildlife exposure to contaminated soils include ingestion of and direct contact with contaminated media. Plants may uptake MC and then subsequently be eaten by wildlife. Burrowing animals may ingest MC-contaminated soil and subsequently be eaten by predators.

Receptors

- State Park workers and visitors.
- Wildlife.

MC Soil Evaluation/Investigation Completed

- Three composite soil samples were collected from this AOC and analyzed for select metals and explosives. There were no background exceedances for metals and no explosives were detected.

Sediment and Surface Water Exposure Pathway

Exposure Routes

- The potential routes of human exposure to contaminated sediment include incidental ingestion and dermal contact with sediment/surface water.
- The potential routes of wildlife (including aquatic organisms) exposure to contaminated sediment include ingestion of and direct contact with sediment/surface water.

Receptors

- State Park workers and visitors.
- Wildlife.

MC Sediment and Surface Water Evaluation/Investigation Completed

- One sediment sample was collected from a water accumulation area within the AOC. The sample was analyzed for metals and explosives. No significant concentrations of metals were detected and no explosives were detected.

Conceptual Site Model – Live Grenade Court

The Live Grenade Court is a single AOC as shown on Figures 3-1 and 10-1 of the SI Report. This AOC is located in the southeast corner of the FUDS and Ft. Flagler State Park and just north of the Practice Grenade Court AOC. The AOC was used to train troops in the use of live grenades. The location of this AOC is taken from the War Department map that was obtained during the TPP meeting. This War Department map is included in Appendix L of the SI Report. Figure 11 of the TPP Memo illustrates the CSM for the Live Grenade Range AOC and potential pathways of MC contamination.

Current and Future Land Use

- Currently, the Live Grenade Court AOC is part of the Ft. Flagler State Park, which offers camping, boating, fishing, shoreline use, hiking, and historical interpretive information.
- For the foreseeable future, it is likely that the Live Grenade Court AOC will continue to be part of the Ft. Flagler State Park.

Potential Contaminant Sources

- The courts were assumed to be used by the Army between 1942 and 1954.
- The courts were used for training in the use of live (explosive) and/or training hand grenades.
- Grenades were thrown from individual throwing bays constructed from sandbags or concrete, or from a trench.
- Grenades were thrown toward targets in an impact area approximately 25 yards from the throwing line (see Figure 11 of the TPP Memo).
- A danger area of approximately 600 ft would have been established around each court.

MEC Evaluation

Types of MEC

- The munitions used included the Mk II fragmentation hand grenade.
- M21 practice grenades, which contained only small spotting charges of black powder, may also have been used.
- A potential hazard from MEC exists in unexploded grenades.

Surface Exposure Pathway

- The potential route of human exposure to MEC or munitions debris includes direct contact by vehicles, foot traffic, or handling. Human exposure would potentially include park workers and visitors.
- The potential route of wildlife exposure to MEC or munitions debris would be by direct contact.

Subsurface Exposure Pathway

- The potential routes of human exposure to MEC or munitions debris would be through intrusive activity or geologic instability (erosion, freeze-thaw, etc.).

- The potential route of wildlife exposure to MEC or munitions debris would be by burrowing activities or geologic instability.

MEC Evaluation/Investigation Completed

- A visual reconnaissance aided by a hand-held magnetometer was completed during the SI. No MEC or munitions debris were identified. No visual evidence of the grenade court could be identified due to heavy vegetation. The only evidence that the area was once cleared was that the forest trees were primarily alder and fir, while the surrounding forest is fir, hemlock, and cedar.

<u>MC Evaluation</u>

Types of MC

- The anticipated MC at the explosive munitions ranges is primarily residual explosive compounds from grenades that underwent high-order (normal) or low-order detonation, or from undetonated munitions. The explosive charges used in the Mk II grenades were 2 ounces of TNT (or E.C. blank fire smokeless powder, consisting largely of nitrocellulose, in older models).
- To a lesser degree, there is a potential for the presence of elevated concentrations of metals from the grenade housing and components which are made primarily from cast iron and steel.

Overview of Pathways

Affected media and potential pathways for MC include:

- Soil: At the Live Grenade Range, soil is the primary medium of concern because of possible MC in the soil from training activities. The soil also serves as a secondary source of potential air, sediment, surface water, or groundwater contamination.
- Sediment and Surface Water: Sediments may accumulate in the area in small ponds or puddles. Sediment serves as a potential source for surface water, groundwater, and air contamination. There is no established surface water drainage at the AOC. The only surface water is Puget Sound. Surface water will be evaluated via sediments.
- Groundwater: Groundwater is considered a potentially affected media because it is present within 100 ft of ground surface. However, the groundwater pathway is not complete as there are no downgradient groundwater users in the area.
- Air: Air is a potential medium of concern because of the possibility of inhalation of contaminated soil particles. However, air is not an affected media under current land use, thus the pathway is incomplete.

Exposure media at the Live Grenade Range AOC include soil, sediment, and surface water.

Soil Exposure Pathway

Exposure Routes

- The potential routes of human exposure to contaminated soils include incidental ingestion of and dermal contact with contaminated media, as well as inhalation of soil particulates during intrusive work.

- The potential routes of wildlife exposure to contaminated soils include ingestion of and direct contact with contaminated media. Plants may uptake MC and then subsequently be eaten by wildlife. Burrowing animals may ingest MC-contaminated soil and subsequently be eaten by predators.

Receptors

- State Park workers and visitors.
- Wildlife.

MC Soil Evaluation/Investigation Completed

- One composite soil sample was collected from near the center of this AOC and analyzed for metals and explosives. Chromium and nickel was detected in concentrations above the site background value. Both detections were below human health screening values. The nickel concentration exceeded the ecological screening value.

Sediment and Surface Water Exposure Pathway

Exposure Routes

- The potential routes of human exposure to contaminated sediment include incidental ingestion and dermal contact with sediment/surface water.
- The potential routes of wildlife (including aquatic organisms) exposure to contaminated sediment include ingestion of and direct contact with sediment/surface water.

Receptors

- State Park workers and visitors.
- Wildlife.

MC Sediment and Surface Water Evaluation/Investigation Completed

- No sediment samples were collected from this AOC.

Conceptual Site Model – Practice Grenade Court

The Practice Grenade Court is a single AOC as shown on Figures 3-1 and 11-1 of the SI Report. This AOC is located in the southeast corner of the FUDS and Ft. Flagler State Park and just south of the Live Grenade Court AOC. The AOC was used to train troops in the use of grenades using either inert grenades or grenades with small spotting charges. The location of this AOC is taken from the War Department map that was obtained during the TPP meeting. This War Department map is included in Appendix L of the SI Report.

Current and Future Land Use

- Currently, the Practice Grenade Court AOC is part of the Ft. Flagler State Park, which offers camping, boating, fishing, shoreline use, hiking, and historical interpretive information.
- For the foreseeable future, it is likely that the Practice Grenade Court AOC will continue to be part of the Ft. Flagler State Park.
- The AOC is within a heavily forested area with underbrush.

Potential Contaminant Sources

- The AOC is assumed to be have been used between 1942 and 1954 similar to other troop training activities at Ft. Flagler.
- The courts were used for training in the use of practice and/or training hand grenades.
- Grenades were thrown from individual throwing bays constructed from sandbags or concrete, or from a trench.
- Grenades were thrown toward targets in an impact area approximately 25 yards from the throwing line (see Figure 11 of the TPP Memo).
- No danger area would have been established around a practice grenade court.

MEC Evaluation

Types of MEC

- The munitions used at the practice courts would have included the Mk1A1 training grenades, an inert device made of cast iron with the approximate shape, size, and weight of an actual hand grenade.
- The munitions used at the practice courts may also have included the M21 practice grenades, reusable devices which contained only small charges of black powder to simulate the detonation of a live grenade.
- There is not a significant hazard from MEC associated with the practice courts, based on the training devices used, and as indicated in Table 2-1 of the SI Report.

Surface Exposure Pathway

- Because there is no MEC with significant explosive hazard at this AOC, the surface exposure pathway is incomplete.

Subsurface Exposure Pathway

- Because there is no MEC with significant explosive hazard at this AOC, the subsurface exposure pathway is incomplete.

MEC Evaluation/Investigation Completed

- A visual reconnaissance was completed at the Practice Grenade Court AOC to document current conditions. The area is heavily forested with dense undergrowth. No evidence of the AOC could be identified due to dense vegetation. The only evidence that the area was once cleared was that the forest trees were primarily alder and fir, while the surrounding forest is fir, hemlock, and cedar.

<u>MC Evaluation</u>

Types of MC

- The small quantity of black powder (consisting of potassium nitrate, sulfur, and charcoal) associated with training grenades does not pose a significant risk of environmental contamination, as indicated in Table 2-1 of the SI Report.

MC Evaluation/Investigation Completed

No sampling was completed for the Practice Grenade Courts.

Overview of Pathways

Based on the discussion above, there are no exposure pathways for MC at the Practice Grenade Court AOC. No MC sampling was proposed.

Conceptual Site Model – Rifle Range AOC

The Rifle Range is a single AOC shown on Figures 3-1 and 12-1 of the SI Report. According to the ASR there was a rifle range near the lighthouse when Ft. Flagler was first built. The butt to this range was torn down in 1932 to salvage lead and copper from the expended bullets. A new range was built on the same location during World War II. The range was used to train troops in the use of small arms. Figure 13 of the TPP Memo illustrates the CSM for the Rifle Range and potential pathway of MC contamination.

Current and Future Land Use

- Currently, the Rifle Range AOC is part of the Ft. Flagler State Park, which offers camping, boating, fishing, shoreline use, hiking, and historical interpretive information. This AOC is located near the lighthouse at Marrowstone Point.
- Hiking trails traverse the Rifle Range AOC, and an interpretive trail occupies the rifle range location.
- The target area was cleared of brush by State Park volunteers and one of the targets was reconstructed. The configuration of this range is firing from south to north, which is different from the configuration shown in the ASR. The berm in front of the targets is clearly visible and State Park volunteers have reported that a wall was built behind the targets to protect the power plant below Battery Lee.
- For the foreseeable future, it is likely that the Range Complex AOC will continue to be part of the Ft. Flagler State Park.

Potential Contaminant Sources – Rifle Range

- According to the ASR the Rifle Range was used between 1942 and 1954 for small arms use, and use of the range area likely occurred as far back as1900.

MEC Evaluation

Types of MEC

- Because this AOC was used for small arms only, MEC (other than small arms) is not expected to be present. The potential for live small arms rounds exists, but these do not pose a significant explosive hazard.

Surface Exposure Pathway

- Because there is no MEC with significant explosive hazard at this AOC, the surface exposure pathway is incomplete.

Subsurface Exposure Pathway

- Because there is no MEC with significant explosive hazard at this AOC, the subsurface exposure pathway is incomplete.

MEC Evaluation/Investigation Completed

- A visual reconnaissance was performed to verify current site conditions.

MC Evaluation

Types of MC

- The anticipated MC at the Ft. Flagler Rifle Range AOC is lead from small arms. Propellants (single-base or double-base powder) for the small arms are not thought to pose a significant impact.

Overview of Pathways

Affected media and potential pathways for MC include:

- Soil: At the Rifle Range AOC, soil is the primary medium of concern because of possible MC in the soil from training activities. The soil also serves as a secondary source of potential air, sediment, surface water, or groundwater contamination.
- Sediment and Surface Water: Sediments may accumulate in the area through ponding of precipitation. The sediment also serves as a secondary source for surface water and groundwater contamination. There are one or more ponds in the area between the firing points and targets. These are not considered to be a pathway because of their location well in front of the targets and it is understood that these may have been constructed after the use of the range ended in 1954.
- Groundwater: Groundwater is considered a potentially affected media because it is present within 100 ft of ground surface. However, the groundwater pathway is not complete as there are no downgradient groundwater users in the area.
- Air: Air is a potential medium of concern because of the possibility of inhalation of contaminated soil particles. However, air is not an affected media under current land use, thus the pathway is incomplete.

Exposure media at the Rifle Range AOC include only soil and sediments.

Soil Exposure Pathway

Exposure Routes

- The potential routes of human exposure to contaminated soils include incidental ingestion of and dermal contact with contaminated media, as well as inhalation of soil particulates during intrusive work.
- The potential routes for wildlife exposure to contaminated soils include ingestion of and direct contact with contaminated media. Plants may uptake MC and then subsequently be eaten by wildlife. Burrowing animals may ingest MC-contaminated soil and subsequently be eaten by predators.

Receptors

- State Park workers and visitors.
- Wildlife.

MC Soil Evaluation/Investigation Completed

- Two composite soil samples were collected and analyzed for lead. The sample locations were on the target berm. Lead concentrations in both samples exceeded site

background concentrations. One sample exceeded the human health screening value and both samples exceeded the ecological screening value.

Sediment Exposure Pathway

Exposure Routes

- The potential routes of human exposure to contaminated sediment include incidental ingestion and dermal contact with sediments.
- The potential routes of wildlife (including aquatic organisms) exposure to contaminated sediment include ingestion of and direct contact with sediment.

Receptors

- State Park workers and visitors.
- Wildlife.

MC Sediment Evaluation/Investigation Completed

- One sediment sample was collected from a water accumulation area in front of the target berm where runoff would be expected. The sample was analyzed for lead only. Analytical results show lead at a significant concentration but was below both human health and ecological screening values.

Conceptual Site Model – Demolition Area AOC

The Demolition Area is a single AOC shown on Figures 3-1 and 13-1 of the SI Report. This AOC was not identified until the TPP meeting, when the location was shown on the old War Department map. This War Department map is included in Appendix L of the SI Report. The AOC is located in the northwest corner of the FUDS in an embayment. The War Department map indicated the area was within a tidal zone that flooded at each high tide. The area has since been backfilled with gravel and soil to create a picnic and camping area that is several feet above the high tide mark. The grass is mowed regularly during the growing season. The depth to the detonation area may be as much as 10 ft. Figure 15 of the TPP Memo is a graphic representation of the CSM for the Demolition Area.

All that is known of this area is from the War Department Map and the notation "Detonation area."

Current and Future Land Use

- Currently, the Demolition Area AOC is part of the Ft. Flagler State Park, which offers camping, boating, fishing, shoreline use, hiking, and historical interpretive information.
- This AOC is located near the lower campground, and used for picnicking, camping, and beach combing.
- For the foreseeable future, it is likely that the Demolition Area AOC will continue to be part of the Ft. Flagler State Park.

Potential Contaminant Sources

- There is no mention of the dates of use for the Demolition Area. However, based on use of other training ranges and maneuver areas the likely period of use is 1942 to 1954.

MEC Evaluation

Types of MEC

- The types of MEC destroyed at this AOC are unknown. However, on the War Department map legend the words "Rifle Grenade" were written under "Demolition Area." This may indicate that rifle grenades (M6A1, M7A1, M28, and M29 rockets) used at the Debarkation Area and Rocket Range were the munitions destroyed at the AOC. There is also the potential that discarded propellant bags and high explosives from the artillery batteries were also detonated at this location.

Surface Exposure Pathway

- Because this AOC has been backfilled with at least several feet of backfill and may be as much as 10 ft, no MEC or MEC debris is at the surface. Therefore, the surface exposure pathway is incomplete.

Subsurface Exposure Pathway

- The Demolition Area has been backfilled and at a depth below ground surface by as much as 10 ft. The subsurface exposure pathway is incomplete, unless heavy equipment excavation was to occur.

MEC Evaluation/Investigation Completed

- A visual reconnaissance was performed within the Demolition Area AOC to document current conditions and checking for signs of erosion that could lead to exposure of potential buried munitions. The primary area of the survey was along the beach and shoreline. The Demolition Area is backfilled with gravel and soil. The site is completely grassed and is mowed regularly during the growing season. The visual reconnaissance did not identify any MEC or munitions debris

<u>MC Evaluation</u>

Types of MC

- The anticipated MC at the Demolition Area is sheet metal from the M6A1, M7A1, M28, and M29 rocket casings and explosives from the rockets and propellants and explosives from the artillery batteries.

Overview of Pathways

Affected media and potential pathways for MC include:

- Soil: At the Demolition Area AOC, subsurface soil is the primary medium of concern because of possible MC in the soil covered by backfill material. The AOC has been covered with as much as 10 ft of backfill. The surface soil is an incomplete pathway. Subsurface soil is considered a potentially complete pathway only if subsurface excavation were to occur. The subsurface soil also serves as a secondary source of potential surface water contamination.
- Sediment: Because the AOC is located in the beach area, all solid media is considered soil and therefore sediment is not present.
- Surface Water: The surface water body that would be impacted would be the small estuary that is connected to Puget Sound. This pathway is potentially complete.
- Groundwater: Groundwater is considered a potentially affected media. However, the AOC is at the beach and groundwater directly interfaces with Puget Sound, the surface water body. The groundwater would be saline and not used for a drinking water source. This pathway is incomplete as there is no downgradient user.
- Air: Air is a potential medium of concern because of the possibility of inhalation of contaminated soil particles. However, air is not an affected media under current land use, thus the pathway is incomplete.

Exposure media at the Demolition Area AOC include only soil and surface water.

Soil Exposure Pathway

Exposure Routes

- The potential routes of human exposure to contaminated soils include incidental ingestion of and dermal contact with contaminated media, as well as inhalation of soil particulates during intrusive work.
- The potential routes for wildlife exposure to contaminated soils include ingestion of and direct contact with contaminated media. Plants may uptake MC and then

subsequently be eaten by wildlife. Burrowing animals may ingest MC-contaminated soil and subsequently be eaten by predators.

Receptors

- State Park workers and visitors.
- Wildlife.

MC Soil Evaluation/Investigation Completed

- No surface or subsurface soil sampling was performed at this AOC.

Surface Water Exposure Pathway

Exposure Routes

- The potential routes of human exposure to contaminated surface water include incidental ingestion and dermal contact with surface water.
- The potential routes of wildlife (including aquatic organisms) exposure to contaminated surface water include ingestion of and direct contact with surface water.

Receptors

- State Park workers and visitors.
- Wildlife.

MC Surface Water Evaluation/Investigation Completed

- No surface water samples were collected.

Conceptual Site Model – Quartermaster Wharf Disposal Area AOC

The Quartermaster Wharf Disposal Area is a single AOC shown on Figures 3-1 and 14-1 of the SI Report. The boundaries of this AOC were taken from the ASR. The Quartermaster Wharf Disposal Area AOC consists of the beach south of the old wharf. According to the ASR this AOC was used as a disposal area, and several rounds of .30-caliber ammunition were recovered from the area by a State Park volunteer. It is thought that damaged or unwanted supplies were disposed to the beach.

Current and Future Land Use

- Currently, the Quartermaster Wharf Disposal Area AOC is part of the Ft. Flagler State Park, which offers camping, boating, fishing, shoreline use, hiking, and historical interpretive information. This AOC is located near Battery Wansboro and makes up the eastern shore of the Park,
- For the foreseeable future, it is likely that the Quartermaster Wharf Disposal Area AOC will continue to be part of the Ft. Flagler State Park.

Potential Contaminant Sources

- According to the ASR this AOC was used as a disposal area, and several rounds of .30-caliber ammunition were recovered from the area by a State Park volunteer.
- It is thought that damaged or unwanted supplies were disposed to the beach.

MEC Evaluation

Types of MEC

- The only reported munitions recovered from this area are small arms rounds. However, other ordnance may have been disposed.

Surface Exposure Pathway

- The surface exposure pathway is for park workers or visitors to step on or pick up MEC.

Subsurface Exposure Pathway

- The subsurface pathway would be by digging activities by park workers or park visitors. Note that this beach is not used for shell fish gathering.

MEC Evaluation/Investigation Completed

- A visual reconnaissance was performed within the Quartermaster Wharf Disposal Area AOC to verify current conditions at the site. No indications of MEC or munitions debris was identified.

MC Evaluation

Types of MC

- The anticipated MC at the Quartermaster Wharf Disposal Area AOC is lead from small arms and explosives from munitions that may have been discarded on the beach.

Overview of Pathways

Affected media and potential pathways for MC include:

- Soil: At the Quartermaster Wharf Disposal Area AOC, soil (beach sand) is the primary medium of concern because of possible MC in the soil from disposal activities. The soil also serves as a secondary source of surface water contamination.
- Sediment: Because this AOC is on the beach sediments are not present. This is an incomplete pathway.
- Surface Water: The only surface water is Puget Sound, a very large, tidal, saltwater body that contains abundant ecological receptors.
- Groundwater: Because of the presence of Puget Sound, movement of MC to groundwater would likely not occur as the salt water from Puget Sound flushes the near surface groundwater body in the vicinity of the beach.
- Air: Air is a potential medium of concern because of the possibility of inhalation of contaminated soil particles. However, air is not an affected media under current land use, thus the pathway is incomplete.

Exposure media at the Quartermaster Wharf Disposal Area AOC include soil and surface water.

Soil Exposure Pathway

Exposure Routes

- The potential routes of human exposure to contaminated soils include incidental ingestion of and dermal contact with contaminated media, as well as inhalation of soil particulates during intrusive work.
- The potential routes of wildlife exposure to contaminated soils include ingestion of and direct contact with contaminated media. Aquatic organisms may uptake MC and then subsequently be eaten by wildlife. Burrowing animals may ingest MC-contaminated soil and subsequently be eaten by predators.

Receptors

- State Park workers and visitors.
- Wildlife.

MC Soil Evaluation/Investigation Completed

- One composite soil sample was collected from this AOC and analyzed for explosives, including NG and PETN. There were no detections of explosives in the sample.

Surface Water Exposure Pathway

Exposure Routes

- The potential routes of human exposure to contaminated surface water include incidental ingestion and dermal contact with surface water.
- The potential routes of wildlife (including aquatic organisms) exposure to contaminated surface water include ingestion of and direct contact with surface water.

Receptors

- State Park workers and visitors.

- Wildlife.

MC Surface Water Evaluation/Investigation Completed

- No surface water samples were collected.

Appendix K
Munitions Response Site Prioritization Protocol Evaluations

Table A

MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from DoD databases, such as RMIS. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the MRS summary, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non-munitions related contaminants found at the MRS (e.g., benzene, trichloroethylene), and any potentially exposed human and ecological receptors. Include a map of the MRS, if one is available.

Munitions Response Site (MRS) Name:	**MRS No. 1 - Range Complex**
Component:	US Army
Installation/Property Name:	**Fort Flagler Military Reservation**
Location (City, County, State):	Jefferson County, Washington
UTM Coordinates (NAD83):	N 5331074, E 522671
Site Name (RMIS ID):	F10WA031602R01
Project Name (Project No.):	Formerly Used Defense Sites, Military Munitions Response Program Site Inspections at Multiple Sites (116188)
Date Information Entered/Updated:	26-Jun-2007
Point of Contact (Name/Phone):	Mike Nelson, USACE Seattle District, 206.764.3458

Project Phase ("X" only one):									
		PA	**X**	**SI**		**RI**		**FS**		**RD**
		RA-C		**RIP**		**RA-O**		**RC**		**LTM**

Media Evaluated ("X" all that apply):				
		Groundwater (human receptor)	**X**	**Sediment (human receptor)**
	X	**Surface soil (human receptor)**		**Surface water (ecological receptor)**
	X	**Sediment (ecological receptor)**		**Surface water (human receptor)**

MRS Summary

MRS Description: Describe the munitions-related activities that occurred at the installation, the dates of operation, and the UXO, DMM (by type of munition, if known) or munitions constituents (by type, if known) known or suspected to be present):

Fort Flagler Military Reservation was operational between 1899 and 1953. Usage between 1899 and 1945 was as a coastal artillery battery protecting the entrance to Puget Sound in Washington State. Between 1942 and 1953 Ft. Flagler was also used for training of troops for amphibious assault. MRS No. 1 - Range Complex consists of nine artillery batteries, one transition range, and a gas chamber that was located within Battery Wansboro. The nine batteries housed artillery guns ranging in size from 3-inch to 12-inch. All firing was conducted out over open water (Section 4.0). Artillery propellant contained nitrocellulose, nitroglycerin, and nitroguanidine. Projectiles contained Explosive D or TNT or unknown explosives (Table 2-1). There have been no reports of muntions or munitons debris from the artillery batteries. Transtion Range 1 was used for small arms training only. The Gas Chamber was located in a room of the concrete bunker for Battery Wansboro after the artillery guns were removed. The dates of use for the Transition Range 1 and Gas Chamber was between 1942 and 1953. There have been no reports of MEC or munitions debris at the Transition Range 1 or Gas Chamber.

Description of Pathways for Human and Ecological Receptors:

Pathways evaluated include surface soil, and sediment. Exposure would be through ingestion or inhalation.

Description of Receptors (Human and Ecological):

Receptors in the area of the Range Complex would be park workers, campers and visitors, nearby residents, and wildlife.

Table 1
EHE Module: Munitions Type Data Element Table

Directions: Below are eleven classifications of munitions and their descriptions. Annotate the score(s) that correspond with **all** munitions types known or suspected to be present at the MRS.

Note: The terms *practice munitions* , *small arms* , *physical evidence* , and *historical evidence* are defined in Appendix C of the MRSPP Primer (Draft, Dec 2005).

Classification	Description	Possible Score	Score
Sensitive	All UXO that are considered likely to function upon any interaction with exposed persons [e.g., submunitions, 40mm high-explosive (HE) grenades, white phosphorous (WP) munitions, high-explosive antitank (HEAT) munitions, and practice munitions with sensitive fuzes, but excluding all other practice munitions].	30	
	All hand grenades containing energetic filler.		
	Bulk primary explosives, or mixtures of these with environmental media, such that the mixture poses an explosive hazard.		
High explosive (used or damaged)	All UXO containing a high-explosive filler (e.g., RDX, Composition B), that are not considered "sensitive."	25	25
	All DMM containing a high-explosive filler that have been damaged by burning or detonation, or deteriorated to the point of instability.		
Pyrotechnic (used or damaged)	All UXO containing pyrotechnic fillers other than white phosphorous (e.g., flares, signals, simulators, smoke grenades).	20	
	All DMM containing pyrotechnic fillers other than white phosphorous (e.g., flares, signals, simulators, smoke grenades) that have been damaged by burning or detonation, or deteriorated to the point of instability.		
High explosive (unused)	All DMM containing a high-explosive filler that have not been damaged by burning or detonation, or are not deteriorated to the point of instability.	15	15
Propellant	All UXO containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor).	15	
	All DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor) that are damaged by burning or detonation, or deteriorated to the point of instability.		
Bulk secondary high explosives, pyrotechnics, or propellant	All DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor), that are deteriorated.	10	
	Bulk secondary high explosives, pyrotechnic compositions, or propellant (not contained in a munition), or mixtures of these with environmental media such that the mixture poses an explosive hazard.		
Pyrotechnic (not used or damaged)	All DMM containing a pyrotechnic filler (i.e. red phosphorous), other than white phosphorous filler, that have not been damaged by burning or detonation, or are not deteriorated to the point of instability.	10	
Practice	All UXO that are practice munitions that are not associated with a sensitive fuze.	5	
	All DMM that are practice munitions that are not associated with a sensitive fuze and that have not been damaged by burning or detonation, or are not deteriorated to the point of instability.		
Riot control	All UXO or DMM containing a riot control agent filler (e.g., tear gas).	3	3
Small arms	All used munitions or DMM that are categorized as small arms ammunition [Physical evidence or historical evidence that no other types of munitions (e.g., grenades, subcaliber training rockets, demolition charges) were used or are present on the MRS is required for selection of this category.].	2	2
Evidence of no munitions	Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0	0
MUNITIONS TYPE	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).		**25**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Munitions Type*** classifications in the space below.

Use of the last of the artillery guns ended in 1945 when the guns were removed. All propellant and projectiles were believed to have been removed at the time. There have been no reports of any MEC or debris relating to the artillery guns, and none is suspected at this MRS. Transition Range 1 was used for small arms training (Score of 2). There have been no reports of unexpended small arms rounds from the Transition Range 1. However, due to the nature of use of this range unspent rounds may be present in the soils. The Gas Chamber reportedly used only riot control gas (CN) and there have been no reports of any CN containing canisters (Score of 3). (2007 SI Report, Sections 4.3, 5.3, and 6.3).

Table 2

EHE Module: Source of Hazard Data Element Table

Directions: Below are eleven classifications describing sources of explosive hazards. Annotate the score(s) that correspond with **all** sources of explosive hazards known or suspected to be present at the MRS.

Note: The terms *former range* , *practice munitions* , *small arms* , *physical evidence* , and *historical evidence* are defined in Appendix C of the MRSPP Primer (Draft, Dec 2005).

Classification	Description	Possible Score	Score
Former range	The MRS is a former military range where munitions (including practice munitions with sensitive fuzes) have been used. Such areas include: impact or target areas, associated buffer and safety zones, firing points, and live-fire maneuver areas.	10	10
Former munitions treatment (i.e. OB/OD) unit	The MRS is a location where UXO or DMM (e.g., munitions, bulk explosives, bulk pyrotechnic, or bulk propellants) were burned or detonated for the purpose of treatment prior to disposal.	8	
Former practice munitions range	The MRS is a former military range on which only practice munitions without sensitive fuzes were used.	6	
Former maneuver area	The MRS is a former maneuver area where no munitions other than flares, simulators, smokes, and blanks were used. There must be evidence that no other munitions were used at the location to place an MRS into this category.	5	
Former burial pit or other disposal area	The MRS is a location where DMM were buried or disposed of (e.g., disposed of into a water body) without prior thermal treatment.	5	
Former industrial operating facilities	The MRS is a location that is a former munitions maintenance, manufacturing, or demilitarization facility.	4	
Former firing points	The MRS is a firing point, where the firing point is delineated as an MRS separate from the rest of a former military range.	4	4
Former missile or air defense artillery emplacements	The MRS is a former missile defense or air defense artillery (ADA) emplacement not associated with a military range.	2	
Former storage or transfer points	The MRS is a location where munitions were stored or handled for transfer between different modes of transportation (e.g., rail to truck, truck to weapon system).	2	
Former small arms range	The MRS is a former military range where only small arms ammunition was used [There must be evidence that no other types of munitions (e.g., grenades) were used or are present to place an MRS iinto this category.].	1	1
Evidence of no munitions	Following investigation of the MRS, there is physical evidence that no UXO or DMM are present, or there is historical evidence indicating that no UXO or DMM are present.	0	
SOURCE OF HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).		**10**

DIRECTIONS: Document any MRS-specific data used in selecting the **Source of Hazard** classifications in the space below.

This MRS is a former coastal artillery battery and also contained a transition range and gas chamber. Artillery batteries fired out into Puget Sound and no ground target are present (2007 SI Report, Section 4.3). Transition Range 1 was a former small arms range (Score of 4 and 1) (2007 SI Report, Section 6.3). Gas Chamber was only used for mask training in an enclosed room in Battery Wansboro, no munitons were used (2007 SI Report, Section 5.3).

Table 3
EHE Module: Location of Munitions Data Element Table

Directions: Below are eight classifications of munitions locations and their descriptions. Annotate the score(s) that correspond with **all** locations where munitions are located or suspected of being found at the MRS.

Note: The terms *surface* , *subsurface* , *physical evidence* , and *historical evidence* are defined in Appendix C of the MRSPP Primer (Draft, Dec 2005).

Classification	Description	Possible Score	Score
Confirmed surface	Physical evidence indicates that there are UXO or DMM on the surface of the MRS. Historical evidence (e.g., a confirmed incident report or accident report) indicates there are UXO or DMM on the surface of the MRS.	25	
Confirmed subsurface, active	Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS, and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost, heat heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM. Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost, heat heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM.	20	
Confirmed subsurface, stable	Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS, and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed. Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS, and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed.	15	
Suspected (physical evidence)	There is physical evidence (e.g., munitions debris, such fragments, penetrators, projectiles, shell casings, links, fins), other than the documented presence of UXO or DMM, indicating that UXO or DMM may be present at the MRS.	10	
Suspected (historical evidence)	There is historical evidence indicating that UXO or DMM may be present at the MRS.	5	
Subsurface, physical constraint	There is physical or historical evidence indicating that UXO or DMM may be present in the subsurface, but there is a physical constraint (e.g., pavement, water depth over 120 feet) preventing direct access to the UXO or DMM.	2	2
Small arms (regardless of location)	The presence of small arms ammunition is confirmed or suspected, regardless of other factors such as geological stability [There must be evidence that no other types of munitions (e.g., grenades) were used or are present at the MRS to place an MRS into this category.]	1	1
Evidence of no munitions	Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0	0
LOCATION OF MUNITIONS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 25).		**2**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Location of Munitions*** classifications in the space below.

There have been no reported MEC from the artillery batteries at this MRS. All propellent, shells, and projectiles were stored within each fortified battery. Battery firing was infrequent (2007 SI Report, Section 4.3). Targets were on Puget Sound where water depths are in excess of 120 ft (Score of 2) (2007 SI Report Section 4.3.2). Bullets and casings have not been observed however the Transition Range 1 has to potential for small arms ammunion (Score of 1). (2007 SI Report, Section 6.3). Riot gas containers have not been observed (2007 SI Report, Section 5.3).

Table 4
EHE Module: Ease of Access Data Element Table

Directions: Below are four classifications of barrier types that can surround an MRS and their descriptions. The barrier type is directly related to the ease of public access to any explosive materiel. Annotate the score that corresponds with the ease of access to the MRS.

Note: The term *barrier* is defined in Appendix C of the MRSPP Primer (Draft, Dec 2005).

Classification	Description	Possible Score	Score
No barrier	There is no barrier preventing access to any part of the MRS (i.e. all parts of the MRS are accessible).	10	10
Barrier to MRS access is incomplete	There is a barrier preventing access to parts of the MRS, but not the entire MRS.	8	
Barrier to MRS access is complete but not monitored	There is a barrier preventing access to all parts of the MRS, but there is no surveillance (e.g., by a guard) to ensure that the barrier is effectively preventing access to all parts of the MRS.	5	
Barrier to MRS access is complete and monitored	There is a barrier preventing access to all parts of the MRS, and there is active, continual surveillance (e.g., by a guard, video monitoring) to ensure that the barrier is effectively preventing access to all parts of the MRS.	0	
EASE OF ACCESS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).		**10**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Ease of Access*** classification in the space below.

The entire Fort Flagler is a State Park with unlimited access to all parts of the park (2007 SI report, Section 2.3).

Table 5
EHE Module: Status of Property Data Element Table

Directions: Below are three classifications of the status of a property within the Department of Defense (DoD) and their descriptions. Annotate the score that corresponds with the status of property at the MRS.

Note: N/A

Classification	Description	Possible Score	Score
Non-DoD control	The MRS is at a location that is no longer owned by, leased to, or otherwise possessed or used by DoD. Examples are privately owned land or water bodies; land or water bodies owned or controlled by state, tribal, or local governments; and land or water bodies managed by other federal agencies.	5	5
Scheduled for transfer from DoD control	The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD, and DoD plans to transfer that land or water body to the control of another entity (e.g., a state, tribal, or local government; a private party; another federal agency) within 3 years from the date the rule is applied.	3	
DoD control	The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD. With respect to property that is leased or otherwise possessed, DoD must control access to the MRS 24 hours per day, every day of the calendar year.	0	
STATUS OF PROPERTY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).		**5**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Status of Property*** classification in the space below.

The Range Complex is located on Washington State Parks owned land. The land is used as a state park (2007 SI report, Section 2.3).

Table 6
EHE Module: Population Density Data Element Table

Directions: Below are three classifications of population density and their descriptions. Determine the population density per square mile in the vicinity of the MRS and annotate the score that corresponds with the associated population density.

Note: If an MRS is located in more than one county, use the largest population density value among the counties. If the MRS is within or borders a city or town, use the population density for the city or town, rather than that of the county.

Classification	Description	Possible Score	Score
> 500 persons per square mile	There are more than 500 persons per square mile in the county in which the MRS is located, based on US Census Bureau data.	5	
100 - 500 persons per square mile	There are 100 to 500 persons per square mile in the county in which the MRS is located, based on US Census Bureau data.	3	
< 100 persons per square mile	There are fewer than 100 persons per square mile in the county in which the MRS is located, based on US Census Bureau data.	1	1
POPULATION DENSITY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).		**1**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Population Density*** classification in the space below.

The 2005 Census data, indicates that the population density for Jefferson County is 15.4 people per square mile (2007 SI Report, Section 2.4.3).

Table 7
EHE Module: Population Near Hazard Data Element Table

Directions: Below are six classifications describing the number of inhabited structures near the MRS. The number of inhabited buildings relates to the population near the hazard. Determine the number of inhabited structures within two miles of the MRS boundary and annotate the score that corresponds with the associated population near the known or suspected hazard.

Note: The term *inhabited structures* is defined in Appendix C of the MRSPP Primer (Draft, Dec 2005).

Classification	Description	Possible Score	Score
26 or more inhabited structures	There are 26 or more inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	5	5
16 to 25 inhabited structures	There are 16 to 25 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	4	
11 to 15 inhabited structures	There are 11 to 15 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	3	
6 to 10 inhabited structures	There are 6 to 10 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	2	
1 to 5 inhabited structures	There are 1 to 5 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	1	
0 inhabited structures	There are no inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	0	
POPULATION NEAR HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).		**5**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Population Near Hazard*** classification in the space below.

The 2005 Census data indicate that there are 212 households within a 2-mile radius of the site and 280 housing units (2007 SI Report, Section 2.4.3). Campers also occupy a nearby campground.

Table 8

EHE Module: Types of Activities/Structures Data Element Table

Directions: Below are five classifications of activities and/or inhabited structures near the hazard and their descriptions. Review the types of activities that occur and/or structures that are present within two miles of the MRS and annotate the score(s) that correspond with **all** the activities/structure classifications at the MRS.

Note: The term *inhabited structures* is defined in Appendix C of the MRSPP Primer (Draft, Dec 2005).

Classification	Description	Possible Score	Score
Residential, educational, commercial, or subsistence	Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with any of the following purposes: residential, educational, child care, critical assets (e.g., hospitals, fire and rescue, police stations, dams), hotels, commercial, shopping centers, playgrounds, community gathering areas, religious sites, or sites used for subsistence hunting, fishing, and gathering.	5	5
Parks and recreational areas	Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with parks, nature preserves, or other recreational uses.	4	4
Agricultural, forestry	Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with agriculture or forestry.	3	
Industrial or warehousing	Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with industrial activities or warehousing.	2	
No known or recurring activities	There are no known or recurring activities occurring up to two miles from the MRS's boundary or within the MRS's boundary.	1	
TYPES OF ACTIVITIES/STRUCTURES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).		**5**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Types of Activities/Structures*** classifications in the space below.

Residential areas are located adjacent to Ft. Flagler and Range Complex. There are no kown educational, child care, critical assets, hotels, etc. within a 2-mile radius. Ft Flagler is a state park (2007 SI Report, Figure 2-7).

Table 9

EHE Module: Ecological and/or Cultural Resources Data Element Table

Directions: Below are four classifications of ecological and/or cultural resources and their descriptions. Review the types of resources present and annotate the score that corresponds with the ecological and/or cultural resource classifications at the MRS.

Note: The terms *ecological resources* and *cultural resources* are defined in Appendix C of the MRSPP Primer (Draft, Dec 2005).

Classification	Description	Possible Score	Score
Ecological and cultural resources present	There are both ecological and cultural resources present on the MRS.	5	5
Ecological resources present	There are ecological resources present on the MRS.	3	3
Cultural resources present	There are cultural resources present on the MRS.	3	3
No ecological or cultural resources present	There are no ecological resources or cultural resources present on the MRS.	0	
ECOLOGICAL AND/OR CULTURAL RESOURCES	**DIRECTIONS:** Record **<u>the single highest score</u>** from above in the box to the right (maximum score = 5).		**5**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Ecological and/or Cultural Resources*** classification in the space below.

There are no known archeological sites located within Ft Flagler. Ft Flagler is considered a historical site by Washington State. The park contains sensitive beach habitats for protected species (2007 SI Report, Section 3.2.2).

Table 10

Determining the EHE Module Rating

DIRECTIONS:

1. From Tables 01 - 09, record the data element scores in the **Score** boxes to the right.

2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.

3. Add the three **Value** boxes and record this number in the **EHE Module Total** box below.

4. Identify the appropriate range for the **EHE Module Total** at right.

5. Identify the **EHE Module Rating** that corresponds to the range selected and record this rating in the **EHE Module Rating** box at the lower right corner of this table.

NOTE: An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
Explosive Hazard Factor Data Elements			
Munitions Type	Table 01	25	35
Source of Hazard	Table 02	10	
Accessibility Factor Data Elements			
Location of Munitions	Table 03	2	17
Ease of Access	Table 04	10	
Status of Property	Table 05	5	
Receptor Factor Data Elements			
Population Density	Table 06	1	16
Population Near Hazard	Table 07	5	
Types of Activities/Structures	Table 08	5	
Ecological and/or Cultural Resources	Table 09	5	
EHE MODULE TOTAL			**68**

EHE Module Total	EHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected Explosive Hazard
EHE MODULE RATING	**D**

Table 11

CHE Module: CWM Configuration Data Element Table

Directions: Below are seven classifications of CWM configuration and their descriptions. Annotate the score(s) that correspond to **all** CWM configurations known or suspected to be present at the MRS.

Note: The terms *CWM/UXO*, *CWM/DMM*, *physical evidence*, and *historical evidence* are defined in Appendix C of the MRSPP Primer (Draft, Dec 2005).

Classification	Description	Possible Score	Score
CWM, explosive configuration either UXO or damaged DMM	The CWM known or suspected of being present at the MRS is (a) explosively configured CWM that are UXO (i.e. CWM/UXO), or (b) explosively configured CWM that are DMM (i.e. CWM/DMM) that have been damaged.	30	
CWM mixed with UXO	The CWM known or suspected of being present at the MRS are explosively configured CWM/DMM that have not been damaged, or nonexplosively configured CWM/DMM, or CWM not configured as a munition, that are commingled with conventional munitions that are UXO.	25	
CWM, explosive configuration that are undamaged DMM	The CWM known or suspected of being present at the MRS are explosively configured CWM/DMM that have not been damaged.	20	
CWM, not explosively configured or CWM, bulk container	The CWM known or suspected of being present at the MRS is (a) nonexplosively configured CWM/DMM, or (b) bulk CWM/DMM (e.g., ton container).	15	
CAIS K941 and CAIS K942	The CWM/DMM known or suspected of being present at the MRS is CAIS K941(toxic gas set M-1) or CAIS K942 (toxic gas set M-2/E11).	12	
CAIS (chemical agent identification sets)	Only CAIS, other than CAIS K941 and K942, are known or suspected of being present at the MRS.	10	
Evidence of no CWM	Following investigation, the physical evidence indicates that CWM are not present at the MRS, or the historical evidence indicates that CWM are not present at the MRS.	0	0
CWM CONFIGURATION	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).		**0**

DIRECTIONS: Document any MRS-specific data used in selecting the ***CWM Configuration*** classifications in the space below.

The Gas Chamber sub range only reported the use of riot control gas CN-1 (Section 8.4 and Table 2-1).

Table 20

Determining the CHE Module Rating

DIRECTIONS:

1. From Tables 11 - 19, record the data element scores in the **Score** boxes to the right.

2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.

3. Add the three **Value** boxes and record this number in the **CHE Module Total** box below.

	Source	Score	Value
CWM Hazard Factor Data Elements			
CWM Configuration	Table 11	0	0
Sources of CWM	Table 12	0	
Accessibility Factor Data Elements			
Location of CWM	Table 13	0	0
Ease of Access	Table 14	0	
Status of Property	Table 15	0	
Receptor Factor Data Elements			
Population Density	Table 16	0	0
Population Near Hazard	Table 17	0	
Types of Activities/Structures	Table 18	0	
Ecological and/or Cultural Resources	Table 19	0	
CHE MODULE TOTAL			**0**

4. Identify the appropriate range for the **CHE Module Total** at right.

5. Identify the **CHE Module Rating** that corresponds to the range selected and record this rating in the **CHE Module Rating** box at the lower right corner of this table.

NOTE: An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

CHE Module Total	CHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected CWM Hazard
CHE MODULE RATING	**No Known or Suspected CWM Hazard**

Table 21

HHE Module: Groundwater Data Element Table

Contaminant Hazard Factor (CHF)

Directions: Record the **maximum concentrations** of all contaminants in the MRS's groundwater and their **comparison values** (from Appendix B, Relative Risk Site Evaluation (RRSE) Primer, Summer 1997 - Revised) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the groundwater, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant [CAS No.]	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
		Total from Table 27	
		Sum the Ratios	

CHF Scale	CHF Value	
CHF > 100	H (High)	CHF = ∑ ([Max Conc of Contaminant] / [Comparison Value for Contaminant])
100 > CHF >2	M (Medium)	
2 > CHF	L (Low)	

CONTAMINANT HAZARD FACTOR	Directions: Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

Directions: Annotate the value that corresponds most closely to the groundwater migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the groundwater is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in groundwater has moved only slightly beyond the source (i.e. tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the groundwater to a potential point of exposure (possibly due to geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	Directions: Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

Directions: Annotate the value that corresponds most closely to the groundwater receptors at the MRS.

Classification	Description	Value
Identified	There is a threatened water supply well downgradient of the source and the groundwater is a current source of drinking water or source of water for other beneficial uses such as irrigation/agriculture (equivalent to Class I or IIA aquifer).	H
Potential	There is no threatened water supply well downgradient of the source and the groundwater is currently or potentially usable for drinking water, irrigation, or agriculture (equivalent to Class I, IIA, or IIB aquifer).	M
Limited	There is no potentially threatened water supply well downgradient of the source and the groundwater is not considered a potential source of drinking water and is of limited beneficial use (equivalent to Class IIIA or IIIB aquifer, or where perched aquifer exists only).	L

RECEPTOR FACTOR	Directions: Record **the single highest value** from above in the box to the right (maximum value = H).	
	Place an "X" in the box to the right if there is no known or suspected Groundwater MC Hazard	**X**

Table 22

HHE Module: Surface Water - Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

Directions: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B, Relative Risk Site Evaluation (RRSE) Primer, Summer 1997 - Revised) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant [CAS No.]	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
		Total from Table 27	
CHF Scale	**CHF Value**	**Sum the Ratios**	
CHF > 100	**H (High)**		
100 > CHF >2	**M (Medium)**	**CHF = ∑ ([Max Conc of Contaminant] / [Comparison Value for Contaminant])**	
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	Directions: Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

Directions: Annotate the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e. tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	Directions: Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

Directions: Annotate the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L
RECEPTOR FACTOR	Directions: Record **the single highest value** from above in the box to the right (maximum value = H).	

Place an "X" in the box to the right if there is no known or suspected Surface Water (Human Endpoint) MC Hazard	**X**

Table 23

HHE Module: Sediment - Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

Directions: Record the **maximum concentrations** of all contaminants in the site's sediment and their **comparison values** (from Appendix B, Relative Risk Site Evaluation (RRSE) Primer, Summer 1997 - Revised) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the sediment, select the box at the bottom of the table.

Note: N/A

Contaminant [CAS No.]	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
Lead (7439-92-1)	40.40	400.00	0
		Total from Table 27	
CHF Scale	**CHF Value**	**Sum the Ratios**	0
CHF > 100	**H (High)**	**CHF = ∑ ([Max Conc of Contaminant] / [Comparison Value for Contaminant])**	
100 > CHF >2	**M (Medium)**		
2 > CHF	**L (Low)**		

CONTAMINANT HAZARD FACTOR	Directions: Record **the CHF Value** from above in the box to the right (maximum value = H).	**L**

Migratory Pathway Factor

Directions: Annotate the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e. tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	Directions: Record **the single highest value** from above in the box to the right (maximum value = H).	**M**

Receptor Factor

Directions: Annotate the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L

RECEPTOR FACTOR	Directions: Record **the single highest value** from above in the box to the right (maximum value = H).	**M**
Place an "X" in the box to the right if there is no known or suspected Sediment (Human Endpoint) MC Hazard		

Table 24

HHE Module: Surface Water - Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

Directions: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B, Relative Risk Site Evaluation (RRSE) Primer, Summer 1997 - Revised) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the surface water, select the box at the bottom of the table.

Note: Use either dissolved or total metals analyses.

Contaminant [CAS No.]	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
		Total from Table 27	
CHF Scale	**CHF Value**	**Sum the Ratios**	
CHF > 100	**H (High)**		
100 > CHF >2	**M (Medium)**	**CHF = ∑ ([Max Conc of Contaminant] / [Comparison Value for Contaminant])**	
2 > CHF	**L (Low)**		

CONTAMINANT HAZARD FACTOR	Directions: Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

Directions: Annotate the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e. tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	Directions: Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

Directions: Annotate the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L

RECEPTOR FACTOR	Directions: Record **the single highest value** from above in the box to the right (maximum value = H).	

Place an "X" in the box to the right if there is no known or suspected Surface Water (Ecological Endpoint) MC Hazard	**X**

Table 25

HHE Module: Sediment - Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

Directions: Record the **maximum concentrations** of all contaminants in the MRS's sediment and their **comparison values** (from Appendix B, Relative Risk Site Evaluation (RRSE) Primer, Summer 1997 - Revised) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the sediment, select the box at the bottom of the table.

Note: N/A

Contaminant [CAS No.]	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
Lead (7439-92-1)	40.40	31.00	1
		Total from Table 27	
		Sum the Ratios	1

CHF Scale	CHF Value
CHF > 100	H (High)
100 > CHF >2	M (Medium)
2 > CHF	L (Low)

CHF = ∑ ([Max Conc of Contaminant] / [Comparison Value for Contaminant])

CONTAMINANT HAZARD FACTOR	Directions: Record **the CHF Value** from above in the box to the right (maximum value = H).	**L**

Migratory Pathway Factor

Directions: Annotate the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e. tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	Directions: Record **the single highest value** from above in the box to the right (maximum value = H).	**M**

Receptor Factor

Directions: Annotate the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L

RECEPTOR FACTOR	Directions: Record **the single highest value** from above in the box to the right (maximum value = H).	**M**

Place an "X" in the box to the right if there is no known or suspected Sediment (Ecological Endpoint) MC Hazard	

Table 26

HHE Module: Surface Soil - Data Element Table

Contaminant Hazard Factor (CHF)

Directions: Record the **maximum concentrations** of all contaminants in the MRS's surface soil and their **comparison values** (from Appendix B, Relative Risk Site Evaluation (RRSE) Primer, Summer 1997 - Revised) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the surface soil, select the box at the bottom of the table.

Note: N/A

Contaminant [CAS No.]	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
		Total from Table 27	
CHF Scale	**CHF Value**	**Sum the Ratios**	
CHF > 100	**H (High)**	**CHF = ∑ ([Max Conc of Contaminant] / [Comparison Value for Contaminant])**	
100 > CHF >2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	Directions: Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

Directions: Annotate the value that corresponds most closely to the surface soil migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface soil is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface soil has moved only slightly beyond the source (i.e. tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface soil to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	Directions: Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

Directions: Annotate the value that corresponds most closely to the surface soil receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface soil to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface soil to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface soil to which contamination has moved or can move.	L
RECEPTOR FACTOR	Directions: Record **the single highest value** from above in the box to the right (maximum value = H).	
Place an "X" in the box to the right if there is no known or suspected Surface Soil MC Hazard		**X**

Table 27

HHE Module: Supplemental Contaminant Hazard Factor Table

Contaminant Hazard Factor (CHF)

Directions: **Only use this table if there are more than five contaminants present at the MRS.** This is a supplemental table designed to hold information about contaminants that do not fit in the previous tables. Indicate the **media** in which these contaminants are present. Then record all **contaminants**, their **maximum concentrations** and their **comparison values** (from Appendix B, Relative Risk Site Evaluation (RRSE) Primer, Summer 1997 - Revised) in the table below. Calculate and record the **ratio** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** for each medium on the appropriate media-specific tables.

Note: For human exposures to groundwater and surface water, use dissolved, rather than total, metals analyses when both are available. Remember not to add ratios from different media.

Media	Contaminant [CAS No.]	Maximum Concentration	Units	Comparison Value	Units	Ratios
Surface soil			mg/kg		mg/kg	
Surface soil			mg/kg		mg/kg	
Surface soil			mg/kg		mg/kg	
Surface soil			mg/kg		mg/kg	
Surface soil			mg/kg		mg/kg	
Surface soil			mg/kg		mg/kg	
Surface soil			mg/kg		mg/kg	
Surface soil			mg/kg		mg/kg	
Surface soil			mg/kg		mg/kg	
Surface soil			mg/kg		mg/kg	
Surface soil			mg/kg		mg/kg	
Surface soil			mg/kg		mg/kg	
Surface soil			mg/kg		mg/kg	
					SUBTOTAL FOR SURFACE SOIL	**0**
Sediment			mg/kg		mg/kg	
Sediment			mg/kg		mg/kg	
Sediment			mg/kg		mg/kg	
Sediment			mg/kg		mg/kg	
Sediment			mg/kg		mg/kg	
Sediment			mg/kg		mg/kg	
Sediment			mg/kg		mg/kg	
Sediment			mg/kg		mg/kg	
Sediment			mg/kg		mg/kg	
Sediment			mg/kg		mg/kg	
Sediment			mg/kg		mg/kg	
Sediment			mg/kg		mg/kg	
Sediment			mg/kg		mg/kg	
					SUBTOTAL FOR SEDIMENT	**0**
Surface water			µg/L		µg/L	
Surface water			µg/L		µg/L	
Surface water			µg/L		µg/L	
Surface water			µg/L		µg/L	
Surface water			µg/L		µg/L	
Surface water			µg/L		µg/L	
Surface water			µg/L		µg/L	
Surface water			µg/L		µg/L	
Surface water			µg/L		µg/L	
Surface water			µg/L		µg/L	
Surface water			µg/L		µg/L	
Surface water			µg/L		µg/L	
Surface water			µg/L		µg/L	
					SUBTOTAL FOR SURFACE WATER	**0**
Groundwater			µg/L		µg/L	
Groundwater			µg/L		µg/L	
Groundwater			µg/L		µg/L	
Groundwater			µg/L		µg/L	
Groundwater			µg/L		µg/L	
Groundwater			µg/L		µg/L	
Groundwater			µg/L		µg/L	
Groundwater			µg/L		µg/L	
Groundwater			µg/L		µg/L	
Groundwater			µg/L		µg/L	
Groundwater			µg/L		µg/L	
Groundwater			µg/L		µg/L	
Groundwater			µg/L		µg/L	
					SUBTOTAL FOR GROUNDWATER	**0**

Table 28

Determining the HHE Module Rating

DIRECTIONS:

1. Record the letter values (H, M, L) for the **Contaminant Hazard**, **Migration Pathway**, and **Receptor Factors** for the media (from Tables 21 - 26) in the corresponding boxes below.
2. Record the media's three-letter combinations in the **Three-Letter-Combination** boxes below (three-letter combinations are arranged from Hs to Ms to Ls).
3. Using the reference provided below, determine each medium's rating (A - G) and record the letter in the corresponding **Media Rating** box below.

Medium (Source)	Contaminant Hazard Factor Value	Migratory Pathway Factor Value	Receptor Factor Value	Three-Letter Combination (Hs-Ms-Ls)	Media Rating (A - G)
Table 21 - Groundwater					
Table 22 - Surface Water (Human Endpoint)					
Table 23 - Sediment (Human Endpoint)	L	M	M	MML	E
Table 24 - Surface Water (Ecological Endpoint)					
Table 25 - Sediment (Ecological Endpoint)	L	M	M	MML	E
Table 26 - Surface Soil					
			HHE MODULE RATING		**E**

DIRECTIONS (Continued):

4. Select the single highest **Media Rating** (A is the highest; G is the lowest) and enter the letter in the **HHE Module Rating** box below.

HHE Ratings (for reference only)	
HHH	A
HHM	B
HHL	C
HMM	
HML	D
MMM	
HLL	E
MML	
MLL	F
LLL	G

NOTE: An alternative module rating may be assigned when a module letter rating is used when more information is needed to score one or more media, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

Alternative Module Ratings	
	Evaluation Pending
	No Longer Required
	No Known or Suspected MC Hazard

Table 29

MRS Priority

DIRECTIONS: In the chart below, enter the letter **rating** for each module recorded in Table 10 (EHE), Table 20 (CHE), and Table 28 (HHE). Enter the corresponding numerical **priority** for each module. If information to determine the module rating is not available, choose the appropriate alternative module rating. The MRS priority is the single highest priority; record this number in the **MRS or Alternative Priority** box at the bottom of the table.

NOTE: An MRS assigned Priority 1 has the highest relative priority; an MRS assigned Priority 8 has the lowest relative priority. Only an MRS with CWM known or suspected to be present can be assigned Priority 1; an MRS that has CWM known or suspected to be present cannot be assigned Priority 8.

EHE Rating	Priority	CHE Rating	Priority	HHE Rating	Priority
		A	1		
A	2	B	2	A	2
B	3	C	3	B	3
C	4	D	4	C	4
D	5	E	5	D	5
E	6	F	6	E	6
F	7	G	7	F	7
G	8			G	8
Evaluation Pending		Evaluation Pending		Evaluation Pending	
No Longer Required		No Longer Required		No Longer Required	
No Known or Suspected Explosive Hazard		No Known or Suspected CWM Hazard		No Known or Suspected MC Hazard	

Reference Table 10:		Reference Table 20:		Reference Table 28:	
EHE Module Rating	Priority	CHE Module Rating	Priority	HHE Module Rating	Priority
D	5	No Known or Suspected CWM Hazard	No Known or Suspected CWM Hazard	E	6

MRS or Alternative Priority	5

Table A

MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from DoD databases, such as RMIS. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the MRS summary, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non-munitions related contaminants found at the MRS (e.g., benzene, trichloroethylene), and any potentially exposed human and ecological receptors. Include a map of the MRS, if one is available.

Munitions Response Site (MRS) Name:	**MRS No. 2 - Rocket Range**
Component:	US Army
Installation/Property Name:	**Fort Flagler Military Reservation**
Location (City, County, State):	Jefferson County, Washington
UTM Coordinates (NAD83):	N 5326746, E 5210086
Site Name (RMIS ID):	F10WA031602R02
Project Name (Project No.):	Formerly Used Defense Sites, Military Munitions Response Program Site Inspections at Multiple Sites (116188)
Date Information Entered/Updated:	26-Jun-2007
Point of Contact (Name/Phone):	Mike Nelson, USACE Seattle District, 206.764.3458

Project Phase ("X" only one):									
		PA	**X**	**SI**		**RI**		**FS**		**RD**
		RA-C		**RIP**		**RA-O**		**RC**		**LTM**

Media Evaluated ("X" all that apply):				
		Groundwater (human receptor)	**X**	**Sediment (human receptor)**
	X	**Surface soil (human receptor)**		**Surface water (ecological receptor)**
	X	**Sediment (ecological receptor)**		**Surface water (human receptor)**

MRS Summary

MRS Description: Describe the munitions-related activities that occurred at the installation, the dates of operation, and the UXO, DMM (by type of munition, if known) or munitions constituents (by type, if known) known or suspected to be present):

Fort Flagler Military Reservation was operational between 1899 and 1953. Used between 1899-1945 as a coastal artillery battery protecting the entrance to Puget Sound. Between 1942-1953 Ft. Flagler was used for training of troops for amphibious assault. The MRS located in northwest portion of FUDS, portions of the area are very heavily forested with dense underbrush. Firing was done from the beach area into forested area. Munitions used included 2.36-inch and 3.5-inch rockets, and small arms (2007 SI Report, Section 9.1). A TCRA completed in 1992 to locate 4 unaccounted for 2.36-inch rockets with live warheads. Three of the rockets were recovered and distroyed. Two of three areas within the removal action received 100% clearance. A third area could not be cleared due to very heavy timber and underbrush growth. Within the area receiving a limited clearance, the three 2.36-inch rockets with live warheads were found. Also recoverd during TCRA were expended rocket motors, training grenades, inert anti-tank/anti-vehicle mines, and .30 claiber casings (2007 SI Report, Section 9.2). A 1000-inch Machine Gun Area was also reported as present in the area. MC includes metals and explosives. No metals detected above SI background concentrations, no explosives detected (2007, SI Report, Section 9.4).

Description of Pathways for Human and Ecological Receptors:

Pathways evaluated include surface soil, and sediment. Exposure would be through ingestion or inhalation.

Description of Receptors (Human and Ecological):

Receptors in the area of the Rocket Range would be park workers, campers and visitors, nearby residents, and wildlife.

Table 1
EHE Module: Munitions Type Data Element Table

Directions: Below are eleven classifications of munitions and their descriptions. Annotate the score(s) that correspond with **all** munitions types known or suspected to be present at the MRS.

Note: The terms *practice munitions* , *small arms* , *physical evidence* , and *historical evidence* are defined in Appendix C of the MRSPP Primer (Draft, Dec 2005).

Classification	Description	Possible Score	Score
Sensitive	All UXO that are considered likely to function upon any interaction with exposed persons [e.g., submunitions, 40mm high-explosive (HE) grenades, white phosphorous (WP) munitions, high-explosive antitank (HEAT) munitions, and practice munitions with sensitive fuzes, but excluding all other practice munitions].	30	30
	All hand grenades containing energetic filler.		
	Bulk primary explosives, or mixtures of these with environmental media, such that the mixture poses an explosive hazard.		
High explosive (used or damaged)	All UXO containing a high-explosive filler (e.g., RDX, Composition B), that are not considered "sensitive."	25	
	All DMM containing a high-explosive filler that have been damaged by burning or detonation, or deteriorated to the point of instability.		
Pyrotechnic (used or damaged)	All UXO containing pyrotechnic fillers other than white phosphorous (e.g., flares, signals, simulators, smoke grenades).	20	
	All DMM containing pyrotechnic fillers other than white phosphorous (e.g., flares, signals, simulators, smoke grenades) that have been damaged by burning or detonation, or deteriorated to the point of instability.		
High explosive (unused)	All DMM containing a high-explosive filler that have not been damaged by burning or detonation, or are not deteriorated to the point of instability.	15	
Propellant	All UXO containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor).	15	15
	All DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor) that are damaged by burning or detonation, or deteriorated to the point of instability.		
Bulk secondary high explosives, pyrotechnics, or propellant	All DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor), that are deteriorated.	10	
	Bulk secondary high explosives, pyrotechnic compositions, or propellant (not contained in a munition), or mixtures of these with environmental media such that the mixture poses an explosive hazard.		
Pyrotechnic (not used or damaged)	All DMM containing a pyrotechnic filler (i.e. red phosphorous), other than white phosphorous filler, that have not been damaged by burning or detonation, or are not deteriorated to the point of instability.	10	
Practice	All UXO that are practice munitions that are not associated with a sensitive fuze.	5	5
	All DMM that are practice munitions that are not associated with a sensitive fuze and that have not been damaged by burning or detonation, or are not deteriorated to the point of instability.		
Riot control	All UXO or DMM containing a riot control agent filler (e.g., tear gas).	3	
Small arms	All used munitions or DMM that are categorized as small arms ammunition [Physical evidence or historical evidence that no other types of munitions (e.g., grenades, subcaliber training rockets, demolition charges) were used or are present on the MRS is required for selection of this category.].	2	2
Evidence of no munitions	Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0	
MUNITIONS TYPE	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).		**30**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Munitions Type*** classifications in the space below.

Recovered during TCRA were three 2.36-inch rockets with live warheads, expended 2.36-inch and 3.5-inch expended rocket motors, 2.36-inch rockets motors with live fuze, 1 live training hand grenade, 1 bangalore torpedo fuze housing (inert), anti-tank/anti-vehicle mines (inert), empty .30 caliber casings (2007 SI Report, Section 9.3).

Table 2

EHE Module: Source of Hazard Data Element Table

Directions: Below are eleven classifications describing sources of explosive hazards. Annotate the score(s) that correspond with **all** sources of explosive hazards known or suspected to be present at the MRS.

Note: The terms *former range* , *practice munitions* , *small arms* , *physical evidence* , and *historical evidence* are defined in Appendix C of the MRSPP Primer (Draft, Dec 2005).

Classification	Description	Possible Score	Score
Former range	The MRS is a former military range where munitions (including practice munitions with sensitive fuzes) have been used. Such areas include: impact or target areas, associated buffer and safety zones, firing points, and live-fire maneuver areas.	10	10
Former munitions treatment (i.e. OB/OD) unit	The MRS is a location where UXO or DMM (e.g., munitions, bulk explosives, bulk pyrotechnic, or bulk propellants) were burned or detonated for the purpose of treatment prior to disposal.	8	
Former practice munitions range	The MRS is a former military range on which only practice munitions without sensitive fuzes were used.	6	
Former maneuver area	The MRS is a former maneuver area where no munitions other than flares, simulators, smokes, and blanks were used. There must be evidence that no other munitions were used at the location to place an MRS into this category.	5	
Former burial pit or other disposal area	The MRS is a location where DMM were buried or disposed of (e.g., disposed of into a water body) without prior thermal treatment.	5	
Former industrial operating facilities	The MRS is a location that is a former munitions maintenance, manufacturing, or demilitarization facility.	4	
Former firing points	The MRS is a firing point, where the firing point is delineated as an MRS separate from the rest of a former military range.	4	
Former missile or air defense artillery emplacements	The MRS is a former missile defense or air defense artillery (ADA) emplacement not associated with a military range.	2	
Former storage or transfer points	The MRS is a location where munitions were stored or handled for transfer between different modes of transportation (e.g., rail to truck, truck to weapon system).	2	
Former small arms range	The MRS is a former military range where only small arms ammunition was used [There must be evidence that no other types of munitions (e.g., grenades) were used or are present to place an MRS iinto this category.].	1	
Evidence of no munitions	Following investigation of the MRS, there is physical evidence that no UXO or DMM are present, or there is historical evidence indicating that no UXO or DMM are present.	0	
SOURCE OF HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).		**10**

DIRECTIONS: Document any MRS-specific data used in selecting the **Source of Hazard** classifications in the space below.

This MRS is a amphibious assualt training range using live munitions (2007 SI Report, Sections 9.1 and 9.3).

Table 3
EHE Module: Location of Munitions Data Element Table

Directions: Below are eight classifications of munitions locations and their descriptions. Annotate the score(s) that correspond with **all** locations where munitions are located or suspected of being found at the MRS.

Note: The terms *surface* , *subsurface* , *physical evidence* , and *historical evidence* are defined in Appendix C of the MRSPP Primer (Draft, Dec 2005).

Classification	Description	Possible Score	Score
Confirmed surface	Physical evidence indicates that there are UXO or DMM on the surface of the MRS. Historical evidence (e.g., a confirmed incident report or accident report) indicates there are UXO or DMM on the surface of the MRS.	25	25
Confirmed subsurface, active	Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS, and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost, heat heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM. Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost, heat heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM.	20	20
Confirmed subsurface, stable	Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS, and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed. Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS, and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed.	15	
Suspected (physical evidence)	There is physical evidence (e.g., munitions debris, such fragments, penetrators, projectiles, shell casings, links, fins), other than the documented presence of UXO or DMM, indicating that UXO or DMM may be present at the MRS.	10	10
Suspected (historical evidence)	There is historical evidence indicating that UXO or DMM may be present at the MRS.	5	
Subsurface, physical constraint	There is physical or historical evidence indicating that UXO or DMM may be present in the subsurface, but there is a physical constraint (e.g., pavement, water depth over 120 feet) preventing direct access to the UXO or DMM.	2	
Small arms (regardless of location)	The presence of small arms ammunition is confirmed or suspected, regardless of other factors such as geological stability [There must be evidence that no other types of munitions (e.g., grenades) were used or are present at the MRS to place an MRS into this category.]	1	1
Evidence of no munitions	Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0	
LOCATION OF MUNITIONS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 25).		**25**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Location of Munitions*** classifications in the space below.

There may be UXO present within the Phase 3 area of the TCRA. The area did not receive a 100 percent clearance due to heavy vegetation. The Phase 3 area is where three 2.36-inch rockets with live warheads were found. There were originally 4 unaccounted rockets with live warheads. (2007 SI Report, Section 9.2). Potential for MEC in subsurface based on TCRA results. Small arms rounds (.30 caliber) were recovered during TCRA.(2007 SI Report, Section 9.2).

Table 4
EHE Module: Ease of Access Data Element Table

Directions: Below are four classifications of barrier types that can surround an MRS and their descriptions. The barrier type is directly related to the ease of public access to any explosive materiel. Annotate the score that corresponds with the ease of access to the MRS.

Note: The term *barrier* is defined in Appendix C of the MRSPP Primer (Draft, Dec 2005).

Classification	Description	Possible Score	Score
No barrier	There is no barrier preventing access to any part of the MRS (i.e. all parts of the MRS are accessible).	10	10
Barrier to MRS access is incomplete	There is a barrier preventing access to parts of the MRS, but not the entire MRS.	8	
Barrier to MRS access is complete but not monitored	There is a barrier preventing access to all parts of the MRS, but there is no surveillance (e.g., by a guard) to ensure that the barrier is effectively preventing access to all parts of the MRS.	5	
Barrier to MRS access is complete and monitored	There is a barrier preventing access to all parts of the MRS, and there is active, continual surveillance (e.g., by a guard, video monitoring) to ensure that the barrier is effectively preventing access to all parts of the MRS.	0	
EASE OF ACCESS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).		**10**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Ease of Access*** classification in the space below.

The entilre Fort Flagler is a State Park with unlimited access to all parts of the park (2007 SI report, Section 2.3).

Table 5
EHE Module: Status of Property Data Element Table

Directions: Below are three classifications of the status of a property within the Department of Defense (DoD) and their descriptions. Annotate the score that corresponds with the status of property at the MRS.

Note: N/A

Classification	Description	Possible Score	Score
Non-DoD control	The MRS is at a location that is no longer owned by, leased to, or otherwise possessed or used by DoD. Examples are privately owned land or water bodies; land or water bodies owned or controlled by state, tribal, or local governments; and land or water bodies managed by other federal agencies.	5	5
Scheduled for transfer from DoD control	The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD, and DoD plans to transfer that land or water body to the control of another entity (e.g., a state, tribal, or local government; a private party; another federal agency) within 3 years from the date the rule is applied.	3	
DoD control	The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD. With respect to property that is leased or otherwise possessed, DoD must control access to the MRS 24 hours per day, every day of the calendar year.	0	
STATUS OF PROPERTY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).		**5**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Status of Property*** classification in the space below.

The Range Complex is located on Washington State Parks owned land. The land is used as a state park (2007 SI report, Section 2.3).

Table 6
EHE Module: Population Density Data Element Table

Directions: Below are three classifications of population density and their descriptions. Determine the population density per square mile in the vicinity of the MRS and annotate the score that corresponds with the associated population density.

Note: If an MRS is located in more than one county, use the largest population density value among the counties. If the MRS is within or borders a city or town, use the population density for the city or town, rather than that of the county.

Classification	Description	Possible Score	Score
> 500 persons per square mile	There are more than 500 persons per square mile in the county in which the MRS is located, based on US Census Bureau data.	5	
100 - 500 persons per square mile	There are 100 to 500 persons per square mile in the county in which the MRS is located, based on US Census Bureau data.	3	
< 100 persons per square mile	There are fewer than 100 persons per square mile in the county in which the MRS is located, based on US Census Bureau data.	1	1
POPULATION DENSITY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).		**1**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Population Density*** classification in the space below.

The 2005 Census data, indicates that the population density for Jefferson County is 15.4 people per square mile (2007 SI Report, Section 2.4.3).

Table 7
EHE Module: Population Near Hazard Data Element Table

Directions: Below are six classifications describing the number of inhabited structures near the MRS. The number of inhabited buildings relates to the population near the hazard. Determine the number of inhabited structures within two miles of the MRS boundary and annotate the score that corresponds with the associated population near the known or suspected hazard.

Note: The term *inhabited structures* is defined in Appendix C of the MRSPP Primer (Draft, Dec 2005).

Classification	Description	Possible Score	Score
26 or more inhabited structures	There are 26 or more inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	5	5
16 to 25 inhabited structures	There are 16 to 25 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	4	
11 to 15 inhabited structures	There are 11 to 15 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	3	
6 to 10 inhabited structures	There are 6 to 10 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	2	
1 to 5 inhabited structures	There are 1 to 5 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	1	
0 inhabited structures	There are no inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	0	
POPULATION NEAR HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).		**5**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Population Near Hazard*** classification in the space below.

The 2005 Census data indicate that there are 212 households within a 2-mile radius of the site and 280 housing units (2007 SI Report, Section 2.4.3). A campground is also present within the MRS.

Table 8

EHE Module: Types of Activities/Structures Data Element Table

Directions: Below are five classifications of activities and/or inhabited structures near the hazard and their descriptions. Review the types of activities that occur and/or structures that are present within two miles of the MRS and annotate the score(s) that correspond with **all** the activities/structure classifications at the MRS.

Note: The term *inhabited structures* is defined in Appendix C of the MRSPP Primer (Draft, Dec 2005).

Classification	Description	Possible Score	Score
Residential, educational, commercial, or subsistence	Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with any of the following purposes: residential, educational, child care, critical assets (e.g., hospitals, fire and rescue, police stations, dams), hotels, commercial, shopping centers, playgrounds, community gathering areas, religious sites, or sites used for subsistence hunting, fishing, and gathering.	5	5
Parks and recreational areas	Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with parks, nature preserves, or other recreational uses.	4	4
Agricultural, forestry	Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with agriculture or forestry.	3	
Industrial or warehousing	Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with industrial activities or warehousing.	2	
No known or recurring activities	There are no known or recurring activities occurring up to two miles from the MRS's boundary or within the MRS's boundary.	1	
TYPES OF ACTIVITIES/STRUCTURES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).		**5**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Types of Activities/Structures*** classifications in the space below.

Residential areas are located adjacent to Ft. Flagler and Range Complex. There are no kown educational, child care, critical assets, hotels,etc within a 2-mile radius. Ft Flagler is a state park. (2007 SI Report, Figure 2-7).

Table 9

EHE Module: Ecological and/or Cultural Resources Data Element Table

Directions: Below are four classifications of ecological and/or cultural resources and their descriptions. Review the types of resources present and annotate the score that corresponds with the ecological and/or cultural resource classifications at the MRS.

Note: The terms *ecological resources* and *cultural resources* are defined in Appendix C of the MRSPP Primer (Draft, Dec 2005).

Classification	Description	Possible Score	Score
Ecological and cultural resources present	There are both ecological and cultural resources present on the MRS.	5	5
Ecological resources present	There are ecological resources present on the MRS.	3	3
Cultural resources present	There are cultural resources present on the MRS.	3	3
No ecological or cultural resources present	There are no ecological resources or cultural resources present on the MRS.	0	
ECOLOGICAL AND/OR CULTURAL RESOURCES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).		**5**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Ecological and/or Cultural Resources*** classification in the space below.

There are no known archeological sites located within Ft Flagler. Ft Flagler is considered a historical site by Washington State. The park contains sensitive beach habitats for protected species (2007 SI Report, Section 3.2.2).

Table 10

Determining the EHE Module Rating

DIRECTIONS:

1. From Tables 01 - 09, record the data element scores in the **Score** boxes to the right.

2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.

3. Add the three **Value** boxes and record this number in the **EHE Module Total** box below.

4. Identify the appropriate range for the **EHE Module Total** at right.

5. Identify the **EHE Module Rating** that corresponds to the range selected and record this rating in the **EHE Module Rating** box at the lower right corner of this table.

NOTE: An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
Explosive Hazard Factor Data Elements			
Munitions Type	Table 01	30	40
Source of Hazard	Table 02	10	
Accessibility Factor Data Elements			
Location of Munitions	Table 03	25	40
Ease of Access	Table 04	10	
Status of Property	Table 05	5	
Receptor Factor Data Elements			
Population Density	Table 06	1	16
Population Near Hazard	Table 07	5	
Types of Activities/Structures	Table 08	5	
Ecological and/or Cultural Resources	Table 09	5	
EHE MODULE TOTAL			**96**

EHE Module Total	EHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected Explosive Hazard
EHE MODULE RATING	**A**

Table 11

CHE Module: CWM Configuration Data Element Table

Directions: Below are seven classifications of CWM configuration and their descriptions. Annotate the score(s) that correspond to **all** CWM configurations known or suspected to be present at the MRS.

Note: The terms *CWM/UXO*, *CWM/DMM*, *physical evidence*, and *historical evidence* are defined in Appendix C of the MRSPP Primer (Draft, Dec 2005).

Classification	Description	Possible Score	Score
CWM, explosive configuration either UXO or damaged DMM	The CWM known or suspected of being present at the MRS is (a) explosively configured CWM that are UXO (i.e. CWM/UXO), or (b) explosively configured CWM that are DMM (i.e. CWM/DMM) that have been damaged.	30	
CWM mixed with UXO	The CWM known or suspected of being present at the MRS are explosively configured CWM/DMM that have not been damaged, or nonexplosively configured CWM/DMM, or CWM not configured as a munition, that are commingled with conventional munitions that are UXO.	25	
CWM, explosive configuration that are undamaged DMM	The CWM known or suspected of being present at the MRS are explosively configured CWM/DMM that have not been damaged.	20	
CWM, not explosively configured or CWM, bulk container	The CWM known or suspected of being present at the MRS is (a) nonexplosively configured CWM/DMM, or (b) bulk CWM/DMM (e.g., ton container).	15	
CAIS K941 and CAIS K942	The CWM/DMM known or suspected of being present at the MRS is CAIS K941(toxic gas set M-1) or CAIS K942 (toxic gas set M-2/E11).	12	
CAIS (chemical agent identification sets)	Only CAIS, other than CAIS K941 and K942, are known or suspected of being present at the MRS.	10	
Evidence of no CWM	Following investigation, the physical evidence indicates that CWM are not present at the MRS, or the historical evidence indicates that CWM are not present at the MRS.	0	0
CWM CONFIGURATION	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).		**0**

DIRECTIONS: Document any MRS-specific data used in selecting the ***CWM Configuration*** classifications in the space below.

The gas Chamber sub range only reported the use of riot control gas CN-1 (Section 8.4 and Table 2-1).

Table 20

Determining the CHE Module Rating

DIRECTIONS:

1. From Tables 11 - 19, record the data element scores in the **Score** boxes to the right.

2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.

3. Add the three **Value** boxes and record this number in the **CHE Module Total** box below.

	Source	Score	Value
CWM Hazard Factor Data Elements			
CWM Configuration	Table 11	0	0
Sources of CWM	Table 12	0	
Accessibility Factor Data Elements			
Location of CWM	Table 13	0	0
Ease of Access	Table 14	0	
Status of Property	Table 15	0	
Receptor Factor Data Elements			
Population Density	Table 16	0	0
Population Near Hazard	Table 17	0	
Types of Activities/Structures	Table 18	0	
Ecological and/or Cultural Resources	Table 19	0	
		CHE MODULE TOTAL	**0**

4. Identify the appropriate range for the **CHE Module Total** at right.

5. Identify the **CHE Module Rating** that corresponds to the range selected and record this rating in the **CHE Module Rating** box at the lower right corner of this table.

NOTE: An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

CHE Module Total	CHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected CWM Hazard
CHE MODULE RATING	**No Known or Suspected CWM Hazard**

Table 21

HHE Module: Groundwater Data Element Table

Contaminant Hazard Factor (CHF)

Directions: Record the **maximum concentrations** of all contaminants in the MRS's groundwater and their **comparison values** (from Appendix B, Relative Risk Site Evaluation (RRSE) Primer, Summer 1997 - Revised) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the groundwater, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant [CAS No.]	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
		Total from Table 27	
		Sum the Ratios	

CHF Scale	CHF Value
CHF > 100	H (High)
100 > CHF >2	M (Medium)
2 > CHF	L (Low)

$CHF = \sum$ ([Max Conc of Contaminant] / [Comparison Value for Contaminant])

CONTAMINANT HAZARD FACTOR	Directions: Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

Directions: Annotate the value that corresponds most closely to the groundwater migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the groundwater is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in groundwater has moved only slightly beyond the source (i.e. tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the groundwater to a potential point of exposure (possibly due to geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	Directions: Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

Directions: Annotate the value that corresponds most closely to the groundwater receptors at the MRS.

Classification	Description	Value
Identified	There is a threatened water supply well downgradient of the source and the groundwater is a current source of drinking water or source of water for other beneficial uses such as irrigation/agriculture (equivalent to Class I or IIA aquifer).	H
Potential	There is no threatened water supply well downgradient of the source and the groundwater is currently or potentially usable for drinking water, irrigation, or agriculture (equivalent to Class I, IIA, or IIB aquifer).	M
Limited	There is no potentially threatened water supply well downgradient of the source and the groundwater is not considered a potential source of drinking water and is of limited beneficial use (equivalent to Class IIIA or IIIB aquifer, or where perched aquifer exists only).	L
RECEPTOR FACTOR	Directions: Record **the single highest value** from above in the box to the right (maximum value = H).	

Place an "X" in the box to the right if there is no known or suspected Groundwater MC Hazard	**X**

Table 22

HHE Module: Surface Water - Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

Directions: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B, Relative Risk Site Evaluation (RRSE) Primer, Summer 1997 - Revised) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant [CAS No.]	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
		Total from Table 27	
CHF Scale	**CHF Value**	**Sum the Ratios**	
CHF > 100	**H (High)**		
100 > CHF >2	**M (Medium)**	**CHF = ∑ ([Max Conc of Contaminant] / [Comparison Value for Contaminant])**	
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	Directions: Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

Directions: Annotate the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e. tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	Directions: Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

Directions: Annotate the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L
RECEPTOR FACTOR	Directions: Record **the single highest value** from above in the box to the right (maximum value = H).	

Place an "X" in the box to the right if there is no known or suspected Surface Water (Human Endpoint) MC Hazard	**X**

Table 23

HHE Module: Sediment - Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

Directions: Record the **maximum concentrations** of all contaminants in the site's sediment and their **comparison values** (from Appendix B, Relative Risk Site Evaluation (RRSE) Primer, Summer 1997 - Revised) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the sediment, select the box at the bottom of the table.

Note: N/A

Contaminant [CAS No.]	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
		Total from Table 27	
CHF Scale	**CHF Value**	**Sum the Ratios**	
CHF > 100	**H (High)**	**CHF = ∑ ([Max Conc of Contaminant] / [Comparison Value for Contaminant])**	
100 > CHF >2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	Directions: Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

Directions: Annotate the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e. tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	Directions: Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

Directions: Annotate the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L
RECEPTOR FACTOR	Directions: Record **the single highest value** from above in the box to the right (maximum value = H).	
Place an "X" in the box to the right if there is no known or suspected Sediment (Human Endpoint) MC Hazard		**X**

Table 24

HHE Module: Surface Water - Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

Directions: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B, Relative Risk Site Evaluation (RRSE) Primer, Summer 1997 - Revised) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the surface water, select the box at the bottom of the table.

Note: Use either dissolved or total metals analyses.

Contaminant [CAS No.]	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
		Total from Table 27	
		Sum the Ratios	

CHF Scale	CHF Value
CHF > 100	**H (High)**
100 > CHF >2	**M (Medium)**
2 > CHF	**L (Low)**

CHF = ∑ ([Max Conc of Contaminant] / [Comparison Value for Contaminant])

CONTAMINANT HAZARD FACTOR	Directions: Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

Directions: Annotate the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e. tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	Directions: Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

Directions: Annotate the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L
RECEPTOR FACTOR	Directions: Record **the single highest value** from above in the box to the right (maximum value = H).	

Place an "X" in the box to the right if there is no known or suspected Surface Water (Ecological Endpoint) MC Hazard	**X**

Table 25

HHE Module: Sediment - Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

Directions: Record the **maximum concentrations** of all contaminants in the MRS's sediment and their **comparison values** (from Appendix B, Relative Risk Site Evaluation (RRSE) Primer, Summer 1997 - Revised) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the sediment, select the box at the bottom of the table.

Note: N/A

Contaminant [CAS No.]	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
		Total from Table 27	
CHF Scale	**CHF Value**	**Sum the Ratios**	
CHF > 100	**H (High)**	**CHF = ∑ ([Max Conc of Contaminant] / [Comparison Value for Contaminant])**	
100 > CHF >2	**M (Medium)**		
2 > CHF	**L (Low)**		

CONTAMINANT HAZARD FACTOR	Directions: Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

Directions: Annotate the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e. tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	Directions: Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

Directions: Annotate the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L

RECEPTOR FACTOR	Directions: Record **the single highest value** from above in the box to the right (maximum value = H).	

Place an "X" in the box to the right if there is no known or suspected Sediment (Ecological Endpoint) MC Hazard	**X**

Table 26

HHE Module: Surface Soil - Data Element Table

Contaminant Hazard Factor (CHF)

Directions: Record the **maximum concentrations** of all contaminants in the MRS's surface soil and their **comparison values** (from Appendix B, Relative Risk Site Evaluation (RRSE) Primer, Summer 1997 - Revised) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the surface soil, select the box at the bottom of the table.

Note: N/A

Contaminant [CAS No.]	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
		Total from Table 27	
CHF Scale	**CHF Value**	**Sum the Ratios**	
CHF > 100	**H (High)**	**CHF = ∑ ([Max Conc of Contaminant] / [Comparison Value for Contaminant])**	
100 > CHF >2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	Directions: Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

Directions: Annotate the value that corresponds most closely to the surface soil migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface soil is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface soil has moved only slightly beyond the source (i.e. tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface soil to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	Directions: Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

Directions: Annotate the value that corresponds most closely to the surface soil receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface soil to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface soil to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface soil to which contamination has moved or can move.	L
RECEPTOR FACTOR	Directions: Record **the single highest value** from above in the box to the right (maximum value = H).	
Place an "X" in the box to the right if there is no known or suspected Surface Soil MC Hazard		**X**

Table 27

HHE Module: Supplemental Contaminant Hazard Factor Table

Contaminant Hazard Factor (CHF)

Directions: **Only use this table if there are more than five contaminants present at the MRS.** This is a supplemental table designed to hold information about contaminants that do not fit in the previous tables. Indicate the **media** in which these contaminants are present. Then record all **contaminants**, their **maximum concentrations** and their **comparison values** (from Appendix B, Relative Risk Site Evaluation (RRSE) Primer, Summer 1997 - Revised) in the table below. Calculate and record the **ratio** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** for each medium on the appropriate media-specific tables.

Note: For human exposures to groundwater and surface water, use dissolved, rather than total, metals analyses when both are available. Remember not to add ratios from different media.

Media	Contaminant [CAS No.]	Maximum Concentration	Units	Comparison Value	Units	Ratios
Surface soil			mg/kg		mg/kg	
Surface soil			mg/kg		mg/kg	
Surface soil			mg/kg		mg/kg	
Surface soil			mg/kg		mg/kg	
Surface soil			mg/kg		mg/kg	
Surface soil			mg/kg		mg/kg	
Surface soil			mg/kg		mg/kg	
Surface soil			mg/kg		mg/kg	
Surface soil			mg/kg		mg/kg	
Surface soil			mg/kg		mg/kg	
Surface soil			mg/kg		mg/kg	
Surface soil			mg/kg		mg/kg	
Surface soil			mg/kg		mg/kg	
					SUBTOTAL FOR SURFACE SOIL	0
Sediment			mg/kg		mg/kg	
Sediment			mg/kg		mg/kg	
Sediment			mg/kg		mg/kg	
Sediment			mg/kg		mg/kg	
Sediment			mg/kg		mg/kg	
Sediment			mg/kg		mg/kg	
Sediment			mg/kg		mg/kg	
Sediment			mg/kg		mg/kg	
Sediment			mg/kg		mg/kg	
Sediment			mg/kg		mg/kg	
Sediment			mg/kg		mg/kg	
Sediment			mg/kg		mg/kg	
Sediment			mg/kg		mg/kg	
					SUBTOTAL FOR SEDIMENT	0
Surface water			µg/L		µg/L	
Surface water			µg/L		µg/L	
Surface water			µg/L		µg/L	
Surface water			µg/L		µg/L	
Surface water			µg/L		µg/L	
Surface water			µg/L		µg/L	
Surface water			µg/L		µg/L	
Surface water			µg/L		µg/L	
Surface water			µg/L		µg/L	
Surface water			µg/L		µg/L	
Surface water			µg/L		µg/L	
Surface water			µg/L		µg/L	
Surface water			µg/L		µg/L	
					SUBTOTAL FOR SURFACE WATER	0
Groundwater			µg/L		µg/L	
Groundwater			µg/L		µg/L	
Groundwater			µg/L		µg/L	
Groundwater			µg/L		µg/L	
Groundwater			µg/L		µg/L	
Groundwater			µg/L		µg/L	
Groundwater			µg/L		µg/L	
Groundwater			µg/L		µg/L	
Groundwater			µg/L		µg/L	
Groundwater			µg/L		µg/L	
Groundwater			µg/L		µg/L	
Groundwater			µg/L		µg/L	
Groundwater			µg/L		µg/L	
					SUBTOTAL FOR GROUNDWATER	0

Table 28

Determining the HHE Module Rating

DIRECTIONS:

1. Record the letter values (H, M, L) for the **Contaminant Hazard**, **Migration Pathway**, and **Receptor Factors** for the media (from Tables 21 - 26) in the corresponding boxes below.
2. Record the media's three-letter combinations in the **Three-Letter-Combination** boxes below (three-letter combinations are arranged from Hs to Ms to Ls).
3. Using the reference provided below, determine each medium's rating (A - G) and record the letter in the corresponding **Media Rating** box below.

Medium (Source)	Contaminant Hazard Factor Value	Migratory Pathway Factor Value	Receptor Factor Value	Three-Letter Combination (Hs-Ms-Ls)	Media Rating (A - G)
Table 21 - Groundwater					
Table 22 - Surface Water (Human Endpoint)					
Table 23 - Sediment (Human Endpoint)					
Table 24 - Surface Water (Ecological Endpoint)					
Table 25 - Sediment (Ecological Endpoint)					
Table 26 - Surface Soil					
			HHE MODULE RATING		**No Known or Suspected MC Hazard**

DIRECTIONS (Continued):

4. Select the single highest **Media Rating** (A is the highest; G is the lowest) and enter the letter in the **HHE Module Rating** box below.

HHE Ratings (for reference only)	
HHH	A
HHM	B
HHL	C
HMM	
HML	D
MMM	
HLL	E
MML	
MLL	F
LLL	G

NOTE: An alternative module rating may be assigned when a module letter rating is used when more information is needed to score one or more media, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

Alternative Module Ratings	
	Evaluation Pending
	No Longer Required
	No Known or Suspected MC Hazard

Table 29

MRS Priority

DIRECTIONS: In the chart below, enter the letter **rating** for each module recorded in Table 10 (EHE), Table 20 (CHE), and Table 28 (HHE). Enter the corresponding numerical **priority** for each module. If information to determine the module rating is not available, choose the appropriate alternative module rating. The MRS priority is the single highest priority; record this number in the **MRS or Alternative Priority** box at the bottom of the table.

NOTE: An MRS assigned Priority 1 has the highest relative priority; an MRS assigned Priority 8 has the lowest relative priority. Only an MRS with CWM known or suspected to be present can be assigned Priority 1; an MRS that has CWM known or suspected to be present cannot be assigned Priority 8.

EHE Rating	Priority	CHE Rating	Priority	HHE Rating	Priority
		A	1		
A	2	B	2	A	2
B	3	C	3	B	3
C	4	D	4	C	4
D	5	E	5	D	5
E	6	F	6	E	6
F	7	G	7	F	7
G	8			G	8
Evaluation Pending		Evaluation Pending		Evaluation Pending	
No Longer Required		No Longer Required		No Longer Required	
No Known or Suspected Explosive Hazard		No Known or Suspected CWM Hazard		No Known or Suspected MC Hazard	

Reference Table 10:		Reference Table 20:		Reference Table 28:	
EHE Module Rating	Priority	CHE Module Rating	Priority	HHE Module Rating	Priority
A	2	No Known or Suspected CWM Hazard	No Known or Suspected CWM Hazard	No Known or Suspected MC Hazard	No Known or Suspected MC Hazard

MRS or Alternative Priority	2

Table A

MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from DoD databases, such as RMIS. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the MRS summary, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non-munitions related contaminants found at the MRS (e.g., benzene, trichloroethylene), and any potentially exposed human and ecological receptors. Include a map of the MRS, if one is available.

Munitions Response Site (MRS) Name:	**MRS No. 3 - Transition Range 2**
Component:	US Army
Installation/Property Name:	**Fort Flagler Military Reservation**
Location (City, County, State):	Jefferson County, Washington
UTM Coordinates (NAD83):	N 5326746, E 5210086
Site Name (RMIS ID):	F10WA031602R03
Project Name (Project No.):	Formerly Used Defense Sites, Military Munitions Response Program Site Inspections at Multiple Sites (116188)
Date Information Entered/Updated:	26-Jun-2007
Point of Contact (Name/Phone):	Mike Nelson, USACE Seattle District, 206.764.3458

Project Phase ("X" only one):									
		PA	**X**	**SI**		**RI**		**FS**		**RD**
		RA-C		**RIP**		**RA-O**		**RC**		**LTM**

Media Evaluated ("X" all that apply):				
		Groundwater (human receptor)	**X**	**Sediment (human receptor)**
	X	**Surface soil (human receptor)**		**Surface water (ecological receptor)**
	X	**Sediment (ecological receptor)**		**Surface water (human receptor)**

MRS Summary

MRS Description: Describe the munitions-related activities that occurred at the installation, the dates of operation, and the UXO, DMM (by type of munition, if known) or munitions constituents (by type, if known) known or suspected to be present):

Fort Flagler Military Reservation was operational between 1899 and 1953. Usage between 1899 and 1945 was as a coastal artillery battery protecting the entrance to Puget Sound in Washington State. Between 1942 and 1953 Ft. Flagler was also used for training of troops for amphibious assault. MRS No. 3 - Transition Range 2 was used for small arms training (2007 SI Report, Section 7.1). The INPR Supplement and ARC Range Inventory did not provide a location for the range. During the TPP meeting the location was provided by a War Department Map (2007 SI Report, Figure 3-1 and Appendix L). All use of the range was for small arms training (2007 SI Report, Section 7.3). MC for the MRS is lead. All sample results were below SI background values (2007 SI Report, Section 7.4).

Description of Pathways for Human and Ecological Receptors:

Pathways evaluated include surface soil, and sediment. Exposure would be through ingestion or inhalation.

Description of Receptors (Human and Ecological):

Receptors in the area of the Transition Range 2 would be park workers, campers and visitors, and wildlife.

Table 1
EHE Module: Munitions Type Data Element Table

Directions: Below are eleven classifications of munitions and their descriptions. Annotate the score(s) that correspond with **all** munitions types known or suspected to be present at the MRS.

Note: The terms *practice munitions* , *small arms* , *physical evidence* , and *historical evidence* are defined in Appendix C of the MRSPP Primer (Draft, Dec 2005).

Classification	Description	Possible Score	Score
Sensitive	All UXO that are considered likely to function upon any interaction with exposed persons [e.g., submunitions, 40mm high-explosive (HE) grenades, white phosphorous (WP) munitions, high-explosive antitank (HEAT) munitions, and practice munitions with sensitive fuzes, but excluding all other practice munitions].	30	
	All hand grenades containing energetic filler.		
	Bulk primary explosives, or mixtures of these with environmental media, such that the mixture poses an explosive hazard.		
High explosive (used or damaged)	All UXO containing a high-explosive filler (e.g., RDX, Composition B), that are not considered "sensitive."	25	
	All DMM containing a high-explosive filler that have been damaged by burning or detonation, or deteriorated to the point of instability.		
Pyrotechnic (used or damaged)	All UXO containing pyrotechnic fillers other than white phosphorous (e.g., flares, signals, simulators, smoke grenades).	20	
	All DMM containing pyrotechnic fillers other than white phosphorous (e.g., flares, signals, simulators, smoke grenades) that have been damaged by burning or detonation, or deteriorated to the point of instability.		
High explosive (unused)	All DMM containing a high-explosive filler that have not been damaged by burning or detonation, or are not deteriorated to the point of instability.	15	
Propellant	All UXO containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor).	15	
	All DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor) that are damaged by burning or detonation, or deteriorated to the point of instability.		
Bulk secondary high explosives, pyrotechnics, or propellant	All DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor), that are deteriorated.	10	
	Bulk secondary high explosives, pyrotechnic compositions, or propellant (not contained in a munition), or mixtures of these with environmental media such that the mixture poses an explosive hazard.		
Pyrotechnic (not used or damaged)	All DMM containing a pyrotechnic filler (i.e. red phosphorous), other than white phosphorous filler, that have not been damaged by burning or detonation, or are not deteriorated to the point of instability.	10	
Practice	All UXO that are practice munitions that are not associated with a sensitive fuze.	5	
	All DMM that are practice munitions that are not associated with a sensitive fuze and that have not been damaged by burning or detonation, or are not deteriorated to the point of instability.		
Riot control	All UXO or DMM containing a riot control agent filler (e.g., tear gas).	3	
Small arms	All used munitions or DMM that are categorized as small arms ammunition [Physical evidence or historical evidence that no other types of munitions (e.g., grenades, subcaliber training rockets, demolition charges) were used or are present on the MRS is required for selection of this category.].	2	2
Evidence of no munitions	Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0	
MUNITIONS TYPE	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).		**2**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Munitions Type*** classifications in the space below.

Transition Range 2 was used only for small arms training (2007 SI Report, Sections 7.1 and 7.3).

Table 2

EHE Module: Source of Hazard Data Element Table

Directions: Below are eleven classifications describing sources of explosive hazards. Annotate the score(s) that correspond with **all** sources of explosive hazards known or suspected to be present at the MRS.

Note: The terms *former range* , *practice munitions* , *small arms* , *physical evidence* , and *historical evidence* are defined in Appendix C of the MRSPP Primer (Draft, Dec 2005).

Classification	Description	Possible Score	Score
Former range	The MRS is a former military range where munitions (including practice munitions with sensitive fuzes) have been used. Such areas include: impact or target areas, associated buffer and safety zones, firing points, and live-fire maneuver areas.	10	
Former munitions treatment (i.e. OB/OD) unit	The MRS is a location where UXO or DMM (e.g., munitions, bulk explosives, bulk pyrotechnic, or bulk propellants) were burned or detonated for the purpose of treatment prior to disposal.	8	
Former practice munitions range	The MRS is a former military range on which only practice munitions without sensitive fuzes were used.	6	
Former maneuver area	The MRS is a former maneuver area where no munitions other than flares, simulators, smokes, and blanks were used. There must be evidence that no other munitions were used at the location to place an MRS into this category.	5	
Former burial pit or other disposal area	The MRS is a location where DMM were buried or disposed of (e.g., disposed of into a water body) without prior thermal treatment.	5	
Former industrial operating facilities	The MRS is a location that is a former munitions maintenance, manufacturing, or demilitarization facility.	4	
Former firing points	The MRS is a firing point, where the firing point is delineated as an MRS separate from the rest of a former military range.	4	
Former missile or air defense artillery emplacements	The MRS is a former missile defense or air defense artillery (ADA) emplacement not associated with a military range.	2	
Former storage or transfer points	The MRS is a location where munitions were stored or handled for transfer between different modes of transportation (e.g., rail to truck, truck to weapon system).	2	
Former small arms range	The MRS is a former military range where only small arms ammunition was used [There must be evidence that no other types of munitions (e.g., grenades) were used or are present to place an MRS iinto this category.].	1	1
Evidence of no munitions	Following investigation of the MRS, there is physical evidence that no UXO or DMM are present, or there is historical evidence indicating that no UXO or DMM are present.	0	
SOURCE OF HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).		**1**

DIRECTIONS: Document any MRS-specific data used in selecting the **Source of Hazard** classifications in the space below.

This MRS is a small arms training range (2007 SI Report, Sections 7.1 and 7.3).

Table 3
EHE Module: Location of Munitions Data Element Table

Directions: Below are eight classifications of munitions locations and their descriptions. Annotate the score(s) that correspond with **all** locations where munitions are located or suspected of being found at the MRS.

Note: The terms *surface* , *subsurface* , *physical evidence* , and *historical evidence* are defined in Appendix C of the MRSPP Primer (Draft, Dec 2005).

Classification	Description	Possible Score	Score
Confirmed surface	Physical evidence indicates that there are UXO or DMM on the surface of the MRS. Historical evidence (e.g., a confirmed incident report or accident report) indicates there are UXO or DMM on the surface of the MRS.	25	
Confirmed subsurface, active	Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS, and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost, heat heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM. Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost, heat heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM.	20	
Confirmed subsurface, stable	Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS, and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed. Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS, and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed.	15	
Suspected (physical evidence)	There is physical evidence (e.g., munitions debris, such fragments, penetrators, projectiles, shell casings, links, fins), other than the documented presence of UXO or DMM, indicating that UXO or DMM may be present at the MRS.	10	
Suspected (historical evidence)	There is historical evidence indicating that UXO or DMM may be present at the MRS.	5	
Subsurface, physical constraint	There is physical or historical evidence indicating that UXO or DMM may be present in the subsurface, but there is a physical constraint (e.g., pavement, water depth over 120 feet) preventing direct access to the UXO or DMM.	2	
Small arms (regardless of location)	The presence of small arms ammunition is confirmed or suspected, regardless of other factors such as geological stability [There must be evidence that no other types of munitions (e.g., grenades) were used or are present at the MRS to place an MRS into this category.]	1	1
Evidence of no munitions	Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0	
LOCATION OF MUNITIONS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 25).		**1**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Location of Munitions*** classifications in the space below.

The MRS was used for small arms training only (2007 SI Report, Sections 7.1 and 7.3).

Table 4
EHE Module: Ease of Access Data Element Table

Directions: Below are four classifications of barrier types that can surround an MRS and their descriptions. The barrier type is directly related to the ease of public access to any explosive materiel. Annotate the score that corresponds with the ease of access to the MRS.

Note: The term *barrier* is defined in Appendix C of the MRSPP Primer (Draft, Dec 2005).

Classification	Description	Possible Score	Score
No barrier	There is no barrier preventing access to any part of the MRS (i.e. all parts of the MRS are accessible).	10	10
Barrier to MRS access is incomplete	There is a barrier preventing access to parts of the MRS, but not the entire MRS.	8	
Barrier to MRS access is complete but not monitored	There is a barrier preventing access to all parts of the MRS, but there is no surveillance (e.g., by a guard) to ensure that the barrier is effectively preventing access to all parts of the MRS.	5	
Barrier to MRS access is complete and monitored	There is a barrier preventing access to all parts of the MRS, and there is active, continual surveillance (e.g., by a guard, video monitoring) to ensure that the barrier is effectively preventing access to all parts of the MRS.	0	
EASE OF ACCESS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).		**10**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Ease of Access*** classification in the space below.

The entilre Fort Flagler is a State Park with unlimited access to all parts of the park (2007 SI report, Section 2.3).

Table 5
EHE Module: Status of Property Data Element Table

Directions: Below are three classifications of the status of a property within the Department of Defense (DoD) and their descriptions. Annotate the score that corresponds with the status of property at the MRS.

Note: N/A

Classification	Description	Possible Score	Score
Non-DoD control	The MRS is at a location that is no longer owned by, leased to, or otherwise possessed or used by DoD. Examples are privately owned land or water bodies; land or water bodies owned or controlled by state, tribal, or local governments; and land or water bodies managed by other federal agencies.	5	5
Scheduled for transfer from DoD control	The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD, and DoD plans to transfer that land or water body to the control of another entity (e.g., a state, tribal, or local government; a private party; another federal agency) within 3 years from the date the rule is applied.	3	
DoD control	The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD. With respect to property that is leased or otherwise possessed, DoD must control access to the MRS 24 hours per day, every day of the calendar year.	0	
STATUS OF PROPERTY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).		**5**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Status of Property*** classification in the space below.

The Range Complex is located on Washington State Parks owned land. The land is used as a state park (2007 SI report, Section 2.3).

Table 6
EHE Module: Population Density Data Element Table

Directions: Below are three classifications of population density and their descriptions. Determine the population density per square mile in the vicinity of the MRS and annotate the score that corresponds with the associated population density.

Note: If an MRS is located in more than one county, use the largest population density value among the counties. If the MRS is within or borders a city or town, use the population density for the city or town, rather than that of the county.

Classification	Description	Possible Score	Score
> 500 persons per square mile	There are more than 500 persons per square mile in the county in which the MRS is located, based on US Census Bureau data.	5	
100 - 500 persons per square mile	There are 100 to 500 persons per square mile in the county in which the MRS is located, based on US Census Bureau data.	3	
< 100 persons per square mile	There are fewer than 100 persons per square mile in the county in which the MRS is located, based on US Census Bureau data.	1	1
POPULATION DENSITY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).		**1**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Population Density*** classification in the space below.

The 2005 Census data, indicates that the population density for Jefferson County is 15.4 people per square mile (2007 SI Report, Section 2.4.3).

Table 7
EHE Module: Population Near Hazard Data Element Table

Directions: Below are six classifications describing the number of inhabited structures near the MRS. The number of inhabited buildings relates to the population near the hazard. Determine the number of inhabited structures within two miles of the MRS boundary and annotate the score that corresponds with the associated population near the known or suspected hazard.

Note: The term *inhabited structures* is defined in Appendix C of the MRSPP Primer (Draft, Dec 2005).

Classification	Description	Possible Score	Score
26 or more inhabited structures	There are 26 or more inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	5	5
16 to 25 inhabited structures	There are 16 to 25 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	4	
11 to 15 inhabited structures	There are 11 to 15 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	3	
6 to 10 inhabited structures	There are 6 to 10 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	2	
1 to 5 inhabited structures	There are 1 to 5 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	1	
0 inhabited structures	There are no inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	0	
POPULATION NEAR HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).		**5**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Population Near Hazard*** classification in the space below.

The 2005 Census data indicate that there are 212 households within a 2-mile radius of the site and 280 housing units (2007 SI Report, Section 2.4.3). A camp gropund is present within the FUDS.

Table 8

EHE Module: Types of Activities/Structures Data Element Table

Directions: Below are five classifications of activities and/or inhabited structures near the hazard and their descriptions. Review the types of activities that occur and/or structures that are present within two miles of the MRS and annotate the score(s) that correspond with **all** the activities/structure classifications at the MRS.

Note: The term *inhabited structures* is defined in Appendix C of the MRSPP Primer (Draft, Dec 2005).

Classification	Description	Possible Score	Score
Residential, educational, commercial, or subsistence	Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with any of the following purposes: residential, educational, child care, critical assets (e.g., hospitals, fire and rescue, police stations, dams), hotels, commercial, shopping centers, playgrounds, community gathering areas, religious sites, or sites used for subsistence hunting, fishing, and gathering.	5	5
Parks and recreational areas	Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with parks, nature preserves, or other recreational uses.	4	4
Agricultural, forestry	Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with agriculture or forestry.	3	
Industrial or warehousing	Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with industrial activities or warehousing.	2	
No known or recurring activities	There are no known or recurring activities occurring up to two miles from the MRS's boundary or within the MRS's boundary.	1	
TYPES OF ACTIVITIES/STRUCTURES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).		**5**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Types of Activities/Structures*** classifications in the space below.

Residential areas are located adjacent to Ft. Flagler and Range Complex. There are no kown educational, child care, critical assets, hotels,etc within a 2-mile radius. Ft Flagler is a state park (2007 SI Report, Figure 2-7).

Table 9

EHE Module: Ecological and/or Cultural Resources Data Element Table

Directions: Below are four classifications of ecological and/or cultural resources and their descriptions. Review the types of resources present and annotate the score that corresponds with the ecological and/or cultural resource classifications at the MRS.

Note: The terms *ecological resources* and *cultural resources* are defined in Appendix C of the MRSPP Primer (Draft, Dec 2005).

Classification	Description	Possible Score	Score
Ecological and cultural resources present	There are both ecological and cultural resources present on the MRS.	5	5
Ecological resources present	There are ecological resources present on the MRS.	3	3
Cultural resources present	There are cultural resources present on the MRS.	3	3
No ecological or cultural resources present	There are no ecological resources or cultural resources present on the MRS.	0	
ECOLOGICAL AND/OR CULTURAL RESOURCES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).		**5**

DIRECTIONS: Document any MRS-specific data used in selecting the ***Ecological and/or Cultural Resources*** classification in the space below.

There are no known archeological sites located within Ft Flagler. Ft Flagler is considered a historical site by Washington State. The park contains sensitive beach habitats for protected species (2007 SI Report, Section 3.2.2).

Table 10

Determining the EHE Module Rating

DIRECTIONS:

1. From Tables 01 - 09, record the data element scores in the **Score** boxes to the right.

2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.

3. Add the three **Value** boxes and record this number in the **EHE Module Total** box below.

4. Identify the appropriate range for the **EHE Module Total** at right.

5. Identify the **EHE Module Rating** that corresponds to the range selected and record this rating in the **EHE Module Rating** box at the lower right corner of this table.

NOTE: An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
Explosive Hazard Factor Data Elements			
Munitions Type	Table 01	2	3
Source of Hazard	Table 02	1	
Accessibility Factor Data Elements			
Location of Munitions	Table 03	1	16
Ease of Access	Table 04	10	
Status of Property	Table 05	5	
Receptor Factor Data Elements			
Population Density	Table 06	1	16
Population Near Hazard	Table 07	5	
Types of Activities/Structures	Table 08	5	
Ecological and/or Cultural Resources	Table 09	5	
EHE MODULE TOTAL			**35**

EHE Module Total	EHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected Explosive Hazard
EHE MODULE RATING	**G**

Table 11

CHE Module: CWM Configuration Data Element Table

Directions: Below are seven classifications of CWM configuration and their descriptions. Annotate the score(s) that correspond to **all** CWM configurations known or suspected to be present at the MRS.

Note: The terms *CWM/UXO*, *CWM/DMM*, *physical evidence*, and *historical evidence* are defined in Appendix C of the MRSPP Primer (Draft, Dec 2005).

Classification	Description	Possible Score	Score
CWM, explosive configuration either UXO or damaged DMM	The CWM known or suspected of being present at the MRS is (a) explosively configured CWM that are UXO (i.e. CWM/UXO), or (b) explosively configured CWM that are DMM (i.e. CWM/DMM) that have been damaged.	30	
CWM mixed with UXO	The CWM known or suspected of being present at the MRS are explosively configured CWM/DMM that have not been damaged, or nonexplosively configured CWM/DMM, or CWM not configured as a munition, that are commingled with conventional munitions that are UXO.	25	
CWM, explosive configuration that are undamaged DMM	The CWM known or suspected of being present at the MRS are explosively configured CWM/DMM that have not been damaged.	20	
CWM, not explosively configured or CWM, bulk container	The CWM known or suspected of being present at the MRS is (a) nonexplosively configured CWM/DMM, or (b) bulk CWM/DMM (e.g., ton container).	15	
CAIS K941 and CAIS K942	The CWM/DMM known or suspected of being present at the MRS is CAIS K941(toxic gas set M-1) or CAIS K942 (toxic gas set M-2/E11).	12	
CAIS (chemical agent identification sets)	Only CAIS, other than CAIS K941 and K942, are known or suspected of being present at the MRS.	10	
Evidence of no CWM	Following investigation, the physical evidence indicates that CWM are not present at the MRS, or the historical evidence indicates that CWM are not present at the MRS.	0	0
CWM CONFIGURATION	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).		**0**

DIRECTIONS: Document any MRS-specific data used in selecting the ***CWM Configuration*** classifications in the space below.

The gas Chamber sub range only reported the use of riot control gas CN-1 (Section 8.4 and Table 2-1).

Table 20

Determining the CHE Module Rating

DIRECTIONS:

1. From Tables 11 - 19, record the data element scores in the **Score** boxes to the right.

2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.

3. Add the three **Value** boxes and record this number in the **CHE Module Total** box below.

	Source	Score	Value
CWM Hazard Factor Data Elements			
CWM Configuration	Table 11	0	0
Sources of CWM	Table 12	0	
Accessibility Factor Data Elements			
Location of CWM	Table 13	0	0
Ease of Access	Table 14	0	
Status of Property	Table 15	0	
Receptor Factor Data Elements			
Population Density	Table 16	0	0
Population Near Hazard	Table 17	0	
Types of Activities/Structures	Table 18	0	
Ecological and/or Cultural Resources	Table 19	0	
		CHE MODULE TOTAL	**0**

4. Identify the appropriate range for the **CHE Module Total** at right.

5. Identify the **CHE Module Rating** that corresponds to the range selected and record this rating in the **CHE Module Rating** box at the lower right corner of this table.

NOTE: An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

CHE Module Total	CHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected CWM Hazard
CHE MODULE RATING	**No Known or Suspected CWM Hazard**

Table 21

HHE Module: Groundwater Data Element Table

Contaminant Hazard Factor (CHF)

Directions: Record the **maximum concentrations** of all contaminants in the MRS's groundwater and their **comparison values** (from Appendix B, Relative Risk Site Evaluation (RRSE) Primer, Summer 1997 - Revised) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the groundwater, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant [CAS No.]	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
		Total from Table 27	
		Sum the Ratios	

CHF Scale	CHF Value	
CHF > 100	**H (High)**	**CHF = ∑ ([Max Conc of Contaminant] / [Comparison Value for Contaminant])**
100 > CHF >2	**M (Medium)**	
2 > CHF	**L (Low)**	

CONTAMINANT HAZARD FACTOR	Directions: Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

Directions: Annotate the value that corresponds most closely to the groundwater migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the groundwater is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in groundwater has moved only slightly beyond the source (i.e. tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the groundwater to a potential point of exposure (possibly due to geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	Directions: Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

Directions: Annotate the value that corresponds most closely to the groundwater receptors at the MRS.

Classification	Description	Value
Identified	There is a threatened water supply well downgradient of the source and the groundwater is a current source of drinking water or source of water for other beneficial uses such as irrigation/agriculture (equivalent to Class I or IIA aquifer).	H
Potential	There is no threatened water supply well downgradient of the source and the groundwater is currently or potentially usable for drinking water, irrigation, or agriculture (equivalent to Class I, IIA, or IIB aquifer).	M
Limited	There is no potentially threatened water supply well downgradient of the source and the groundwater is not considered a potential source of drinking water and is of limited beneficial use (equivalent to Class IIIA or IIIB aquifer, or where perched aquifer exists only).	L
RECEPTOR FACTOR	Directions: Record **the single highest value** from above in the box to the right (maximum value = H).	

Place an "X" in the box to the right if there is no known or suspected Groundwater MC Hazard	**X**

Table 22

HHE Module: Surface Water - Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

Directions: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B, Relative Risk Site Evaluation (RRSE) Primer, Summer 1997 - Revised) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant [CAS No.]	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
		Total from Table 27	
CHF Scale	**CHF Value**	**Sum the Ratios**	
CHF > 100	**H (High)**		
100 > CHF >2	**M (Medium)**	**CHF = ∑ ([Max Conc of Contaminant] / [Comparison Value for Contaminant])**	
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	Directions: Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

Directions: Annotate the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e. tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	Directions: Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

Directions: Annotate the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L
RECEPTOR FACTOR	Directions: Record **the single highest value** from above in the box to the right (maximum value = H).	

Place an "X" in the box to the right if there is no known or suspected Surface Water (Human Endpoint) MC Hazard	**X**

Table 23

HHE Module: Sediment - Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

Directions: Record the **maximum concentrations** of all contaminants in the site's sediment and their **comparison values** (from Appendix B, Relative Risk Site Evaluation (RRSE) Primer, Summer 1997 - Revised) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the sediment, select the box at the bottom of the table.

Note: N/A

Contaminant [CAS No.]	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
		Total from Table 27	
CHF Scale	**CHF Value**	**Sum the Ratios**	
CHF > 100	**H (High)**	**CHF = ∑ ([Max Conc of Contaminant] / [Comparison Value for Contaminant])**	
100 > CHF >2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	Directions: Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

Directions: Annotate the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e. tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	Directions: Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

Directions: Annotate the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L
RECEPTOR FACTOR	Directions: Record **the single highest value** from above in the box to the right (maximum value = H).	
Place an "X" in the box to the right if there is no known or suspected Sediment (Human Endpoint) MC Hazard		**X**

Table 24

HHE Module: Surface Water - Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

Directions: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B, Relative Risk Site Evaluation (RRSE) Primer, Summer 1997 - Revised) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the surface water, select the box at the bottom of the table.

Note: Use either dissolved or total metals analyses.

Contaminant [CAS No.]	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
		Total from Table 27	
		Sum the Ratios	

CHF Scale	CHF Value	
CHF > 100	**H (High)**	**CHF = ∑ ([Max Conc of Contaminant] / [Comparison Value for Contaminant])**
100 > CHF >2	**M (Medium)**	
2 > CHF	**L (Low)**	

CONTAMINANT HAZARD FACTOR	Directions: Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

Directions: Annotate the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e. tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	Directions: Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

Directions: Annotate the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L

RECEPTOR FACTOR	Directions: Record **the single highest value** from above in the box to the right (maximum value = H).	

Place an "X" in the box to the right if there is no known or suspected Surface Water (Ecological Endpoint) MC Hazard	**X**

Table 25

HHE Module: Sediment - Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

Directions: Record the **maximum concentrations** of all contaminants in the MRS's sediment and their **comparison values** (from Appendix B, Relative Risk Site Evaluation (RRSE) Primer, Summer 1997 - Revised) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the sediment, select the box at the bottom of the table.

Note: N/A

Contaminant [CAS No.]	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
		Total from Table 27	
CHF Scale	**CHF Value**	**Sum the Ratios**	
CHF > 100	**H (High)**	**CHF = ∑ ([Max Conc of Contaminant] / [Comparison Value for Contaminant])**	
100 > CHF >2	**M (Medium)**		
2 > CHF	**L (Low)**		

CONTAMINANT HAZARD FACTOR	Directions: Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

Directions: Annotate the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e. tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	Directions: Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

Directions: Annotate the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L

RECEPTOR FACTOR	Directions: Record **the single highest value** from above in the box to the right (maximum value = H).	

Place an "X" in the box to the right if there is no known or suspected Sediment (Ecological Endpoint) MC Hazard	**X**

Table 26

HHE Module: Surface Soil - Data Element Table

Contaminant Hazard Factor (CHF)

Directions: Record the **maximum concentrations** of all contaminants in the MRS's surface soil and their **comparison values** (from Appendix B, Relative Risk Site Evaluation (RRSE) Primer, Summer 1997 - Revised) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the surface soil, select the box at the bottom of the table.

Note: N/A

Contaminant [CAS No.]	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
		Total from Table 27	
CHF Scale	**CHF Value**	**Sum the Ratios**	
CHF > 100	**H (High)**	**CHF = ∑ ([Max Conc of Contaminant] / [Comparison Value for Contaminant])**	
100 > CHF >2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	Directions: Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

Directions: Annotate the value that corresponds most closely to the surface soil migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface soil is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface soil has moved only slightly beyond the source (i.e. tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface soil to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	Directions: Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

Directions: Annotate the value that corresponds most closely to the surface soil receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface soil to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface soil to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface soil to which contamination has moved or can move.	L
RECEPTOR FACTOR	Directions: Record **the single highest value** from above in the box to the right (maximum value = H).	
Place an "X" in the box to the right if there is no known or suspected Surface Soil MC Hazard		**X**

Table 27

HHE Module: Supplemental Contaminant Hazard Factor Table

Contaminant Hazard Factor (CHF)

Directions: **Only use this table if there are more than five contaminants present at the MRS.** This is a supplemental table designed to hold information about contaminants that do not fit in the previous tables. Indicate the **media** in which these contaminants are present. Then record all **contaminants**, their **maximum concentrations** and their **comparison values** (from Appendix B, Relative Risk Site Evaluation (RRSE) Primer, Summer 1997 - Revised) in the table below. Calculate and record the **ratio** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** for each medium on the appropriate media-specific tables.

Note: For human exposures to groundwater and surface water, use dissolved, rather than total, metals analyses when both are available. Remember not to add ratios from different media.

Media	Contaminant [CAS No.]	Maximum Concentration	Units	Comparison Value	Units	Ratios
Surface soil			mg/kg		mg/kg	
Surface soil			mg/kg		mg/kg	
Surface soil			mg/kg		mg/kg	
Surface soil			mg/kg		mg/kg	
Surface soil			mg/kg		mg/kg	
Surface soil			mg/kg		mg/kg	
Surface soil			mg/kg		mg/kg	
Surface soil			mg/kg		mg/kg	
Surface soil			mg/kg		mg/kg	
Surface soil			mg/kg		mg/kg	
Surface soil			mg/kg		mg/kg	
Surface soil			mg/kg		mg/kg	
Surface soil			mg/kg		mg/kg	
					SUBTOTAL FOR SURFACE SOIL	**0**
Sediment			mg/kg		mg/kg	
Sediment			mg/kg		mg/kg	
Sediment			mg/kg		mg/kg	
Sediment			mg/kg		mg/kg	
Sediment			mg/kg		mg/kg	
Sediment			mg/kg		mg/kg	
Sediment			mg/kg		mg/kg	
Sediment			mg/kg		mg/kg	
Sediment			mg/kg		mg/kg	
Sediment			mg/kg		mg/kg	
Sediment			mg/kg		mg/kg	
Sediment			mg/kg		mg/kg	
Sediment			mg/kg		mg/kg	
					SUBTOTAL FOR SEDIMENT	**0**
Surface water			µg/L		µg/L	
Surface water			µg/L		µg/L	
Surface water			µg/L		µg/L	
Surface water			µg/L		µg/L	
Surface water			µg/L		µg/L	
Surface water			µg/L		µg/L	
Surface water			µg/L		µg/L	
Surface water			µg/L		µg/L	
Surface water			µg/L		µg/L	
Surface water			µg/L		µg/L	
Surface water			µg/L		µg/L	
Surface water			µg/L		µg/L	
Surface water			µg/L		µg/L	
					SUBTOTAL FOR SURFACE WATER	**0**
Groundwater			µg/L		µg/L	
Groundwater			µg/L		µg/L	
Groundwater			µg/L		µg/L	
Groundwater			µg/L		µg/L	
Groundwater			µg/L		µg/L	
Groundwater			µg/L		µg/L	
Groundwater			µg/L		µg/L	
Groundwater			µg/L		µg/L	
Groundwater			µg/L		µg/L	
Groundwater			µg/L		µg/L	
Groundwater			µg/L		µg/L	
Groundwater			µg/L		µg/L	
Groundwater			µg/L		µg/L	
					SUBTOTAL FOR GROUNDWATER	**0**

Table 28

Determining the HHE Module Rating

DIRECTIONS:

1. Record the letter values (H, M, L) for the **Contaminant Hazard**, **Migration Pathway**, and **Receptor Factors** for the media (from Tables 21 - 26) in the corresponding boxes below.
2. Record the media's three-letter combinations in the **Three-Letter-Combination** boxes below (three-letter combinations are arranged from Hs to Ms to Ls).
3. Using the reference provided below, determine each medium's rating (A - G) and record the letter in the corresponding **Media Rating** box below.

Medium (Source)	Contaminant Hazard Factor Value	Migratory Pathway Factor Value	Receptor Factor Value	Three-Letter Combination (Hs-Ms-Ls)	Media Rating (A - G)
Table 21 - Groundwater					
Table 22 - Surface Water (Human Endpoint)					
Table 23 - Sediment (Human Endpoint)					
Table 24 - Surface Water (Ecological Endpoint)					
Table 25 - Sediment (Ecological Endpoint)					
Table 26 - Surface Soil					
			HHE MODULE RATING		**No Known or Suspected MC Hazard**

DIRECTIONS (Continued):

4. Select the single highest **Media Rating** (A is the highest; G is the lowest) and enter the letter in the **HHE Module Rating** box below.

HHE Ratings (for reference only)	
HHH	A
HHM	B
HHL	C
HMM	
HML	D
MMM	
HLL	E
MML	
MLL	F
LLL	G

NOTE: An alternative module rating may be assigned when a module letter rating is used when more information is needed to score one or more media, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

Alternative Module Ratings	
	Evaluation Pending
	No Longer Required
	No Known or Suspected MC Hazard

Table 29

MRS Priority

DIRECTIONS: In the chart below, enter the letter **rating** for each module recorded in Table 10 (EHE), Table 20 (CHE), and Table 28 (HHE). Enter the corresponding numerical **priority** for each module. If information to determine the module rating is not available, choose the appropriate alternative module rating. The MRS priority is the single highest priority; record this number in the **MRS or Alternative Priority** box at the bottom of the table.

NOTE: An MRS assigned Priority 1 has the highest relative priority; an MRS assigned Priority 8 has the lowest relative priority. Only an MRS with CWM known or suspected to be present can be assigned Priority 1; an MRS that has CWM known or suspected to be present cannot be assigned Priority 8.

EHE Rating	Priority	CHE Rating	Priority	HHE Rating	Priority
		A	1		
A	2	B	2	A	2
B	3	C	3	B	3
C	4	D	4	C	4
D	5	E	5	D	5
E	6	F	6	E	6
F	7	G	7	F	7
G	8			G	8
Evaluation Pending		Evaluation Pending		Evaluation Pending	
No Longer Required		No Longer Required		No Longer Required	
No Known or Suspected Explosive Hazard		No Known or Suspected CWM Hazard		No Known or Suspected MC Hazard	

Reference Table 10:		Reference Table 20:		Reference Table 28:	
EHE Module Rating	Priority	CHE Module Rating	Priority	HHE Module Rating	Priority
G	8	No Known or Suspected CWM Hazard	No Known or Suspected CWM Hazard	No Known or Suspected MC Hazard	No Known or Suspected MC Hazard

MRS or Alternative Priority	8

Appendix L
Reference Copies

The EDR Radius Map
with GeoCheck®

Ft. Flagler
Ft. Flagler
NORDLAND, WA 98358

Inquiry Number: 1692347.2s

June 08, 2006

EDR® Environmental Data Resources Inc

The Standard in Environmental Risk Management Information

440 Wheelers Farms Road
Milford, Connecticut 06461

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

TABLE OF CONTENTS

SECTION	PAGE
Executive Summary	ES1
Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	6
Orphan Summary	25
EPA Waste Codes	EPA-1
Government Records Searched/Data Currency Tracking	GR-1

GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting Source Map	A-7
Physical Setting Source Map Findings	A-8
Physical Setting Source Records Searched	A-9

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2006 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

FT. FLAGLER
NORDLAND, WA 98358

COORDINATES

Latitude (North):	48.093100 - 48˚ 5' 35.2''
Longitude (West):	122.704300 - 122˚ 42' 15.5''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	522018.8
UTM Y (Meters):	5326471.5
Elevation:	101 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	48122-A6 NORDLAND, WA
Most Recent Revision:	1973

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following government records. For more information on this property see page 6 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
FORT FLAGLER MIL RES PORT TOWNSEND, WA	FUDS	N/A

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

FEDERAL RECORDS

Proposed NPL..... Proposed National Priority List Sites
NPL RECOVERY..... Federal Superfund Liens
CERC-NFRAP..... CERCLIS No Further Remedial Action Planned

EXECUTIVE SUMMARY

RCRA-TSDF ..... Resource Conservation and Recovery Act Information
RCRA-SQG ..... Resource Conservation and Recovery Act Information
ERNS ..... Emergency Response Notification System
HMIRS ..... Hazardous Materials Information Reporting System
US INST CONTROL ..... Sites with Institutional Controls
DOD ..... Department of Defense Sites
US BROWNFIELDS ..... A Listing of Brownfields Sites
CONSENT ..... Superfund (CERCLA) Consent Decrees
UMTRA ..... Uranium Mill Tailings Sites
ODI ..... Open Dump Inventory
TRIS ..... Toxic Chemical Release Inventory System
TSCA ..... Toxic Substances Control Act
FTTS ..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
SSTS ..... Section 7 Tracking Systems
ICIS ..... Integrated Compliance Information System
MLTS ..... Material Licensing Tracking System
MINES ..... Mines Master Index File

STATE AND LOCAL RECORDS

HSL ..... Hazardous Sites List
CSCSL NFA ..... Confirmed & Contaminated Sites - No Further Action
SWF/LF ..... Solid Waste Facility Database
SWTIRE ..... Solid Waste Tire Facilities
AST ..... Aboveground Storage Tank Locations
SPILLS ..... Reported Spills
INST CONTROL ..... Institutional Control Site List
VCP ..... Voluntary Cleanup Program Sites
DRYCLEANERS ..... Drycleaner List
CDL ..... Clandestine Drug Lab Contaminated Site List
EMI ..... Washington Emissions Data System
INACTIVE DRYCLEANERS ..... Inactive Drycleaners

TRIBAL RECORDS

INDIAN RESERV ..... Indian Reservations
INDIAN LUST ..... Leaking Underground Storage Tanks on Indian Land
INDIAN UST ..... Underground Storage Tanks on Indian Land

EDR PROPRIETARY RECORDS

Manufactured Gas Plants ..... EDR Proprietary Manufactured Gas Plants
EDR Historical Auto Stations ..... EDR Proprietary Historic Gas Stations
EDR Historical Cleaners ..... EDR Proprietary Historic Dry Cleaners

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

FEDERAL RECORDS

NPL: Also known as Superfund, the National Priority List database is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund program. The source of this database is the U.S. EPA.

A review of the NPL list, as provided by EDR, and dated 04/19/2006 has revealed that there is 1 NPL site within approximately 2 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
NAVMAG INDIAN ISLAND	***INDIAN ISLAND***	***1 - 2 WSW***	***5***	***9***

Delisted NPL: The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may deleted from the NPL where no further response is appropriate.

A review of the Delisted NPL list, as provided by EDR, and dated 04/19/2006 has revealed that there is 1 Delisted NPL site within approximately 2 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
NAVMAG INDIAN ISLAND	***INDIAN ISLAND***	***1 - 2 WSW***	***5***	***9***

CERCLIS: The Comprehensive Environmental Response, Compensation and Liability Information System contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

A review of the CERCLIS list, as provided by EDR, and dated 02/01/2006 has revealed that there is 1 CERCLIS site within approximately 2 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
NAVMAG INDIAN ISLAND	***INDIAN ISLAND***	***1 - 2 WSW***	***5***	***9***

CORRACTS: CORRACTS is a list of handlers with RCRA Corrective Action Activity. This report shows which nationally-defined corrective action core events have occurred for every handler that has had corrective action activity.

A review of the CORRACTS list, as provided by EDR, and dated 03/15/2006 has revealed that there is 1 CORRACTS site within approximately 2 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
NAVMAG INDIAN ISLAND	***INDIAN ISLAND***	***1 - 2 WSW***	***5***	***9***

EXECUTIVE SUMMARY

RCRAInfo: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System(RCRIS). The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month. Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month Large quantity generators generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month. Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

A review of the RCRA-LQG list, as provided by EDR, and dated 03/09/2006 has revealed that there is 1 RCRA-LQG site within approximately 2 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
NAVMAG INDIAN ISLAND	***INDIAN ISLAND***	***1 - 2 WSW***	***5***	***9***

ENG CONTROLS: A listing of sites with engineering controls in place.

A review of the US ENG CONTROLS list, as provided by EDR, and dated 03/21/2006 has revealed that there is 1 US ENG CONTROLS site within approximately 2 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
NAVMAG INDIAN ISLAND	***INDIAN ISLAND***	***1 - 2 WSW***	***5***	***9***

RODS: Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid the cleanup.

A review of the ROD list, as provided by EDR, and dated 04/13/2006 has revealed that there is 1 ROD site within approximately 2 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
NAVMAG INDIAN ISLAND	***INDIAN ISLAND***	***1 - 2 WSW***	***5***	***9***

PADS: The PCB Activity Database identifies generators, transporters, commercial storers and/or brokers and disposers of PCBs who are required to notify the United States Environmental Protection Agency of such activities. The source of this database is the U.S. EPA.

A review of the PADS list, as provided by EDR, and dated 12/27/2005 has revealed that there is 1 PADS site within approximately 2 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
NAVMAG INDIAN ISLAND	***INDIAN ISLAND***	***1 - 2 WSW***	***5***	***9***

EXECUTIVE SUMMARY

FINDS: The Facility Index System contains both facility information and "pointers" to other sources of information that contain more detail. These include: RCRIS; Permit Compliance System (PCS); Aerometric Information Retrieval System (AIRS); FATES (FIFRA [Federal Insecticide Fungicide Rodenticide Act] and TSCA Enforcement System, FTTS [FIFRA/TSCA Tracking System]; CERCLIS; DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes); Federal Underground Injection Control (FURS); Federal Reporting Data System (FRDS); Surface Impoundments (SIA); TSCA Chemicals in Commerce Information System (CICS); PADS; RCRA-J (medical waste transporters/disposers); TRIS; and TSCA. The source of this database is the U.S. EPA/NTIS.

A review of the FINDS list, as provided by EDR, and dated 04/27/2006 has revealed that there are 3 FINDS sites within approximately 2 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
NORDLAND GROCERY	5180 FLAGLER RD	1/2 - 1 S	A2	6

Lower Elevation	Address	Dist / Dir	Map ID	Page
MARROWSTONE FIELD STATION	616 MARROWSTONE POINT R	1/2 - 1 NE	4	8
NAVMAG INDIAN ISLAND	***INDIAN ISLAND***	***1 - 2 WSW***	***5***	***9***

RAATS: The RCRA Administration Action Tracking System contains records based on enforcement actions issued under RCRA and pertaining to major violators. It includes administrative and civil actions brought by the United States Environmental Protection Agency. The source of this database is the U.S. EPA.

A review of the RAATS list, as provided by EDR, and dated 04/17/1995 has revealed that there is 1 RAATS site within approximately 2 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
NAVMAG INDIAN ISLAND	***INDIAN ISLAND***	***1 - 2 WSW***	***5***	***9***

STATE AND LOCAL RECORDS

CSCSL: The State Hazardous Waste Sites records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. The data come from the Department of Ecology's Confirmed & Suspected Contaminated Sites List.

A review of the CSCSL list, as provided by EDR, and dated 03/08/2006 has revealed that there is 1 CSCSL site within approximately 2 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
NAVMAG INDIAN ISLAND	***INDIAN ISLAND***	***1 - 2 WSW***	***5***	***9***

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the Department of Ecology's Leaking Underground Storage Tanks Site List.

A review of the LUST list, as provided by EDR, and dated 03/08/2006 has revealed that there is 1 LUST

site within approximately 2 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
NORDLAND GROCERY	*5180 FLAGLER RD*	*1/2 - 1 S*	*A3*	*6*

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Ecology's Statewide UST Site/Tank Report.

A review of the UST list, as provided by EDR, and dated 04/27/2006 has revealed that there is 1 UST site within approximately 2 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
NORDLAND GROCERY	*5180 FLAGLER RD*	*1/2 - 1 S*	*A3*	*6*

MANIFEST: Hazardous waste manifest information.

A review of the MANIFEST list, as provided by EDR, and dated 12/31/2004 has revealed that there is 1 MANIFEST site within approximately 2 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
NAVMAG INDIAN ISLAND	*INDIAN ISLAND*	*1 - 2 WSW*	*5*	*9*

ICR: These are remedial action reports Ecology has received from either the owner or operator of the site. These actions have been conducted without department oversight or approval and are not under an order or decree.

A review of the ICR list, as provided by EDR, and dated 12/01/2002 has revealed that there is 1 ICR site within approximately 2 miles of the target property.

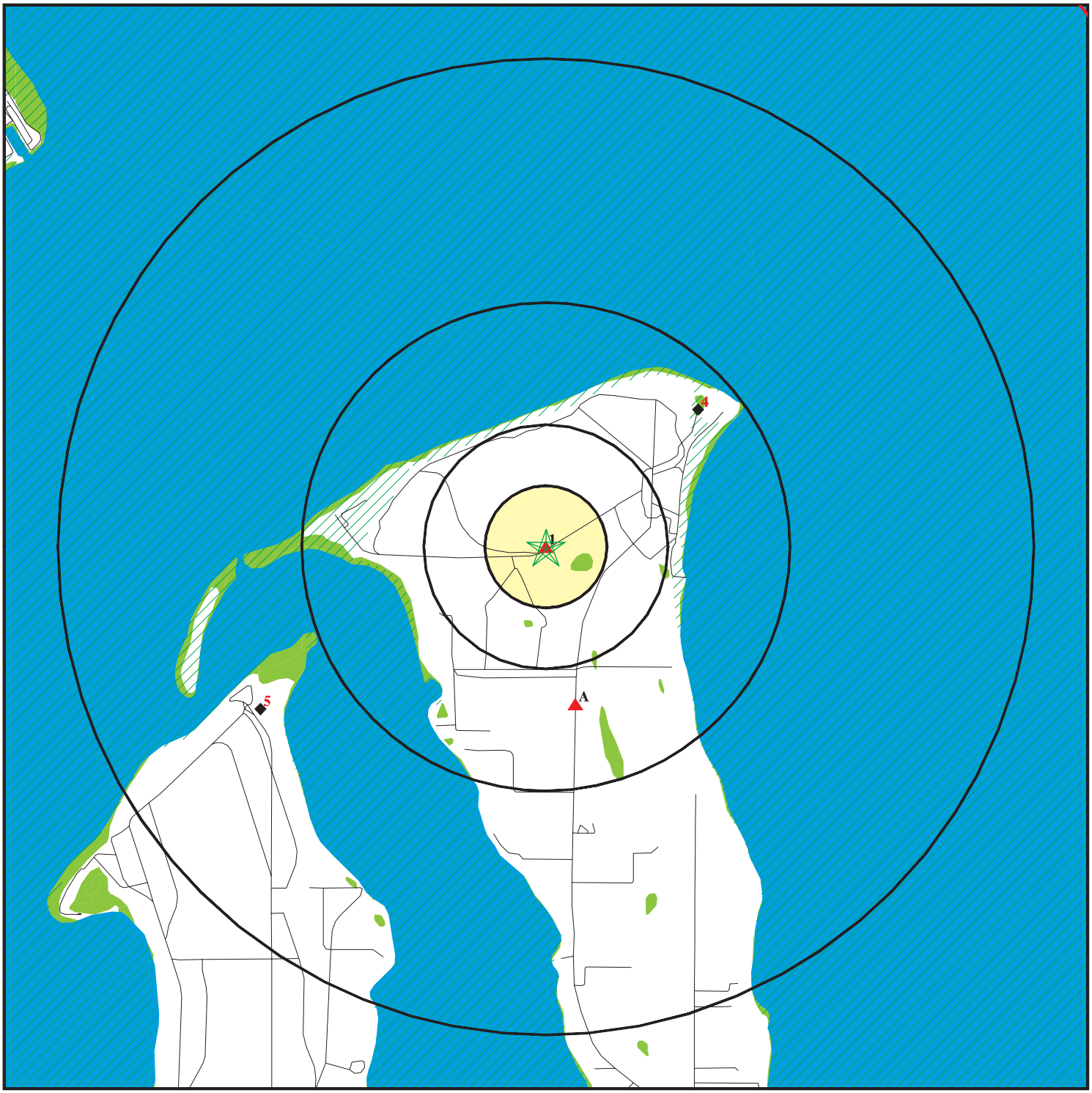
Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
NORDLAND GROCERY	*5180 FLAGLER RD*	*1/2 - 1 S*	*A3*	*6*

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
RALPH RUSH PROPERTY	CSCSL

OVERVIEW MAP - 1692347.2s



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites
- Indian Reservations BIA
- County Boundary
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory

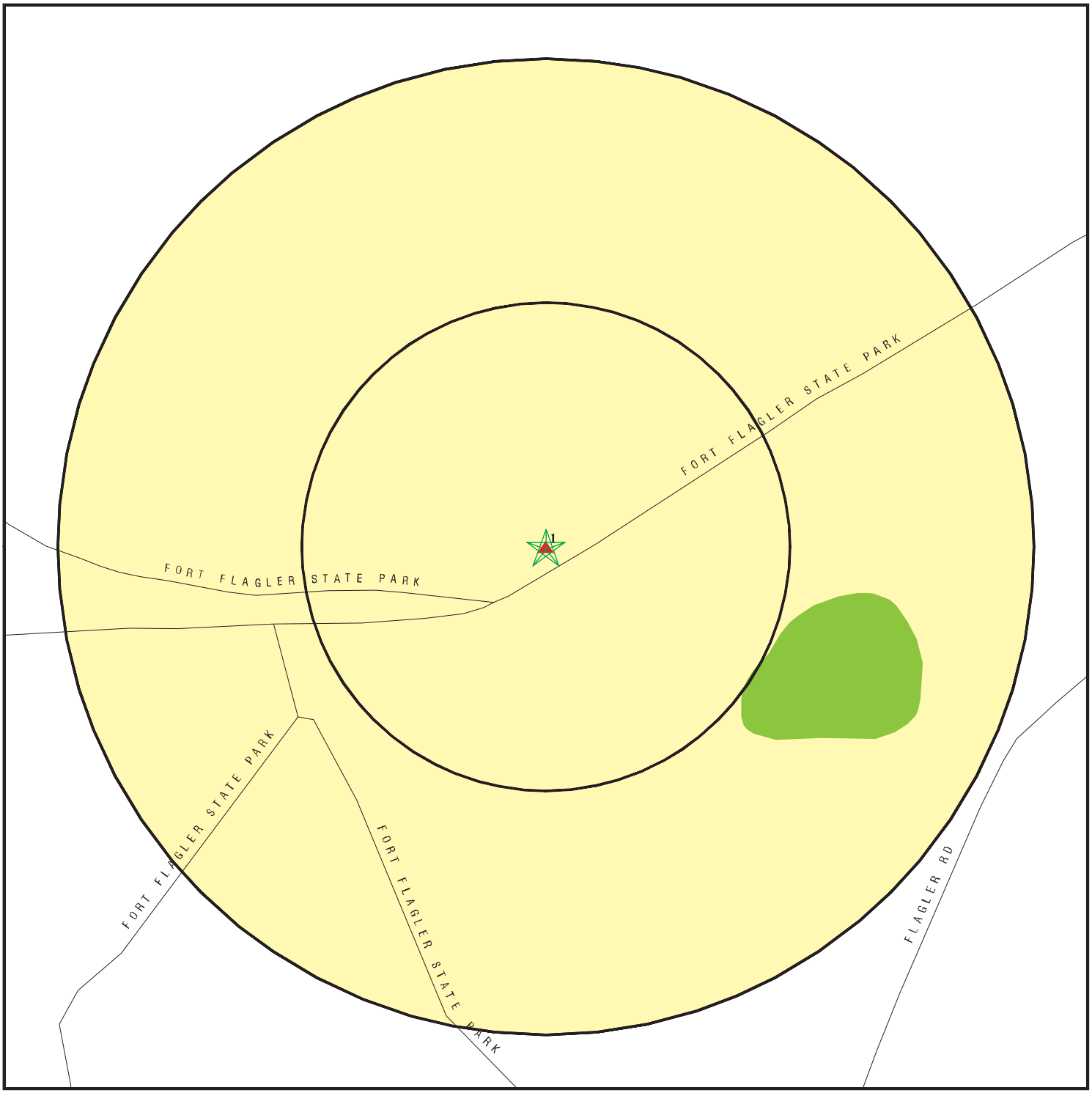
0 1/2 1 2 Miles

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Ft. Flagler	CLIENT: Shaw Env. and Infrastructure
ADDRESS: Ft. Flagler NORDLAND WA 98358	CONTACT: Jennifer Lillis INQUIRY #: 1692347.2s
LAT/LONG: 48.0931 / 122.7043	DATE: June 08, 2006

Copyright © 2006 EDR, Inc. © 2006 Tele Atlas Rel. 07/2005.

DETAIL MAP - 1692347.2s



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites

0 1/16 1/8 1/4 Miles

- Indian Reservations BIA
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Ft. Flagler ADDRESS: Ft. Flagler NORDLAND WA 98358 LAT/LONG: 48.0931 / 122.7043	CLIENT: Shaw Env. and Infrastructure CONTACT: Jennifer Lillis INQUIRY #: 1692347.2s DATE: June 08, 2006

Copyright © 2006 EDR, Inc. © 2006 Tele Atlas Rel. 07/2005.

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FEDERAL RECORDS								
NPL		2.000	0	0	0	0	1	1
Proposed NPL		2.000	0	0	0	0	0	0
Delisted NPL		2.000	0	0	0	0	1	1
NPL RECOVERY		2.000	0	0	0	0	0	0
CERCLIS		2.000	0	0	0	0	1	1
CERC-NFRAP		2.000	0	0	0	0	0	0
CORRACTS		2.000	0	0	0	0	1	1
RCRA TSD		2.000	0	0	0	0	0	0
RCRA Lg. Quan. Gen.		2.000	0	0	0	0	1	1
RCRA Sm. Quan. Gen.		2.000	0	0	0	0	0	0
ERNS		2.000	0	0	0	0	0	0
HMIRS		2.000	0	0	0	0	0	0
US ENG CONTROLS		2.000	0	0	0	0	1	1
US INST CONTROL		2.000	0	0	0	0	0	0
DOD		2.000	0	0	0	0	0	0
FUDS	X	2.000	0	0	0	0	0	0
US BROWNFIELDS		2.000	0	0	0	0	0	0
CONSENT		2.000	0	0	0	0	0	0
ROD		2.000	0	0	0	0	1	1
UMTRA		2.000	0	0	0	0	0	0
ODI		2.000	0	0	0	0	0	0
TRIS		2.000	0	0	0	0	0	0
TSCA		2.000	0	0	0	0	0	0
FTTS		2.000	0	0	0	0	0	0
SSTS		2.000	0	0	0	0	0	0
ICIS		2.000	0	0	0	0	0	0
PADS		2.000	0	0	0	0	1	1
MLTS		2.000	0	0	0	0	0	0
MINES		2.000	0	0	0	0	0	0
FINDS		2.000	0	0	0	2	1	3
RAATS		2.000	0	0	0	0	1	1
STATE AND LOCAL RECORDS								
CSCSL		2.000	0	0	0	0	1	1
HSL		2.000	0	0	0	0	0	0
CSCSL NFA		2.000	0	0	0	0	0	0
State Landfill		2.000	0	0	0	0	0	0
SWTIRE		2.000	0	0	0	0	0	0
LUST		2.000	0	0	0	1	0	1
UST		2.000	0	0	0	1	0	1
AST		2.000	0	0	0	0	0	0
MANIFEST		2.000	0	0	0	0	1	1
SPILLS		2.000	0	0	0	0	0	0
INST CONTROL		2.000	0	0	0	0	0	0
VCP		2.000	0	0	0	0	0	0
ICR		2.000	0	0	0	1	0	1
DRYCLEANERS		2.000	0	0	0	0	0	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
CDL		2.000	0	0	0	0	0	0
WA Emissions		2.000	0	0	0	0	0	0
INACTIVE DRYCLEANERS		2.000	0	0	0	0	0	0
TRIBAL RECORDS								
INDIAN RESERV		2.000	0	0	0	0	0	0
INDIAN LUST		2.000	0	0	0	0	0	0
INDIAN UST		2.000	0	0	0	0	0	0
EDR PROPRIETARY RECORDS								
Manufactured Gas Plants		2.000	0	0	0	0	0	0
EDR Historical Auto Stations		2.000	0	0	0	0	0	0
EDR Historical Cleaners		2.000	0	0	0	0	0	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID Direction Distance Distance (ft.) Elevation	Site	Database(s)	EDR ID Number EPA ID Number
1 **Target** **Property** **Actual:** **101 ft.**	**FORT FLAGLER MIL RES** **PORT TOWNSEND, WA**	**FUDS**	**1007211189** **N/A**

FUDS:

Federal Facility ID:	WA9799F3289
Facility Name:	FORT FLAGLER MIL RES
City:	PORT TOWNSEND
State:	WA
EPA Region:	0
County:	JEFFERSON
Congressional District:	06
US Army District:	Seattle District (NWS)
Fiscal Year:	2004
Phone:	206-764-6958
Inst ID:	Not reported
CTC:	Not reported
RAB:	Not reported
FUDS History :	Fort Flagler, along with Forts Worden and Casey, formed the "Triangle of Fire" that was designed to prevent hostile forces from entering Puget Sound. Construction began in 1897, and by 1907 the initial construction was complete. Two artillery regime nts were based at Fort Flagler from 1940 until 1943. From 1945 to 1954, the fort was used to train engineers and amphibious units.
FUDS Description :	Fort Flagler is located 5 miles southeast of Port Townsend, Washington. The fort covered 544.35 acres. In 1954, the site was declared excess and transferred to the State of Washington for a park. This property is known or suspected to contain milita ry munitions and explosives of concern (e.g., unexploded ordnance) and therefore may present an explosive hazard.

A2 **South** **1/2-1** **3466 ft.** **Relative:** **Higher** **Actual:** **130 ft.**	**NORDLAND GROCERY** **5180 FLAGLER RD** **NORDLAND, WA 98358** **Site 1 of 2 in cluster A**	**FINDS**	**1007066545** **110015431326**

FINDS:

Other Pertinent Environmental Activity Identified at Site:

WA-DOEFSIS (Washington - Department Of Ecology Facility / Site Identification System) is the Department of Ecology's Facility/Site identification system that provides a means to query and display data maintained by the Department of Ecology. This system contains key information for each facility/site that is currently, or has been, of interest to the departments Air Quality, Dam Safety, Hazardous Waste, Toxics Cleanup, and Water Quality Programs.

A3 **South** **1/2-1** **3466 ft.** **Relative:** **Higher** **Actual:** **130 ft.**	**NORDLAND GROCERY** **5180 FLAGLER RD** **NORDLAND, WA 98358** **Site 2 of 2 in cluster A**	**LUST** **UST** **ICR**	**U003355248** **N/A**

LUST:

Facility ID:	7046
Facility Status:	Cleanup Started
Release ID:	5609
Release Notification Date:	1/4/1995 00:00:00
Release Status Date:	1/4/1995 00:00:00
Alternate Name:	NORDLAND GROCERY
Lat/Lon:	48.05096 / -122.69095
Affected Media:	Ground Water

NORDLAND GROCERY (Continued) **U003355248**

FS ID: 69444435
Site Response Code Unit: SW

Facility ID: 7046
Facility Status: Cleanup Started
Release ID: 5609
Release Notification Date: 1/4/1995 00:00:00
Release Status Date: 1/4/1995 00:00:00
Alternate Name: NORDLAND GROCERY
Lat/Lon: 48.05096 / -122.69095
Affected Media: Soil
FS ID: 69444435
Site Response Code Unit: SW

Facility ID: 7046
Facility Status: Monitoring
Release ID: 5609
Release Notification Date: 1/4/1995 00:00:00
Release Status Date: 9/6/1996 00:00:00
Alternate Name: NORDLAND GROCERY
Lat/Lon: 48.05096 / -122.69095
Affected Media: Soil
FS ID: 69444435
Site Response Code Unit: SW

Facility ID: 7046
Facility Status: Monitoring
Release ID: 5609
Release Notification Date: 1/4/1995 00:00:00
Release Status Date: 9/6/1996 00:00:00
Alternate Name: NORDLAND GROCERY
Lat/Lon: 48.05096 / -122.69095
Affected Media: Ground Water
FS ID: 69444435
Site Response Code Unit: SW

Facility ID: 7046
Facility Status: Reported Cleaned Up
Release ID: 5609
Release Notification Date: 1/4/1995 00:00:00
Release Status Date: 9/7/1995 00:00:00
Alternate Name: NORDLAND GROCERY
Lat/Lon: 48.05096 / -122.69095
Affected Media: Ground Water
FS ID: 69444435
Site Response Code Unit: SW

Facility ID: 7046
Facility Status: Reported Cleaned Up
Release ID: 5609
Release Notification Date: 1/4/1995 00:00:00
Release Status Date: 9/7/1995 00:00:00
Alternate Name: NORDLAND GROCERY
Lat/Lon: 48.05096 / -122.69095
Affected Media: Soil
FS ID: 69444435
Site Response Code Unit: SW

NORDLAND GROCERY (Continued) **U003355248**

WA ICR:

Date Ecology Received Report:	02/21/1996
Contaminants Found at Site:	Petroleum products
Media Contaminated:	Groundwater, Soil
Cause of Contamination:	Tank
Region:	South Western
Type of Report Ecology Received:	Interim cleanup report
Site Register Issue:	94-35
County Code:	16.00000
Contact:	Not reported
Report Title:	Not reported

UST:

Facility ID:	69444435
Site ID:	7046
Install Date:	9/21/1981 00:00:00
Capacity:	Not reported
Status:	Removed
Tank Name:	2-REG
Substance:	Leaded Gasoline
Compartment #:	1
Tank ID:	38120
Comartment ID:	38654
Decimal Latitude:	48
Decimal Longitude:	-122.69095
Ecology Region:	South Western

Facility ID:	69444435
Site ID:	7046
Install Date:	1/1/1982 00:00:00
Capacity:	Not reported
Status:	Removed
Tank Name:	1-UNL
Substance:	Unleaded Gasoline
Compartment #:	1
Tank ID:	2516
Comartment ID:	2562
Decimal Latitude:	48
Decimal Longitude:	-122.69095
Ecology Region:	South Western

---

4 **MARROWSTONE FIELD STATION** **FINDS** **1005836097**
NE **616 MARROWSTONE POINT RD** **110006684310**
1/2-1 **NORDLAND, WA 98358**
4436 ft.

Relative:
Lower

Actual:
18 ft.

FINDS:

Other Pertinent Environmental Activity Identified at Site:

PCS (Permit Compliance System) is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Map ID Direction Distance Distance (ft.) Elevation	Site	Database(s)	EDR ID Number EPA ID Number
5 **WSW** **> 1** **7102 ft.** **Relative:** **Lower** **Actual:** **37 ft.**	**NAVMAG INDIAN ISLAND** **INDIAN ISLAND** **PORT HADLOCK, WA 98339**	**PADS** **CERCLIS** **CSCSL** **FINDS** **NPL** **RCRA-LQG** **RAATS** **CORRACTS** **Delisted NPL** **ROD** **MANIFEST** **US ENG CONTROLS**	**1000160363** **WA4170090001**

CERCLIS Classification Data:

Federal Facility: Federal Facility

Non NPL Status: Not reported

NPL Status: Deleted from the Final NPL

Site Description: Port Hadlock Detachment is on Indian Island in Jefferson County, Washington, southeast of Port Townsend and east of Hadlock. The island is bordered by Kilisut Harbor to the east, Port Townsend Bay to the west and north, and Oak Bay and Portage Cana l to the south. Indian Island is approximately 5 miles long and covers approximately 2,700 acres. The island is owned by the Navy and is primarily used for handling and storage of Naval ordnance. No private residences are present on Port Hadlock D etachment; however, there are 14 military residences. A public highway connects the Olympic Peninsula with Indian Island and Marrowstone Island, an island east of Port Hadlock Detachment that supports less than 250 residences. The nearest Olympic P eninsula communities are Hadlock and Irondale, both less than 2 miles west of Indian Island across Port Townsend Bay. This Record of Decision (ROD) addresses the nine sites observed at Port Hadlock Detachment. All nine sites were originally identifi ed as possible release areas and were studied under site hazard assessments according to state requirements to evaluate the presence of contamination. As a result, four of the sites (15, 19, 20, 22) were determined to require no further action. Thr ee of the sites (11, 12, 18) require only compliance monitoring because areas of contamination were removed in mid-1994. The two remaining sites (10, 21) were studied as part of a remedial investigation/ feasibility study and require action. Site 1 0, North End Landfill, is an approximately 3.7- acre landfill on the north end of Port Hadlock Detachment. The site is relatively flat and is covered with grass. This site was used as the primary landfill for the island from about 1945 until the mi d-1970s. An incinerator burned materials at the site from the 1940s to 1953. There was a trench located below the incinerator into which oil, paints, thinners, and other liquid wastes were dumped. Materials reportedly disposed of in the landf
ill include paint, thinners, strippers, oil, lead and zinc batteries, asbestos, submarine nets, metal parts, polyurethane resins, zinc-plating slag, residential trash, ash, and drums of unidentified liquid waste. No records indicate that any explos ive-related materials were disposed of at Site 10. The landfill extends to the beaches and has eroded into the marine environment there, contaminating it. As long as the landfill is exposed, wave action and storm events may continue eroding the lan dfill onto the beach. Since 1988, as a result of environmental investigations of the landfill, the beaches have been closed to shellfish collection. Site 21, an area of approximately 5,000 square feet immediately east of Building 86, is near the ce nter of Port Hadlock Detachment. The area around the

NAVMAG INDIAN ISLAND (Continued) **1000160363**

building, including a portion of Site 21, was paved in 1982. The site was reportedly used in the early 1940s as a disposal site for waste oils, solvents, electrical equipment, and paint. One bac k-up water-supply well is approximately 1,500 feet north, and another is 100 feet south of Site 21. Both wells were drilled in 1941. The pumps were removed in the early 1980s. According to records, Port Hadlock began purchasing water, provided via pipeline from Port Townsend, in 1945. Therefore, it is possible that the wells supplied water to the island for 4 years between their installation and the purchase of water from Port Townsend.

CERCLIS Assessment History:

Assessment:	DISCOVERY	Completed:	06/01/1981
Assessment:	PRELIMINARY ASSESSMENT	Completed:	04/07/1992
Assessment:	HRS PACKAGE	Completed:	05/06/1993
Assessment:	PROPOSAL TO NPL	Completed:	06/23/1993
Assessment:	FINAL LISTING ON NPL	Completed:	05/31/1994
Assessment:	FF RI/FS	Completed:	08/04/1995
Assessment:	RECORD OF DECISION	Completed:	08/04/1995
Assessment:	FF RD	Completed:	06/12/1996
Assessment:	FEDERAL INTERAGENCY AGREEMENT	Completed:	07/30/1996
Assessment:	IAG NEGOTIATIONS	Completed:	07/30/1996
Assessment:	FF RA	Completed:	09/29/1997
Assessment:	FF FIVE YEAR REVIEW	Completed:	09/26/2000
Assessment:	Explanation Of Significant Differences	Completed:	11/19/2004
Assessment:	DELETION FROM NPL	Completed:	06/14/2005
Assessment:	FF FIVE YEAR REVIEW	Completed:	09/29/2005

CERCLIS Site Status:
Not reported

CERCLIS Alias Name(s):
NAVAL UNDERSEA WARFARE ENGINEERING STATION
INDIAN ISLAND DEPOT
USNAVY - NAVAL UNDERSEA WARFARE ENG STA
PORT HADLOCK DETACHMENT (USNAVY)
USNAVY PORT HADLOCK DETACHMENT NAVAL ORDNANCE CTR PAC DIV
USNAVY PORT HADLOCK DETACHMENT NAVAL ORDINANCE CTR PAC DIV
PORT HADLOCK DETACHMENT (USNAVY)
PORT HADLOCK DETACHMENT (USNAVY)
PORT HADLOCK DETACHMENT/NAVAL ORDNANCE CTR PAC DIV

CORRACTS Data:

EPA Id:	WA4170090001
Region:	10
Area Name:	ENTIRE FACILITY
Actual Date:	08/03/1995
Corrective Action:	CA050 - RFA Completed
2002 NAICS Title:	National Security

EPA Id:	WA4170090001
Region:	10
Area Name:	ENTIRE FACILITY
Actual Date:	08/28/1995
Corrective Action:	CA210SF - CA Responsibility Referred To A Non-RCRA Federal Authority, Corrective Action at the facility or area referred to CERCLA
2002 NAICS Title:	National Security

US Engineering Control Sites:
EPA ID: WA4170090001

NAVMAG INDIAN ISLAND (Continued) **1000160363**

Site ID: 1001117
EPA Region: 10
County: JEFFERSON
Event Code : Not reported
Actual Date: Not reported

Action ID: 001
Action Name: RECORD OF DECISION
Action Completion date: 08/04/1995
Planned Completion date: 09/30/1995
Operable Unit: 01
Contaminated Media: Soil
Contam. Media num.: 10270983.00000
Engineering Control: Cap

Action ID: 001
Action Name: RECORD OF DECISION
Action Completion date: 08/04/1995
Planned Completion date: 09/30/1995
Operable Unit: 01
Contaminated Media: Soil
Contam. Media num.: 10270984.00000
Engineering Control: Cap

Delisted NPL:
EPA ID: WA4170090001
Region: 10
Federal: Federal
Deleted Date: 06/14/2005

Site Details:
Site Name: PORT HADLOCK DETACHMENT (USNAVY)
Site Status: Deleted
Status Date: 06/14/2005
Site City: INDIAN ISLAND
Site State WA
Federal Site: Federal Facility
HRS Score: 50.00
GW Score: 0.00
SW Score: 100.00
Air Score: Not reported
Soil Score: Not reported
DC Score: Not reported
FE Score: Not reported

Substance Details:
Site ID: Not reported
NPL Status: Deleted from the Final NPL
Substance ID: A003
CAS #: Not reported
Substance: ANTIMONY AND COMPOUNDS
Pathway: NO PATHWAY INDICATED
Scoring: 1

Site ID: Not reported
NPL Status: Deleted from the Final NPL
Substance ID: A009
CAS #: 207-08-9
Substance: BENZO(K)FLUORANTHENE
Pathway: NO PATHWAY INDICATED

NAVMAG INDIAN ISLAND (Continued) **1000160363**

Scoring: 1

Site ID: Not reported
NPL Status: Deleted from the Final NPL
Substance ID: A023
CAS #: 72-55-9
Substance: DDE
Pathway: SURFACE WATER PATHWAY
Scoring: 2

Site ID: Not reported
NPL Status: Deleted from the Final NPL
Substance ID: A038
CAS #: Not reported
Substance: NICKEL AND COMPOUNDS
Pathway: SURFACE WATER PATHWAY
Scoring: 2

Site ID: Not reported
NPL Status: Deleted from the Final NPL
Substance ID: A046
CAS #: 1336-36-3
Substance: POLYCHLORINATED BIPHENYLS
Pathway: SURFACE WATER PATHWAY
Scoring: 3

Site ID: Not reported
NPL Status: Deleted from the Final NPL
Substance ID: C013
CAS #: 120-12-7
Substance: ANTHRACENE
Pathway: NO PATHWAY INDICATED
Scoring: 1

Site ID: Not reported
NPL Status: Deleted from the Final NPL
Substance ID: C178
CAS #: Not reported
Substance: COPPER AND COMPOUNDS
Pathway: NO PATHWAY INDICATED
Scoring: 1

Site ID: Not reported
NPL Status: Deleted from the Final NPL
Substance ID: C201
CAS #: Not reported
Substance: MANGANESE AND COMPOUNDS
Pathway: NO PATHWAY INDICATED
Scoring: 1

Site ID: Not reported
NPL Status: Deleted from the Final NPL
Substance ID: C247
CAS #: Not reported
Substance: ZINC AND COMPOUNDS
Pathway: SURFACE WATER PATHWAY
Scoring: 2

Site ID: Not reported
NPL Status: Deleted from the Final NPL
Substance ID: C332

NAVMAG INDIAN ISLAND (Continued) **1000160363**

CAS #: 85-01-8
Substance: PHENANTHRENE
Pathway: NO PATHWAY INDICATED
Scoring: 1

Site ID: Not reported
NPL Status: Deleted from the Final NPL
Substance ID: C385
CAS #: 129-00-0
Substance: PYRENE
Pathway: NO PATHWAY INDICATED
Scoring: 1

Site ID: Not reported
NPL Status: Deleted from the Final NPL
Substance ID: C431
CAS #: 86-73-7
Substance: FLUORENE
Pathway: NO PATHWAY INDICATED
Scoring: 1

Site ID: Not reported
NPL Status: Deleted from the Final NPL
Substance ID: C448
CAS #: 205-99-2
Substance: BENZOFLUORANTHENE, 3,4-
Pathway: NO PATHWAY INDICATED
Scoring: 1

Site ID: Not reported
NPL Status: Deleted from the Final NPL
Substance ID: C460
CAS #: 7439-97-6
Substance: MERCURY
Pathway: SURFACE WATER PATHWAY
Scoring: 3

Site ID: Not reported
NPL Status: Deleted from the Final NPL
Substance ID: D004
CAS #: 7440-38-2
Substance: ARSENIC
Pathway: NO PATHWAY INDICATED
Scoring: 1

Site ID: Not reported
NPL Status: Deleted from the Final NPL
Substance ID: D006
CAS #: 7440-43-9
Substance: CADMIUM (CD)
Pathway: SURFACE WATER PATHWAY
Scoring: 2

Site ID: Not reported
NPL Status: Deleted from the Final NPL
Substance ID: D007
CAS #: 7440-47-3
Substance: CHROMIUM
Pathway: SURFACE WATER PATHWAY
Scoring: 2

NAVMAG INDIAN ISLAND (Continued) **1000160363**

Site ID: Not reported
NPL Status: Deleted from the Final NPL
Substance ID: D008
CAS #: 7439-92-1
Substance: LEAD (PB)
Pathway: SURFACE WATER PATHWAY
Scoring: 2

Site ID: Not reported
NPL Status: Deleted from the Final NPL
Substance ID: P037
CAS #: 60-57-1
Substance: DIELDRIN
Pathway: NO PATHWAY INDICATED
Scoring: 1

Site ID: Not reported
NPL Status: Deleted from the Final NPL
Substance ID: P050
CAS #: 115-29-7
Substance: ENDOSULFAN
Pathway: NO PATHWAY INDICATED
Scoring: 1

Site ID: Not reported
NPL Status: Deleted from the Final NPL
Substance ID: U018
CAS #: 56-55-3
Substance: BENZ(A)ANTHRACENE
Pathway: NO PATHWAY INDICATED
Scoring: 1

Site ID: Not reported
NPL Status: Deleted from the Final NPL
Substance ID: U022
CAS #: 50-32-8
Substance: BENZO(A)PYRENE
Pathway: NO PATHWAY INDICATED
Scoring: 1

Site ID: Not reported
NPL Status: Deleted from the Final NPL
Substance ID: U050
CAS #: 218-01-9
Substance: CHRYSENE
Pathway: NO PATHWAY INDICATED
Scoring: 1

Site ID: Not reported
NPL Status: Deleted from the Final NPL
Substance ID: U060
CAS #: 72-54-8
Substance: DDD
Pathway: SURFACE WATER PATHWAY
Scoring: 2

Site ID: Not reported
NPL Status: Deleted from the Final NPL
Substance ID: U061
CAS #: 50-29-3
Substance: DDT

NAVMAG INDIAN ISLAND (Continued) **1000160363**

Pathway: SURFACE WATER PATHWAY
Scoring: 2

Site ID: Not reported
NPL Status: Deleted from the Final NPL
Substance ID: U120
CAS #: 206-44-0
Substance: BENZO(J,K)FLUORENE
Pathway: NO PATHWAY INDICATED
Scoring: 1

Site ID: Not reported
NPL Status: Deleted from the Final NPL
Substance ID: U137
CAS #: 193-39-5
Substance: INDENO(1,2,3-CD)PYRENE
Pathway: NO PATHWAY INDICATED
Scoring: 1

Site ID: Not reported
NPL Status: Deleted from the Final NPL
Substance ID: U165
CAS #: 91-20-3
Substance: NAPHTHALENE
Pathway: NO PATHWAY INDICATED
Scoring: 1

Site ID: Not reported
NPL Status: Deleted from the Final NPL
Substance ID: U210
CAS #: 127-18-4
Substance: TETRACHLOROETHENE
Pathway: NO PATHWAY INDICATED
Scoring: 1

Site ID: Not reported
NPL Status: Deleted from the Final NPL
Substance ID: Not reported
CAS #: Not reported
Substance: Not reported
Pathway: Not reported
Scoring: Not reported

Summary Details:

" Port Hadlock Detachment of the U.S.Navy, is located on Indian Island in Jefferson County southeast of the city of Port Townsend, Washington. The 2,700-acre island is approximately 4.5 miles long and 0.5 miles wide. The island was pur
chased by the Navy in 1948 to store explosives. Currently, the island receives, stores, maintains, and issues Naval ordnance; assembles anti-submarine rocket airframes; and provides mine maintenance. Sources of hazardous waste activity at
the site include municipal and industrial landfills, drum and container storage areas, above and below ground storage tanks, burn pits, spills, and possible areas of illegal dumping. Potentially hazardous wastes associated with the sources at
the site include heavy metals, pesticides, PCBs, solvents, explosives, paints and pigments, and acids and bases. Site investigations conducted by the Navy in 1989 documented marine sediments contaminated with heavy metals, PCBs, and other

NAVMAG INDIAN ISLAND (Continued) **1000160363**

organic compounds. Shellfish have also been found contaminated with heavy metals and pesticides. Commercial and recreational harvesting of shellfish occurs on the beaches at the north and south ends of the island, at Bishop's Point on the
east side of the island, as well as in coastal waters surrounding the island. The beach at the north end has been posted as closed for the collection of shellfish. Although most of the island is restricted, civilians occasionally enter along b
eaches by boat to collect clams. Native Americans also are permitted access for collecting shellfish. Fort Flagler State Park is located a few hundred feet from the north end of the island. [The description of the site (release) is based
on information available at the time the site was scored. The description may change as additional information is gathered on the sources and extent of contamination. See 56 FR 5600, February 11, 1991, or subsequent FR notices.]"

Site Status Details:
NPL Status: Final
Proposed Date: 06/23/1993
Final Date: 05/31/1994
Deleted Date: Not reported

ROD:
Full-text of USEPA Record of Decision(s) is available from EDR.

RCRAInfo Corrective Action Summary:
Event: CA Responsibility Referred To A Non-RCRA Federal Authority, Corrective Action at the facility or area referred to CERCLA.
Event Date: 08/28/1995

Event: RFA Completed
Event Date: 08/03/1995

RCRAInfo:
Owner: NOCPACDIV PORT HADLOCK DETACHMENT
(360)396-5236
EPA ID: WA4170090001

Contact: Not reported

Classification: Large Quantity Generator
TSDF Activities: Not reported

BIENNIAL REPORTS:
Last Biennial Reporting Year: 2003

Waste	Quantity (Lbs)	Waste	Quantity (Lbs)
D001	5339.00	D002	2921.00
D006	279.00	D007	504.00
D008	212140.00	D009	208.00
D010	279.00	D011	29.00
D018	1135.00	D021	196.00
D035	879.00	D039	20.00
F002	90.00	F003	90.00
F005	90.00	U002	90.00

NAVMAG INDIAN ISLAND (Continued) **1000160363**

Violation Status: Violations exist

Regulation Violated: -303-290
Area of Violation: TSD-GENERAL STANDARDS
Date Violation Determined: 02/01/1993
Actual Date Achieved Compliance: 03/15/1993

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 02/01/1993
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 02/22/1994
Penalty Type: Not reported

Regulation Violated: -303-200
Area of Violation: GENERATOR-GENERAL REQUIREMENTS
Date Violation Determined: 02/01/1993
Actual Date Achieved Compliance: 02/01/1993

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 02/01/1993
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 02/22/1994
Penalty Type: Not reported

Regulation Violated: -303-210
Area of Violation: GENERATOR-GENERAL REQUIREMENTS
Date Violation Determined: 02/01/1993
Actual Date Achieved Compliance: 03/15/1993

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 02/01/1993
Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 02/22/1994
Penalty Type: Not reported

Regulation Violated: -630(3)
Area of Violation: GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Date Violation Determined: 07/01/1992
Actual Date Achieved Compliance: 07/01/1992

Enforcement Action: INITIAL NOTICE OF NON-COMPLIANCE, FEDERAL FACILITY
Enforcement Action Date: 04/12/1989
Penalty Type: Not reported

Regulation Violated: -630(5)(c)
Area of Violation: GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Date Violation Determined: 05/06/1992
Actual Date Achieved Compliance: 07/01/1992

Regulation Violated: -630(5)(b)
Area of Violation: GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Date Violation Determined: 05/06/1992
Actual Date Achieved Compliance: 07/01/1992

Regulation Violated: -141(1)
Area of Violation: GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Date Violation Determined: 05/06/1992
Actual Date Achieved Compliance: 07/01/1992

NAVMAG INDIAN ISLAND (Continued) **1000160363**

Regulation Violated: 395(1)
Area of Violation: TSD-CONTAINERS REQUIREMENTS
Date Violation Determined: 12/11/1990
Actual Date Achieved Compliance: 12/30/1990

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/28/1985
Penalty Type: Not reported

Regulation Violated: 200(1)(B)
Area of Violation: TSD-CONTAINERS REQUIREMENTS
Date Violation Determined: 12/11/1990
Actual Date Achieved Compliance: 12/11/1990

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 06/28/1985
Penalty Type: Not reported

Regulation Violated: 200(2)(C)
Area of Violation: GENERATOR-GENERAL REQUIREMENTS
Date Violation Determined: 12/11/1990
Actual Date Achieved Compliance: 12/12/1990

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 10/06/1986
Penalty Type: Not reported

Regulation Violated: 630(3), 630(6), 320(3)
Area of Violation: TSD-CONTAINERS REQUIREMENTS
Date Violation Determined: 12/11/1990
Actual Date Achieved Compliance: 12/12/1990

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 10/06/1986
Penalty Type: Not reported

Regulation Violated: 070
Area of Violation: TSD-OTHER REQUIREMENTS
Date Violation Determined: 12/11/1990
Actual Date Achieved Compliance: 01/07/1991

Regulation Violated: 40CFR268.7(A)(2)
Area of Violation: TSD-OTHER REQUIREMENTS
Date Violation Determined: 12/11/1990
Actual Date Achieved Compliance: 09/15/1991

Enforcement Action: INITIAL NOTICE OF NON-COMPLIANCE, FEDERAL FACILITY
Enforcement Action Date: 04/12/1989
Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: TSD-OTHER REQUIREMENTS (OVERSIGHT)
Date Violation Determined: 05/14/1990
Actual Date Achieved Compliance: 06/15/1990

Regulation Violated: Not reported
Area of Violation: TSD-CLOSURE/POST-CLOSURE REQUIREMENTS
Date Violation Determined: 09/20/1988
Actual Date Achieved Compliance: 12/30/1989

Enforcement Action: INITIAL NOTICE OF NON-COMPLIANCE, FEDERAL FACILITY
Enforcement Action Date: 04/12/1989
Penalty Type: Not reported

NAVMAG INDIAN ISLAND (Continued) **1000160363**

Regulation Violated: Not reported
Area of Violation: TSD-OTHER REQUIREMENTS (OVERSIGHT)
Date Violation Determined: 09/20/1988
Actual Date Achieved Compliance: 12/30/1989

Enforcement Action: INITIAL NOTICE OF NON-COMPLIANCE, FEDERAL FACILITY
Enforcement Action Date: 04/12/1989
Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: TSD-CLOSURE/POST-CLOSURE REQUIREMENTS
Date Violation Determined: 09/24/1987
Actual Date Achieved Compliance: 12/30/1989

Regulation Violated: Not reported
Area of Violation: TSD-OTHER REQUIREMENTS (OVERSIGHT)
Date Violation Determined: 08/21/1986
Actual Date Achieved Compliance: 11/23/1986

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 10/06/1986
Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: TSD-MANIFEST REQUIREMENTS
Date Violation Determined: 08/21/1986
Actual Date Achieved Compliance: 11/23/1986

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 10/06/1986
Penalty Type: Not reported

There are 19 violation record(s) reported at this site:

Evaluation	Area of Violation	Date of Compliance
Compliance Evaluation Inspection	TSD-GENERAL STANDARDS	19930315
	GENERATOR-GENERAL REQUIREMENTS	19930201
	GENERATOR-GENERAL REQUIREMENTS	19930315
Compliance Evaluation Inspection	TSD-GENERAL STANDARDS	19930315
	GENERATOR-GENERAL REQUIREMENTS	19930201
	GENERATOR-GENERAL REQUIREMENTS	19930315
Compliance Evaluation Inspection	TSD-GENERAL STANDARDS	19930315
Compliance Evaluation Inspection	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19920701
	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19920701
	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19920701
	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19920701
Compliance Evaluation Inspection	GENERATOR-GENERAL REQUIREMENTS	19901212
	TSD-CONTAINERS REQUIREMENTS	19901212
	TSD-OTHER REQUIREMENTS	19910107
	TSD-OTHER REQUIREMENTS	19910915
Compliance Evaluation Inspection	TSD-OTHER REQUIREMENTS (OVERSIGHT)	19900615
Compliance Evaluation Inspection	TSD-CLOSURE/POST-CLOSURE REQUIREMENTS	19891230
	TSD-OTHER REQUIREMENTS (OVERSIGHT)	19891230
Compliance Evaluation Inspection	TSD-CLOSURE/POST-CLOSURE REQUIREMENTS	19891230
Compliance Evaluation Inspection	TSD-OTHER REQUIREMENTS (OVERSIGHT)	19861123
	TSD-MANIFEST REQUIREMENTS	19861123
Compliance Evaluation Inspection	TSD-CONTAINERS REQUIREMENTS	19901230
	TSD-CONTAINERS REQUIREMENTS	19901211

NAVMAG INDIAN ISLAND (Continued) **1000160363**

FINDS:

Other Pertinent Environmental Activity Identified at Site:

CERCLIS (Comprehensive Environmental Response, Compensation, and Liability Information System) is the Superfund database that is used to support management in all phases of the Superfund program. The system contains information on all aspects of hazardous waste sites, including an inventory of sites, planned and actual site activities, and financial information.

ICIS (Integrated Compliance Information System) is the Integrated Compliance Information System and provides a database that, when complete, will contain integrated Enforcement and Compliance information across most of EPA's programs. The vision for ICIS is to replace EPA's independent databases that contain Enforcement data with a single repository for that information. Currently, ICIS contains all Federal Administrative and Judicial enforcement actions. This information is maintained in ICIS by EPA in the Regional offices and it Headquarters. A future release of ICIS will replace the Permit Compliance System (PCS) which supports the NPDES and will integrate that information with Federal actions already in the system. ICIS also has the capability to track other activities occurring in the Region that support Compliance and Enforcement programs. These include; Incident Tracking, Compliance Assistance, and Compliance Monitoring.

NCDB (National Compliance Data Base) supports implementation of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Toxic Substances Control Act (TSCA). The system tracks inspections in regions and states with cooperative agreements, enforcement actions, and settlements.

PCS (Permit Compliance System) is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

WA-DOEFSIS (Washington - Department Of Ecology Facility / Site Identification System) is the Department of Ecology's Facility/Site identification system that provides a means to query and display data maintained by the Department of Ecology. This system contains key information for each facility/site that is currently, or has been, of interest to the departments Air Quality, Dam Safety, Hazardous Waste, Toxics Cleanup, and Water Quality Programs.

SHWS:

Facility ID: 203
MTBE Code: Not reported
Prog plan code : Not reported
UXO Code : Not reported
Lat/Long : 48.032380000000003 / -122.72942
Responsible Unit: Headquarters Site Cleanup Section
Ecology Site Status relative to the MTCA cleanup process:
Remedial Action in progress
Independent Site Status - those sites undergoing an independent cleanup:
Not reported
WARM Bin Number indicates the outcome of the Washington Ranking Model (WARM):
Affected Media Status: C (Confirmed) - The presence of hazardous substances above MTCA cleanup levels has been confirmed by laboratory analysis (or field determination in the case of petroleum contamination)
Affected Media : Ground Water
Arsenic Code: Not reported

Base/Neutral/Acid Organics:	Not reported
Halogenated Organic Compounds:	Confirmed above MTCA cleanup levels
EPA Priority Pollutants - Metals and Cyanide:	Confirmed above MTCA cleanup levels
Metals - Other non-priority pollutant medals:	Not reported
Polychlorinated biPhenyls (PCBs):	Confirmed above MTCA cleanup levels
Pesticides:	Confirmed above MTCA cleanup levels
Petroleum Products:	Not reported
Phenolic Compounds:	Not reported

NAVMAG INDIAN ISLAND (Continued) **1000160363**

Non-Halogenated Solvents:	Not reported
Dioxin:	Not reported
Polynuclear Aromatic Hydrocarbons (PAH):	Not reported
Reactive Wastes:	Not reported
Corrosive Wastes:	Not reported
Radioactive Wastes:	Not reported
Asbestos:	Not reported
Conventional Contaminants, Organic:	Confirmed above MTCA cleanup levels
Conventional Contaminants, Inorganic:	Not reported
Lat/Long : 48˚ 1´ 56˝ / 122˚ 43´ 45˝	
Media Id :	261
Media Type Description :	Groundwater
Media Status Description :	Confirmed
Tibutyl Tin Contaminant Group :	Not reported
Bioassay/benthic Failures Contam group :	Not reported
Wood Debris Contaminant Group :	Not reported
Other Deleterious Substance Group :	Not reported

Facility ID: 203
MTBE Code: Not reported
Prog plan code : Not reported
UXO Code : Not reported
Lat/Long : 48.032380000000003 / -122.72942
Responsible Unit: Headquarters Site Cleanup Section
Ecology Site Status relative to the MTCA cleanup process:
Remedial Action in progress
Independent Site Status - those sites undergoing an independent cleanup:
Not reported
WARM Bin Number indicates the outcome of the Washington Ranking Model (WARM):
Affected Media Status: C (Confirmed) - The presence of hazardous substances above MTCA cleanup levels has been confirmed by laboratory analysis (or field determination in the case of petroleum contamination)
Affected Media : Soil
Arsenic Code: Not reported

Base/Neutral/Acid Organics:	Confirmed above MTCA cleanup levels
Halogenated Organic Compounds:	Not reported
EPA Priority Pollutants - Metals and Cyanide:	Confirmed above MTCA cleanup levels
Metals - Other non-priority pollutant medals:	Not reported
Polychlorinated biPhenyls (PCBs):	Confirmed above MTCA cleanup levels
Pesticides:	Confirmed above MTCA cleanup levels
Petroleum Products:	Not reported
Phenolic Compounds:	Not reported
Non-Halogenated Solvents:	Not reported
Dioxin:	Not reported
Polynuclear Aromatic Hydrocarbons (PAH):	Confirmed above MTCA cleanup levels
Reactive Wastes:	Not reported
Corrosive Wastes:	Not reported
Radioactive Wastes:	Not reported
Asbestos:	Not reported
Conventional Contaminants, Organic:	Not reported
Conventional Contaminants, Inorganic:	Not reported
Lat/Long : 48˚ 1´ 56˝ / 122˚ 43´ 45˝	
Media Id :	262
Media Type Description :	Soil
Media Status Description :	Confirmed
Tibutyl Tin Contaminant Group :	Not reported
Bioassay/benthic Failures Contam group :	Not reported

NAVMAG INDIAN ISLAND (Continued) **1000160363**

Wood Debris Contaminant Group : Not reported
Other Deleterious Substance Group : Not reported

Facility ID: 203
MTBE Code: Not reported
Prog plan code : Not reported
UXO Code : Not reported
Lat/Long : 48.032380000000003 / -122.72942
Responsible Unit: Headquarters Site Cleanup Section
Ecology Site Status relative to the MTCA cleanup process:
Remedial Action in progress
Independent Site Status - those sites undergoing an independent cleanup:
Not reported
WARM Bin Number indicates the outcome of the Washington Ranking Model (WARM):
Affected Media Status: C (Confirmed) - The presence of hazardous substances above MTCA cleanup levels has been confirmed by laboratory analysis (or field determination in the case of petroleum contamination)
Affected Media : Sediments
Arsenic Code: Not reported
Base/Neutral/Acid Organics: Not reported
Halogenated Organic Compounds: Not reported
EPA Priority Pollutants - Metals and Cyanide: Not reported
Metals - Other non-priority pollutant medals: Not reported
Polychlorinated biPhenyls (PCBs): Not reported
Pesticides: Not reported
Petroleum Products: Not reported
Phenolic Compounds: Confirmed above MTCA cleanup levels
Non-Halogenated Solvents: Not reported
Dioxin: Not reported
Polynuclear Aromatic Hydrocarbons (PAH): Not reported
Reactive Wastes: Not reported
Corrosive Wastes: Not reported
Radioactive Wastes: Not reported
Asbestos: Not reported
Conventional Contaminants, Organic: Not reported
Conventional Contaminants, Inorganic: Not reported
Lat/Long : 48˚ 1´ 56˝ / 122˚ 43´ 45˝
Media Id : 263
Media Type Description : Sediment
Media Status Description : Confirmed
Tibutyl Tin Contaminant Group : Not reported
Bioassay/benthic Failures Contam group : Not reported
Wood Debris Contaminant Group : Not reported
Other Deleterious Substance Group : Not reported

WA MANIFEST:
Facility Site ID Number: 23355136
Permit by Rule: False
Treatment by Generator: False
Mixed radioactive waste: False
Importer of hazardous waste: False
Immediate recycler: False
Treatment/Storage/Disposal/Recycling Facility: False
Generator of dangerous fuel waste: False
Generator marketing to burner: False
"Other marketers (i.e., blender, distributor, etc.)": False
Utility boiler burner: False
Industry boiler burner: False

NAVMAG INDIAN ISLAND (Continued) **1000160363**

Industrial Furnace:	False
Smelter defferal:	False
Universal waste - batteries - generate:	False
Universal waste - thermostats - generate:	False
Universal waste - mercury - generate:	False
Universal waste - lamps - generate:	False
Universal waste - batteries - accumulate:	False
Universal waste - thermostats - accumulate:	False
Universal waste - mercury - accumulate:	False
Universal waste - lamps - accumulate:	False
Destination Facility for Universal Waste:	False
Off-specification used oil burner - utility boiler:	False
Off-specification used oil burner - industrial boiler:	False
Off-specification used oil burner - industrial furnace:	False
EPA ID:	WA4170090001
Facility Address 2:	Not reported
TAX REG NBR:	NA
NAICS CD:	92811
BUSINESS TYPE:	Not reported
MAIL NAME:	NAVMAG Indian Island
MAIL ADDR LINE1:	100 Indian Island Rd
MAIL CITY,ST,ZIP:	PORT HADLOCK, WA 98339-9723
MAIL COUNTRY:	UNITED STATES
LEGAL ORG NAME:	NAVMAG Indian Island
LEGAL ORG TYPE:	Federal
LEGAL ADDR LINE1:	100 Indian Island Rd
LEGAL CITY,ST,ZIP:	PORT HADLOCK, WA 98339-9723
LEGAL COUNTRY:	UNITED STATES
LEGAL PHONE NBR:	(360)396-5227
LEGAL EFFECTIVE DATE:	02/27/01
LAND ORG NAME:	NAVMAG Indian Island
LAND ORG TYPE:	Federal
LAND PERSON NAME:	Not reported
LAND ADDR LINE1:	100 Indian Island Rd
LAND CITY,ST,ZIP:	PORT HADLOCK, WA 98339-9723
LAND COUNTRY:	UNITED STATES
LAND PHONE NBR:	(360)396-5227
OPERATOR ORG NAME:	NAVMAG Indian Island
OPERATOR ORG TYPE:	Federal
OPERATOR ADDR LINE1:	100 INDIAN ISLAND RD
OPERATOR CITY,ST,ZIP:	PORT HADLOCK, WA 98339
OPERATOR COUNTRY:	UNITED STATES
OPERATOR PHONE NBR:	(360)396-5353
OPERATOR EFFECTIVE DATE:	06/14/96
SITE CONTACT NAME:	Jon D Kurtz
SITE CONTACT ADDR LINE1:	100 Indian Island Rd
SITE CONTACT ZIP:	PORT HADLOCK, WA 98339-9723
SITE CONTACT COUNTRY:	UNITED STATES
SITE CONTACT PHONE NBR:	(360)396-5227
SITE CONTACT EMAIL:	Not reported
FORM CONTACT NAME:	Lori Strege
FORM CONTACT ADDR LINE1:	100 Indian Island Rd
FORM CONTACT CITY,ST,ZIP:	PORT HADLOCK, WA 98339-9723
FORM CONTACT COUNTRY:	UNITED STATES
FORM CONTACT PHONE NBR:	(360)396-5394
FORM CONTACT EMAIL:	Lori.Strege@navy.mil
GEN STATUS CD:	LQG

NAVMAG INDIAN ISLAND (Continued) **1000160363**

MONTHLY GENERATION:	True
BATCH GENERATION:	False
ONE TIME GENERATION:	False
TRANSPORTS OWN WASTE:	False
TRANSPORTS OTHRS WASTE:	False
RECYCLER ONSITE:	False
TRANSFER FACILITY:	False
OTHER EXEMPTION:	Not reported
UW BATTERY GEN:	False
USED OIL TRANSPORTER:	False
USED OIL TRANSFER FACLTY:	False
USED OIL PROCESSOR:	False
USED OIL REREFINER:	False
USED OIL FUEL MRKTR DIRECTS SHPMNTS:	False
USED OIL FUEL MRKTR MEETS SPECS:	False

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
NORDLAND	S107566001	RALPH RUSH PROPERTY	5033 FLAGLER	98358	CSCSL

EPA Waste Codes Addendum

Code	Description
D001	IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.
D002	A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.
D006	CADMIUM
D007	CHROMIUM
D008	LEAD
D009	MERCURY
D010	SELENIUM
D011	SILVER
D018	BENZENE
D021	CHLOROBENZENE
D035	METHYL ETHYL KETONE
D039	TETRACHLOROETHYLENE
F002	THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2-TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE LISTED IN F001, F004, OR F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
F003	THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND

EPA Waste Codes Addendum

Code	Description
	F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
F005	THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
U002	ACETONE (I)
U002	2-PROPANONE (I)

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

FEDERAL RECORDS

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 04/19/2006
Date Data Arrived at EDR: 05/05/2006
Date Made Active in Reports: 05/22/2006
Number of Days to Update: 17

Source: EPA
Telephone: N/A
Last EDR Contact: 05/05/2006
Next Scheduled EDR Contact: 07/31/2006
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 8
Telephone: 303-312-6774

EPA Region 4
Telephone 404-562-8033

Proposed NPL: Proposed National Priority List Sites

Date of Government Version: 04/19/2006
Date Data Arrived at EDR: 05/05/2006
Date Made Active in Reports: 05/22/2006
Number of Days to Update: 17

Source: EPA
Telephone: N/A
Last EDR Contact: 05/05/2006
Next Scheduled EDR Contact: 07/31/2006
Data Release Frequency: Quarterly

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 04/19/2006
Date Data Arrived at EDR: 05/05/2006
Date Made Active in Reports: 05/22/2006
Number of Days to Update: 17

Source: EPA
Telephone: N/A
Last EDR Contact: 05/05/2006
Next Scheduled EDR Contact: 07/31/2006
Data Release Frequency: Quarterly

NPL RECOVERY: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 05/23/2006
Next Scheduled EDR Contact: 08/21/2006
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System
CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 02/01/2006
Date Data Arrived at EDR: 03/21/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 23

Source: EPA
Telephone: 703-413-0223
Last EDR Contact: 03/21/2006
Next Scheduled EDR Contact: 06/19/2006
Data Release Frequency: Quarterly

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned
Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 02/01/2006
Date Data Arrived at EDR: 03/21/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 23

Source: EPA
Telephone: 703-413-0223
Last EDR Contact: 03/21/2006
Next Scheduled EDR Contact: 06/19/2006
Data Release Frequency: Quarterly

CORRACTS: Corrective Action Report
CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/15/2006
Date Data Arrived at EDR: 03/17/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 27

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 05/21/2006
Next Scheduled EDR Contact: 09/04/2006
Data Release Frequency: Quarterly

RCRA: Resource Conservation and Recovery Act Information
RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS). The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month. Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month. Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month. Transporters are individuals or entities that move hazardous waste from the generator off-site to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 03/09/2006
Date Data Arrived at EDR: 04/27/2006
Date Made Active in Reports: 05/30/2006
Number of Days to Update: 33

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 04/27/2006
Next Scheduled EDR Contact: 06/26/2006
Data Release Frequency: Quarterly

ERNS: Emergency Response Notification System
Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 01/12/2006
Date Made Active in Reports: 02/21/2006
Number of Days to Update: 40

Source: National Response Center, United States Coast Guard
Telephone: 202-260-2342
Last EDR Contact: 04/26/2006
Next Scheduled EDR Contact: 07/24/2006
Data Release Frequency: Annually

HMIRS: Hazardous Materials Information Reporting System
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 04/14/2006
Date Made Active in Reports: 05/30/2006
Number of Days to Update: 46

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 04/14/2006
Next Scheduled EDR Contact: 07/17/2006
Data Release Frequency: Annually

US ENG CONTROLS: Engineering Controls Sites List
A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 03/21/2006
Date Data Arrived at EDR: 03/27/2006
Date Made Active in Reports: 05/22/2006
Number of Days to Update: 56

Source: Environmental Protection Agency
Telephone: 703-603-8905
Last EDR Contact: 03/03/2006
Next Scheduled EDR Contact: 07/03/2006
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls
A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 03/21/2006
Date Data Arrived at EDR: 03/27/2006
Date Made Active in Reports: 05/22/2006
Number of Days to Update: 56

Source: Environmental Protection Agency
Telephone: 703-603-8905
Last EDR Contact: 03/03/2006
Next Scheduled EDR Contact: 07/03/2006
Data Release Frequency: Varies

DOD: Department of Defense Sites
This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 02/08/2005
Date Made Active in Reports: 08/04/2005
Number of Days to Update: 177

Source: USGS
Telephone: 703-692-8801
Last EDR Contact: 05/12/2006
Next Scheduled EDR Contact: 08/07/2006
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites
The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 01/19/2006
Date Made Active in Reports: 02/21/2006
Number of Days to Update: 33

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 04/03/2006
Next Scheduled EDR Contact: 07/03/2006
Data Release Frequency: Varies

US BROWNFIELDS: A Listing of Brownfields Sites

Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: 04/26/2006
Date Data Arrived at EDR: 04/27/2006
Date Made Active in Reports: 05/30/2006
Number of Days to Update: 33

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 03/13/2006
Next Scheduled EDR Contact: 06/12/2006
Data Release Frequency: Semi-Annually

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/14/2004
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 04/25/2005
Number of Days to Update: 69

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 03/13/2006
Next Scheduled EDR Contact: 07/24/2006
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 04/13/2006
Date Data Arrived at EDR: 04/28/2006
Date Made Active in Reports: 05/30/2006
Number of Days to Update: 32

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 04/05/2006
Next Scheduled EDR Contact: 07/03/2006
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 11/04/2005
Date Data Arrived at EDR: 11/28/2005
Date Made Active in Reports: 01/30/2006
Number of Days to Update: 63

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 03/20/2006
Next Scheduled EDR Contact: 06/19/2006
Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2003
Date Data Arrived at EDR: 07/13/2005
Date Made Active in Reports: 08/17/2005
Number of Days to Update: 35

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 03/21/2006
Next Scheduled EDR Contact: 06/19/2006
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2002
Date Data Arrived at EDR: 04/14/2006
Date Made Active in Reports: 05/30/2006
Number of Days to Update: 46

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 04/12/2006
Next Scheduled EDR Contact: 07/17/2006
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 03/29/2006
Date Data Arrived at EDR: 04/26/2006
Date Made Active in Reports: 05/30/2006
Number of Days to Update: 34

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 03/20/2006
Next Scheduled EDR Contact: 06/19/2006
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

Date of Government Version: 03/31/2006
Date Data Arrived at EDR: 04/26/2006
Date Made Active in Reports: 05/30/2006
Number of Days to Update: 34

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 03/20/2006
Next Scheduled EDR Contact: 06/19/2006
Data Release Frequency: Quarterly

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 05/11/2006
Date Made Active in Reports: 05/22/2006
Number of Days to Update: 11

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 03/06/2006
Next Scheduled EDR Contact: 07/17/2006
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 02/13/2006
Date Data Arrived at EDR: 04/21/2006
Date Made Active in Reports: 05/11/2006
Number of Days to Update: 20

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 04/11/2006
Next Scheduled EDR Contact: 07/17/2006
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 12/27/2005
Date Data Arrived at EDR: 02/08/2006
Date Made Active in Reports: 02/27/2006
Number of Days to Update: 19

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 06/02/2006
Next Scheduled EDR Contact: 08/07/2006
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/12/2006
Date Data Arrived at EDR: 04/26/2006
Date Made Active in Reports: 05/30/2006
Number of Days to Update: 34

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 04/03/2006
Next Scheduled EDR Contact: 07/03/2006
Data Release Frequency: Quarterly

MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 02/09/2006
Date Data Arrived at EDR: 03/29/2006
Date Made Active in Reports: 05/30/2006
Number of Days to Update: 62

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 03/29/2006
Next Scheduled EDR Contact: 06/26/2006
Data Release Frequency: Semi-Annually

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 04/27/2006
Date Data Arrived at EDR: 05/02/2006
Date Made Active in Reports: 05/30/2006
Number of Days to Update: 28

Source: EPA
Telephone: N/A
Last EDR Contact: 04/03/2006
Next Scheduled EDR Contact: 07/03/2006
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/05/2006
Next Scheduled EDR Contact: 09/04/2006
Data Release Frequency: No Update Planned

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2003
Date Data Arrived at EDR: 06/17/2005
Date Made Active in Reports: 08/04/2005
Number of Days to Update: 48

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 03/17/2006
Next Scheduled EDR Contact: 06/12/2006
Data Release Frequency: Biennially

STATE AND LOCAL RECORDS

CSCSL: Confirmed & Suspected Contaminated Sites List

State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 03/08/2006
Date Data Arrived at EDR: 03/08/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 36

Source: Department of Ecology
Telephone: 360-407-7200
Last EDR Contact: 05/16/2006
Next Scheduled EDR Contact: 08/14/2006
Data Release Frequency: Semi-Annually

HSL: Hazardous Sites List

The Hazardous Sites List is a subset of the CSCSL Report. It includes sites which have been assessed and ranked using the Washington Ranking Method (WARM).

Date of Government Version: 02/22/2006
Date Data Arrived at EDR: 03/27/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 17

Source: Department of Ecology
Telephone: 360-407-7200
Last EDR Contact: 06/06/2006
Next Scheduled EDR Contact: 09/04/2006
Data Release Frequency: Semi-Annually

CSCSL NFA: Confirmed & Contaminated Sites - No Further Action

The data set contains information about sites previously on the Confirmed and Suspected Contaminated Sites list that have received a No Further Action (NFA) determination. Because it is necessary to maintain historical records of sites that have been investigated and cleaned up, sites are not deleted from the database when cleanup activities are completed. Instead, a No Further Action code is entered based upon the type of NFA determination the site received.

Date of Government Version: 02/09/2006
Date Data Arrived at EDR: 02/14/2006
Date Made Active in Reports: 03/15/2006
Number of Days to Update: 29

Source: Department of Ecology
Telephone: 360-407-7170
Last EDR Contact: 05/16/2006
Next Scheduled EDR Contact: 08/14/2006
Data Release Frequency: Semi-Annually

SWF/LF: Solid Waste Facility Database

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 10/01/2004
Date Data Arrived at EDR: 01/06/2005
Date Made Active in Reports: 02/02/2005
Number of Days to Update: 27

Source: Department of Ecology
Telephone: 360-407-6132
Last EDR Contact: 04/05/2006
Next Scheduled EDR Contact: 07/03/2006
Data Release Frequency: Annually

SWTIRE: Solid Waste Tire Facilities

This study identified sites statewide with unauthorized accumulations of scrap tires.

Date of Government Version: 11/01/2005
Date Data Arrived at EDR: 03/16/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 28

Source: Department of Ecology
Telephone: N/A
Last EDR Contact: 04/05/2006
Next Scheduled EDR Contact: 07/03/2006
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LUST: Leaking Underground Storage Tanks Site List
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 03/08/2006
Date Data Arrived at EDR: 03/16/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 28

Source: Department of Ecology
Telephone: 360-407-7200
Last EDR Contact: 03/16/2006
Next Scheduled EDR Contact: 06/12/2006
Data Release Frequency: Quarterly

UST: Underground Storage Tank Database
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 04/27/2006
Date Data Arrived at EDR: 04/28/2006
Date Made Active in Reports: 06/05/2006
Number of Days to Update: 38

Source: Department of Ecology
Telephone: 360-407-7170
Last EDR Contact: 04/28/2006
Next Scheduled EDR Contact: 06/12/2006
Data Release Frequency: Quarterly

AST: Aboveground Storage Tank Locations
A listing of aboveground storage tank locations regulated by the Department of Ecology's Spill Prevention, Preparedness and Response Program.

Date of Government Version: 12/13/2005
Date Data Arrived at EDR: 12/14/2005
Date Made Active in Reports: 01/16/2006
Number of Days to Update: 33

Source: Department of Ecology
Telephone: 360-407-7562
Last EDR Contact: 05/30/2006
Next Scheduled EDR Contact: 08/28/2006
Data Release Frequency: Varies

MANIFEST: Hazardous Waste Manifest Data
Hazardous waste manifest information.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 04/24/2006
Date Made Active in Reports: 05/31/2006
Number of Days to Update: 37

Source: Department of Ecology
Telephone: N/A
Last EDR Contact: 05/15/2006
Next Scheduled EDR Contact: 08/14/2006
Data Release Frequency: Annually

SPILLS: Reported Spills
Spills reported to the Spill Prevention, Preparedness and Response Division.

Date of Government Version: 03/29/2006
Date Data Arrived at EDR: 04/13/2006
Date Made Active in Reports: 05/31/2006
Number of Days to Update: 48

Source: Department of Ecology
Telephone: 360-407-7450
Last EDR Contact: 04/12/2006
Next Scheduled EDR Contact: 07/03/2006
Data Release Frequency: Semi-Annually

INST CONTROL: Institutional Control Site List
Sites that have institutional controls.

Date of Government Version: 03/07/2006
Date Data Arrived at EDR: 03/08/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 36

Source: Department of Ecology
Telephone: 360-407-7170
Last EDR Contact: 06/05/2006
Next Scheduled EDR Contact: 09/04/2006
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Sites
Sites that have entered either the Voluntary Cleanup Program or its predecessor Independent Remedial Action Program.

Date of Government Version: 03/08/2006
Date Data Arrived at EDR: 03/08/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 36

Source: Department of Ecology
Telephone: 360-407-7200
Last EDR Contact: 05/16/2006
Next Scheduled EDR Contact: 08/14/2006
Data Release Frequency: Varies

ICR: Independent Cleanup Reports

These are remedial action reports Ecology has received from either the owner or operator of the sites. These actions have been conducted without department oversight or approval and are not under an order or decree. This database is no longer updated by the Department of Ecology.

Date of Government Version: 12/01/2002
Date Data Arrived at EDR: 01/03/2003
Date Made Active in Reports: 01/22/2003
Number of Days to Update: 19

Source: Department of Ecology
Telephone: 360-407-7200
Last EDR Contact: 05/15/2006
Next Scheduled EDR Contact: 08/14/2006
Data Release Frequency: No Update Planned

DRYCLEANERS: Drycleaner List

A listing of registered drycleaners who registered with the Department of Ecology (using the SIC code of 7215 and 7216) as hazardous waste generators.

Date of Government Version: 01/12/2006
Date Data Arrived at EDR: 03/23/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 21

Source: Department of Ecology
Telephone: 360-407-6732
Last EDR Contact: 05/15/2006
Next Scheduled EDR Contact: 08/14/2006
Data Release Frequency: Varies

CDL: Clandestine Drug Lab Contaminated Site List

Illegal methamphetamine labs use hazardous chemicals that create public health hazards. Chemicals and residues can cause burns, respiratory and neurological damage, and death. Biological hazards associated with intravenous needles, feces, and blood also pose health risks.

Date of Government Version: 02/16/2006
Date Data Arrived at EDR: 03/07/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 37

Source: Department of Health
Telephone: 360-236-3380
Last EDR Contact: 06/07/2006
Next Scheduled EDR Contact: 09/04/2006
Data Release Frequency: Varies

EMI: Washington Emissions Data System

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 03/16/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 28

Source: Department of Ecology
Telephone: 360-407-6040
Last EDR Contact: 04/11/2006
Next Scheduled EDR Contact: 07/17/2006
Data Release Frequency: Annually

INACTIVE DRYCLEANERS: Inactive Drycleaners

A listing of inactive drycleaner facility locations.

Date of Government Version: 01/12/2006
Date Data Arrived at EDR: 03/23/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 21

Source: Department of Ecology
Telephone: 360-407-6732
Last EDR Contact: 05/15/2006
Next Scheduled EDR Contact: 08/14/2006
Data Release Frequency: Annually

TRIBAL RECORDS

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 02/08/2005
Date Made Active in Reports: 08/04/2005
Number of Days to Update: 177

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 05/12/2006
Next Scheduled EDR Contact: 08/07/2006
Data Release Frequency: Semi-Annually

INDIAN LUST: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 03/14/2006
Date Data Arrived at EDR: 03/21/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 23

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 05/23/2006
Next Scheduled EDR Contact: 08/21/2006
Data Release Frequency: Varies

INDIAN UST: Underground Storage Tanks on Indian Land

Date of Government Version: 04/05/2006
Date Data Arrived at EDR: 04/05/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 8

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 05/23/2006
Next Scheduled EDR Contact: 08/21/2006
Data Release Frequency: Varies

EDR PROPRIETARY RECORDS

Manufactured Gas Plants: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Historical Auto Stations: EDR Proprietary Historic Gas Stations
EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Historical Cleaners: EDR Proprietary Historic Dry Cleaners
EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

KING COUNTY:

Abandoned Landfill Study in King County

The King County Abandoned Landfill Survey was conducted from October through December 1984 by the Health Department's Environmental Health Division at the request of the King County Council. The primary objective of the survey was to determine if any public health problems existed at the predetermined 24 sites.

Date of Government Version: 04/30/1985
Date Data Arrived at EDR: 11/07/1994
Date Made Active in Reports: N/A
Number of Days to Update: 0

Source: Seattle-King County Department of Public Health
Telephone: 206-296-4785
Last EDR Contact: 10/21/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

KITSAP COUNTY:

Water Wells in Kitsap County

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: 0

Source: N/A
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: N/A

SEATTLE COUNTY:

Abandoned Landfill Study in the City of Seattle

The Seattle Abandoned Landfill Survey was conducted in June and July of 1984 by the Health Department's Environmental Health Division at the request of the Mayor's Office. The primary objective of the survey was to determine if any public health problems existed at the predetermined 12 sites.

Date of Government Version: 07/30/1984
Date Data Arrived at EDR: 11/07/1994
Date Made Active in Reports: N/A
Number of Days to Update: 0

Source: Seattle - King County Department of Public Health
Telephone: 206-296-4785
Last EDR Contact: 10/21/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SEATTLE/KING COUNTY:

Seattle - King County Abandoned Landfill Toxicity / Hazard Assessment Project

This report presents the Seattle-King County Health Department's follow-up investigation of two city owned and four county owned abandoned landfills which was conducted from February to December 1986.

Date of Government Version: 12/31/1986
Date Data Arrived at EDR: 08/18/1995
Date Made Active in Reports: 09/20/1995
Number of Days to Update: 33

Source: Department of Public Health
Telephone: 206-296-4785
Last EDR Contact: 08/14/1995
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SNOHOMISH COUNTY:

Solid Waste Sites of Record at Snohomish Health District

Date of Government Version: 01/26/2006
Date Data Arrived at EDR: 05/01/2006
Date Made Active in Reports: 05/31/2006
Number of Days to Update: 30

Source: Snohomish Health District
Telephone: 206-339-5250
Last EDR Contact: 04/12/2006
Next Scheduled EDR Contact: 07/17/2006
Data Release Frequency: Semi-Annually

TACOMA/PIERCE COUNTY:

Closed Landfill Survey

Following numerous requests for information about closed dumpsites and landfills in Pierce County, the Tacoma-Pierce County Health Department decided to conduct a study on the matter. The aim of the study was to evaluate public health risks associated with the closed dumpsites and landfills, and to determine the need, if any, for further investigations of a more detailed nature. The sites represent all of the known dumpsites and landfills closed after 1950.

Date of Government Version: 09/01/2002
Date Data Arrived at EDR: 03/24/2003
Date Made Active in Reports: 05/14/2003
Number of Days to Update: 51

Source: Tacoma-Pierce County Health Department
Telephone: 206-591-6500
Last EDR Contact: 03/19/2003
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 02/17/2006
Date Made Active in Reports: 04/07/2006
Number of Days to Update: 49

Source: Department of Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 03/13/2006
Next Scheduled EDR Contact: 06/12/2006
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 03/01/2006
Date Made Active in Reports: 04/20/2006
Number of Days to Update: 50

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 05/31/2006
Next Scheduled EDR Contact: 08/28/2006
Data Release Frequency: Annually

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 05/04/2006
Date Made Active in Reports: 06/06/2006
Number of Days to Update: 33

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 03/17/2006
Next Scheduled EDR Contact: 06/12/2006
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 03/17/2006
Date Made Active in Reports: 05/02/2006
Number of Days to Update: 46

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 03/17/2006
Next Scheduled EDR Contact: 07/10/2006
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data
Source: PennWell Corporation
Telephone: (800) 823-6277
This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Daycare Center Listing
Source: Department of Social & Health Services
Telephone: 253-383-1735

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

Scanned Digital USGS 7.5' Topographic Map (DRG)

Source: United States Geologic Survey

A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

STREET AND ADDRESS INFORMATION

© 2006 Tele Atlas North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

FT. FLAGLER
FT. FLAGLER
NORDLAND, WA 98358

TARGET PROPERTY COORDINATES

Latitude (North):	48.09310 - 48˚ 5' 35.2''
Longitude (West):	122.7043 - 122˚ 42' 15.5''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	522018.8
UTM Y (Meters):	5326471.5
Elevation:	101 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	48122-A6 NORDLAND, WA
Most Recent Revision:	1973

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

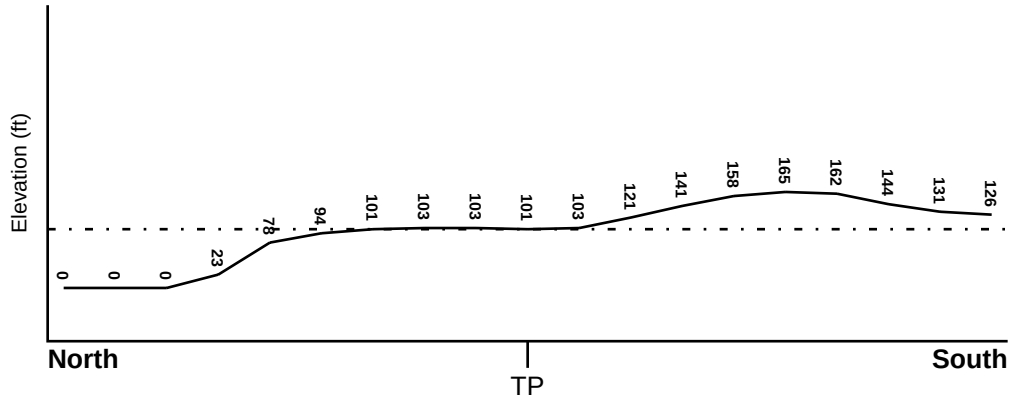
TOPOGRAPHIC INFORMATION

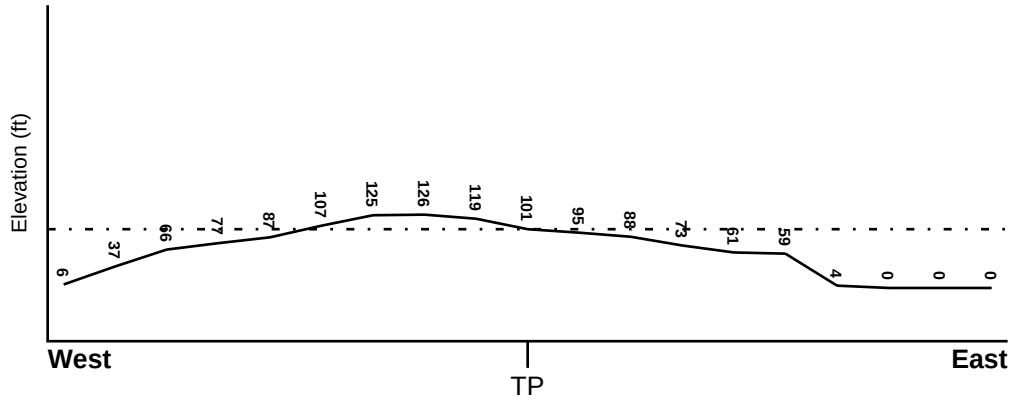
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General ENE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES





Target Property Elevation: 101 ft.

0 1/2 1 Miles

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
JEFFERSON, WA	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 5300690180B

Additional Panels in search area: 5300690185B

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
NORDLAND	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius: 1.25 miles
Status: Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name:	WHIDBEY
Soil Surface Texture:	gravelly - sandy loam
Hydrologic Group:	Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.
Soil Drainage Class:	Moderately well drained. Soils have a layer of low hydraulic conductivity, wet state high in the profile. Depth to water table is 3 to 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel:	MODERATE
Depth to Bedrock Min:	> 60 inches
Depth to Bedrock Max:	> 60 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	3 inches	gravelly - sandy loam	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 2.00 Min: 0.60	Max: 6.00 Min: 5.10
2	3 inches	26 inches	very gravelly - sandy loam	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 2.00 Min: 0.60	Max: 6.50 Min: 5.60
3	26 inches	30 inches	cemented	Not reported	Not reported	Max: 0.00 Min: 0.00	Max: 0.00 Min: 0.00

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: loamy sand
gravelly - silt loam

Surficial Soil Types: loamy sand
gravelly - silt loam

Shallow Soil Types: loam

Deeper Soil Types: stratified
weathered bedrock

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

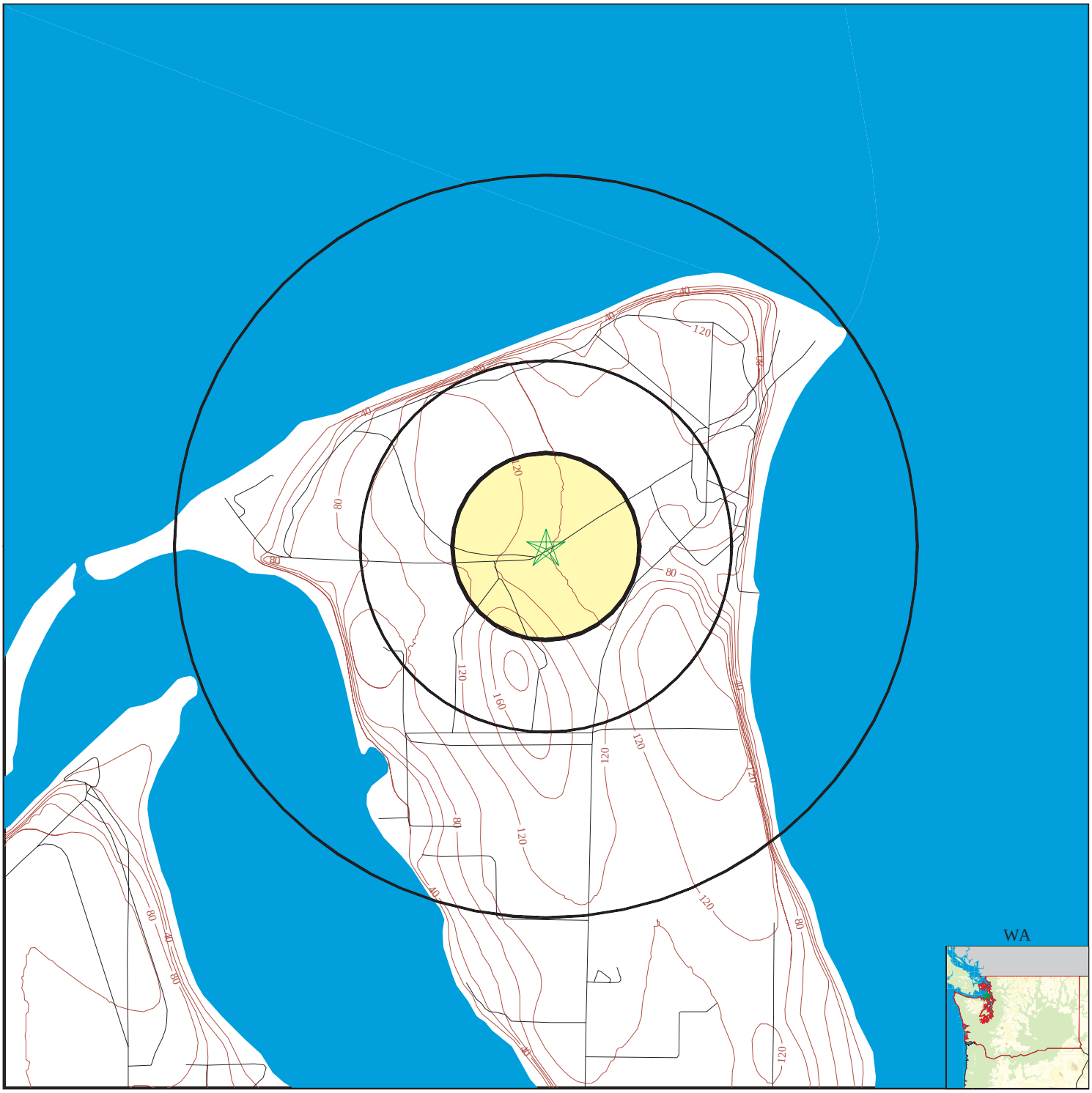
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

PHYSICAL SETTING SOURCE MAP - 1692347.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data

SITE NAME: Ft. Flagler	CLIENT: Shaw Env. and Infrastructure
ADDRESS: Ft. Flagler NORDLAND WA 98358	CONTACT: Jennifer Lillis INQUIRY #: 1692347.2s
LAT/LONG: 48.0931 / 122.7043	DATE: June 08, 2006

Copyright © 2006 EDR, Inc. © 2006 Tele Atlas Rel. 07/2005.

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for JEFFERSON County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for JEFFERSON COUNTY, WA

Number of sites tested: 7

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.071 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	0.550 pCi/L	100%	0%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Wells
Source: Department of Health
Telephone: 360-236-3148
Group A and B well locations.

OTHER STATE DATABASE INFORMATION

RADON

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

© 2006 Tele Atlas North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

The EDR Aerial Photo Decade Package

Ft. Flagler
Ft. Flagler
NORDLAND, WA 98358

Inquiry Number: 1692347.5

June 08, 2006

EDR® Environmental Data Resources Inc

The Standard in Environmental Risk Management Information

440 Wheelers Farms Road
Milford, Connecticut 06461

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

EDR Aerial Photo Decade Package

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDRs professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

This document reports that EDR searched its own collection or select outside repository collections of aerial photography, and based on client-supplied target property information, aerial photography, including the target property was not deemed reasonably ascertainable by Environmental Data Resources, Inc. (EDR). This no coverage determination reflects a search only of aerial photography repository collections that EDR accessed. It can not be concluded from this search that no coverage for the target property exists anywhere, in any collection.

NO COVERAGE

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report AS IS. Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2006 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

"Linking Technology with Tradition"®

Sanborn® Map Report

Ship To:	Jennifer Lillis	**Order Date:**	6/8/2006	**Completion Date:**	6/8/2006
	Shaw Env. and	**Inquiry #:**	1692347.3		
	9201 East Dry Creek Road	**P.O. #:**	NA		
	Centennial, CO 80112	**Site Name:**	Ft. Flagler		
		Address:	Ft. Flagler		
Customer Project:	NA	**City/State:**	NORDLAND, WA 98358		
1182600MER	303-799-4241	**Cross Streets:**			

This document reports that the largest and most complete collection of Sanborn fire insurance maps has been reviewed based on client supplied information, and fire insurance maps depicting the target property at the specified address were not identified.

NO COVERAGE

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT. Purchaser accepts this Report AS IS. Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2006 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission. EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

January 26, 2007

Determination of No Effect on Listed Species under the Endangered Species Act during Sediment Sampling at Fort Flagler State Park, Jefferson County, Washington, 2007

Introduction

The U.S. Army Corps of Engineers is evaluating Formerly Used Defense Sites (FUDS) that had historically been used for military activities and training. One of these sites, Fort Flagler State Park shown on Figure 1, is located near Port Townsend, WA.

The Corps will be conducting a Military Munitions Response Program Site Inspection at Ft, Flagler at the areas of concern shown on Figure 2. The SI work to be performed will include access to and a visual inspection of property that was part of the former Fort Flagler. The inspection will also include surface soil and sediment sampling at locations shown on Figures 3 and 5 thru 11. Prior to sampling, a visual survey combined with the use of hand-held magnetometer will be conducted by UXO trained personnel who will escort the sampling crew.

This document specifically addresses the soil and sediment sampling effort, and its potential effect on Federally- proposed or listed threatened and endangered species. The federally listed species are:

- Puget Sound Chinook Salmon (*Oncorhynchus tshawytscha*)
- Coastal/Puget Sound Bull Trout (*Salvelinus confluentus*)
- Steller Sea Lion (*Eumetopias jubatus*)
- Southern Resident Killer Whale (*Orcinus orca*)
- Humpback Whale (*Megaptera novaeangliae*)
- Bald Eagle (*Haliaeetus leucocephalus*)
- Leatherback Sea Turtle (*Dermochelys coriacea*)
- Marbled Murrelet (*Brachyramphus marmoratus marmoratus*)

This memo also specifically examines the possible effects of sampling activities on the primary constituent elements of critical habitat designated for Puget Sound Chinook, Coastal/Puget Sound bull trout, and killer whale, as well as essential fish habitat (EFH) for groundfish, coastal pelagic species, and Pacific salmon. Critical habitat for marbled murrelet was designated but does not include the action area and is not addressed in this memo.

Project History

Between 1900 and 1946 Fort Flagler was used as a U.S. Army costal defense artillery installation protecting Puget Sound. Early in the fort's construction the Treasury Department located a lighthouse on the northeast shore of the installation. During World War II the Navy operated an underwater listening station but the fort remained a costal defense installation until

1950 when all harbor defenses around Puget Sound were abolished. The installation was then used for amphibious training and maneuvers. In 1953 Fort Flagler was closed and considered excess to the needs of the Department of Defense. The Treasury Department retained the land containing the lighthouse and the remaining property was transferred to the State of Washington for use as a state park.

Action Area and Project Area

An action area is defined by NMFS regulations (50 CFR Part 402) as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved by the action." The project area for this project includes the military reservation boundaries, which is defined for purposes of this memo by the lower low tide line (Figure 2). The action area includes air and water above and surrounding the reservation to a distance of about ¼ mile above the site and outside the boundaries of the site.

Project Description

The approach for the SI is to collect samples at locations where munitions activities may have taken place (see Figures 3-11 (figure 4 is not included)). The 28 soil and 9 sediment samples will be collected using a spoon, scoop or hand trowel. The samples will be collected, typically, at a depth of 2 inches but removal of overlaying vegetation and may extend to the depth to 6 inches. A 2-foot radius metal hoop will be placed at the sampling location and samples will be collected at seven points around the hoop. The seven samples will be placed in a bowl and mixed to form a single composite sample at each location. The volume of soil at each sample site is estimated to be 8 ounces (1 cup) x 1.8 cubic inches/ounce equals 14 cubic inches or 240 cc.

At the Quartermaster Wharf Disposal Area shown on Figure 7 a single 240 cc composite sample will be taken from the inter-tidal zone using hand tools, per the description for the upland sampling (see previous paragraph). At low tide the sample crew will walk from the nearest beach access road to the sample site, and all work will be conducted "in the dry". No vehicles or equipment will enter the beach area. The incoming tide will mix soil into the small holes left over from sampling, removing all trace of the sampling effort.

Species Information

Chinook Salmon

No Chinook spawning streams are found in the near vicinity of the project area and there is no information regarding the abundance of Chinook salmon in the project area. However, migrating juvenile chinook will likely move past the shoreline of Fort Flagler and juveniles may utilize the intertidal zone for feeding, resting, and refugia (particularly in Kilisut Harbor).

Coastal-Puget Sound Bull Trout

Bull trout movements in Puget Sound have been tracked for the past several years. Few bull trout streams exist on the west side of Puget Sound, however, individuals have been caught and/or observed on the western side of Puget Sound, so their use of any available habitat must be assumed. Bull trout are opportunistic apex predators that likely follow juvenile salmonid and also likely use the same habitats for additional feeding and refugia.

Bald Eagle

Bald eagles are year-round residents in the vicinity of Fort Flagler. Two nests are documented near the north shoreline of Fort Flagler, and another nest about 1 mile south of Fort Flagler at Craven Rock. The two nests on the north shore of Fort Flagler are less than 500 feet from one another, and likely represent alternate nests for the same pair. The most likely food resource items in the area are gulls, waterfowl, and fish.

Steller Sea Lion

There are no Steller sea lion rookeries in the State of Washington, although Steller sea lions are occasionally found in Washington State waters. Their preferred haul-out areas are in northern Puget Sound at Race Rocks, Sombrio Point, and Sucia Island, but are rare south of Admiralty Inlet (Yates 1988). Jagged Island and Split Rock are used as summer haul-outs, and Umatilla reef is used in the winter. Additional haul-out sites include Willoughby Rocks on the south Washington coast and at Carroll Island, Cape Alava, and Tatoosh Island on the north Washington coast. In 1992 and 1993, nursing pups were observed at Carroll Island and Cape Alava. These pups may have been born in Washington or may have migrated with their mothers from rookeries in British Columbia or Oregon (NFMS 1992). Steller sea lions move into Puget Sound in the fall and forage throughout the inland waters.

Killer Whale (*Orcinus Orca*) – Life History

The Southern Resident killer whale assemblage contains three pods-- J pod, K pod, and L pod--and is considered a stock under the MMPA (NOAA 2004). Their range during the spring, summer, and fall is mainly comprised of the inland waterways of Puget Sound, Strait of Juan de Fuca, and Southern Georgia Strait. Their occurrence in the coastal waters off Oregon, Washington, Vancouver Island, and more recently off the coast of central California in the south and off the Queen Charlotte Islands to the north has been documented. Little is known about the winter movements and range of the Southern Resident stock. Southern Residents have not been seen to associate with other resident whales, and mitochondrial and nuclear genetic data suggest that Southern Residents interbreed with other killer whale populations rarely if at all (Hoelzel et al., 1998; Barrett-Lennard, 2000; Barrett-Lennard and Ellis, 2001).

Killer whales are classified as top predators in the food chain and Southern Resident killer whales are fish eaters. Salmon are widely considered to comprise the vast majority of their diet, but what proportion of the diet they comprise is unclear (Baird et al. 2003). Numerous behavioral and population research has been conducted since the 1970's, however, very little is known about the precise array of fish species eaten by individuals in this population. Ford et al. (1998) suggested that these whales feed primarily on salmon, particularly on Chinook, though other species of fish were occasionally recorded from scale samples. In addition, Ford et al.

(1998) reported that stomach contents recovered from whales also contained Pacific halibut (*Hippocampus stenolepis*), lingcod (*Ophiodon elongates*), and English sole (*Parophrys vetulus*). However only a small proportion of samples came from the southern resident population, therefore there is much less certainty regarding the diet of this population than for the northern residents.

The range of the Southern Resident Killer Whale pods during the spring, summer, and fall includes the inland waterways of Puget Sound. In a study tracking whale movements throughout the year, pods were encountered near the project site most frequently during the months of June, July, August, and September (Balcomb, 1982). The same study reported, however, that killer whale distribution is centered around the Strait of Juan de Fuca and the San Juan Archipelago. Sightings of killer whales near Fort Flagler are primarily during January and October (PHS database, WDFW).

Humpback Whale

Sightings of humpback whales are uncommon along the coast of Washington, although the National Marine Mammal Laboratory (NMML) has documented humpbacks in Washington State waters in every month except February, March, and April. Humpbacks probably use Washington waters as a migration corridor. The Washington Coast historically had higher populations than exist today. Extensive whaling around the turn of the century severely depleted the populations. Humpbacks were landed in the 1900s in the Bay City (WA) whaling station from April to October. The most whales were taken between June and August.

Humpback whales have been intermittently sighted in Puget Sound. Sightings occurred off of Seattle in May 1996 and September 1978. In June and July of 1988, two individuals were observed near Tacoma and Olympia (Parametrix 1991). Humpbacks observed in Puget Sound do not remain for long periods and are considered stragglers.

Leatherback Sea Turtles

Leatherback sea turtles are occasionally sighted in British Columbia and Alaska as far west as the Aleutian islands. They have also been documented off Washington and Oregon (Plotkin 1995); there have been 9 leatherback strandings or sightings between 1981 and 1991. Only three sightings occurred in Washington inland waters during this time. These occurred in the Strait of Juan de Fuca and the Strait of George (NFMS 1992). They may occasionally enter Puget Sound, but there are no reported sightings.

Marbled Murrelet

Marbled murrelets are relatively common in Puget Sound, but are irregularly distributed, as they prefer deepwater areas that are sheltered from off-shore winds. The areas to the north and east of Fort Flagler are not sheltered, so few murrelets utilize these areas. However, to the west and southwest of Fort Flagler the water areas are more sheltered and these areas may harbor small numbers of marbled murrelets, though the Washington Department of Fish and Wildlife Priority Habitats and Species database did not indicate any marbled murrelet presence in any water near Fort Flagler (PHS database, WDFW). There are no nesting sites within many miles of the project area—they are not expected to nest in the vicinity due to the lack of old growth

forests. The nearest critical habitat is on the Olympic Peninsula approximately 20 miles to the west (PHS database, WDFW).

Other Resources

Other resources that exist in the project vicinity include eelgrass beds, and spawning areas for Pacific herring, surf smelt and sandlance. However, the eelgrass in the vicinity of the single beach sampling location is listed as "patchy" by the Washington Department of Fish and Wildlife Priority Habitats and Species Database. Care would be taken by the field crew to avoid any evidence of eelgrass. Surf smelt and herring spawn only on Indian Island, west of the project and action areas. Sandlance spawn along the beach on the east side of Fort Flagler, but the sampling location is approximately 1000 feet south of the southernmost extent of the spawning area and sampling would therefore not affect sandlance spawning.

Effect Determination

Direct Effects

Terrestrial sampling in both the uplands and on the beach will involve some human presence and activity in the area, though no invasive techniques are planned. Disruption of the subtidal sediment will be minimal and short-lived, with only a small sediment plume resulting from sediment sampling. Holes made by scoops or trowels will be few, and will fill in quickly, rendering the effects of this monitoring activity discountable. Monitoring will last for only a few minutes—only one beach sample will be taken, at low tide, and in the dry. Fish and marine mammals and reptiles, being highly mobile, are likely to avoid the area for the short time period involved.

This will have no impact on listed avian species, including bald eagles, as nesting areas will not be disturbed. Human presence during monitoring will be no more than normal human walking activities in the project area, and therefore is not expected to disturb nesting bald eagles. Foraging opportunities for aquatic and terrestrial species will not be diminished, as the forage fish community will not experience behavioral alterations in response to the limited amount of sediment and noise disruption.

Indirect Effects

There may be some habitat disruption due to removal of subtidal and intertidal sediments, but this is not likely to significantly affect the normal behavior of any of the above listed species. In this case, small amounts of sediment will be removed or displaced, but alterations to the bathymetry or topography will quickly return to normal. Human activity associated with the sampling and surveying will not be noticeably more extensive than what is typically present, so will not cause any changes to habitat conditions. Prey species will not suffer any effects due to any of the above disturbances.

Interrelated and Interdependent Effects

There will be no interrelated or interdependent effects as a result of this monitoring activity.

Cumulative Effects

There will be no significant cumulative effects on listed species from the proposed monitoring activity in conjunction with other projects or actions.

Determination of Effect

For the reasons stated in this assessment, the described action is expected to have no effect on the following species: Chinook salmon, coastal/Puget Sound bull trout, bald eagle, Steller sea lion, killer whale, humpback whale, leatherback sea turtle, and marbled murrelet.

Critical Habitat – Primary Constituent Elements

Puget Sound Chinook

This section addresses how the monitoring activities detailed above may affect the primary constituent elements (50 CFR Part 226, page 74581-2) of Puget Sound Chinook salmon (*Oncorhynchus tshawytscha*) habitat.

(1) Freshwater spawning sites with water quantity and quality conditions and substrate supporting spawning, incubation, and larval development.

Existing Conditions: *Project is in a marine area. There are no suitable freshwater spawning, incubation, or larval development sites in the project vicinity.*

(2) Freshwater rearing sites with: (i) water quantity and floodplain connectivity to form and maintain physical habitat conditions and support juvenile growth and mobility, (ii) water quality and forage supporting juvenile development, and (iii) natural cover such as shade, submerged and overhanging large wood, log jams and beaver dams, aquatic vegetation, large rocks and boulders, side channels, and undercut banks.

Existing Conditions: *Project is in a marine area. There are no suitable freshwater rearing sites in the project vicinity.*

(3) Freshwater migration corridors free of obstruction and excessive predation with water quantity and quality conditions and natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, side channels, and undercut banks supporting juvenile and adult mobility and survival.

Existing Conditions: *Project is in a marine area. There are no suitable migration corridors in the project vicinity.*

(4) Estuarine areas free of obstruction with water quality, water quantity and salinity conditions supporting juvenile and adult physiological transitions between fresh-and saltwater; natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, and side channels, and juvenile and adult forage, including aquatic invertebrates and fishes, supporting growth and maturation.

Existing Conditions: *The project area is marine, and is not considered an estuary due to the lack of large, freshwater input streams in the vicinity. It is unlikely that juvenile Chinook salmon are using this area as a transition zone.*

(5) Nearshore marine areas free of obstruction with water quality and quantity conditions and forage, including aquatic invertebrates and fishes, supporting growth and maturation; and natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulder and side channels.

The nearshore areas of the action area support sand and mudflats, intertidal beaches, eelgrass beds and fringing marshes, providing suitable area for the growth and maturation of juvenile and adult salmon. Spawning by sand lance occurs along the beach about 1000 feet north of the sampling area. Eelgrass beds are patchy in the area, but no herring spawning is documented (PHS database, WDFW). The presence of these attributes in the nearshore environment provide refuge and foraging opportunities, and also serve as an important habitat element for the growth and maturation of various salmonid life history stages. However, the sampling will occur away from sandlance spawning areas, and will not affect eelgrass.

(6) Offshore marine areas with water quality conditions and forage, including aquatic invertebrates and fishes, supporting growth and maturation.

Offshore areas will not be affected by the sampling.

Effects Analysis
Sediment sampling on the beach will displace a small amount of sediment, which will be quickly replaced on the first incoming tide.

Determination of effect: *No effect*

Coastal-Puget Sound Bull Trout

The project site is situated outside of designated critical habitat areas (see CFR 50 Part 17, page 56212-56311). Therefore, an analysis of how the proposed activities will affect the primary constituent elements of bull trout habitat is not provided.

Killer Whale

This section addresses how the monitoring activities detailed above may affect the primary constituent elements (50 CFR Part 226, page 69054-69070) of designated killer whale critical habitat.

(1) Water quality to support growth and development.

The sampling will not adversely affect water quality.

(2) Prey species of sufficient quantity, quality, and availability to support individual growth, reproduction, and development, as well as overall population growth.

The sampling will not affect prey species (see discussion above on Puget Sound Chinook and on forage species).

(3) Passage conditions to allow for migration, resting, and foraging.
The sampling will have no effect on killer whale passage.

Effects Analysis
Sediment sampling on the beach will displace a small amount of sediment, which will be quickly replaced on the first incoming tide, and will not affect any of the PCEs listed for killer whale critical habitat.

Determination of effect: *No effect*

Essential Fish Habitat

The Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267) requires Federal agencies to consult with NMFS on activities that may adversely affect Essential Fish Habitat (EFH).

The EFH mandate applies to all species managed under a Fishery Management Plan (FMP). In the state of Washington, three FMPs are in effect, which cover groundfish, coastal pelagic species, and Pacific salmon. Though sampling will take place within the EFH of these species, it will not have any effect on their spawning, breeding, feeding, or growth. Holes made by scoops or trowels will be few, and will fill in quickly, rendering the effects of this monitoring activity discountable.

References

Baird, R. W., M. B. Hanson, E. E. Ashe, M. R. Heithaus and G. J. Marshall. 2003. Studies of foraging in “Southern Resident” Killer Whales during July 2002: dive depths, bursts in speed, and the use of a “crittercam” system for examining sub-surface behavior. NOAA Fisheries report AB133F-02-SE-1744.

Balcomb, K. C., III. 1982. The occurrence and status of three resident pods of killer whales in Greater Puget Sound, state of Washington. Ocean Research and Education Society, Gloucester, Massachusetts.

Barrett-Lennard, L. G. 2000. Population structure and mating patterns of killer whales as revealed by DNA analysis. Vancouver, B.C., Canada, Univ. British Columbia.

Barrett-Lennard, L. G. and G. M. Ellis 2001. Population structure and genetic variability in northeastern Pacific killer whales: towards an assessment of population viability. Nanaimo, B.C., Department of Fisheries and Oceans: 35.

Ford, J.K.B., G.M. Ellis, L.G. Barrett-Lennard, A.B. Morton, R.S. Palm, and K.C. Balcomb.

1998. Dietary specialization in two sympatric populations of Killer Whales (*Orcinus orca*) in coastal British Columbia and adjacent waters. Canadian Journal of Zoology 77: 2000.

Hoelzel, A. R., M. Dahlheim, and S. J. Stern. 1998. Low genetic variation among killer whales (*Orcinus orca*) in the eastern north Pacific and genetic differentiation between foraging specialists. Journal of Heredity 89: 121-128.

NMFS (National Marine Fisheries Service). 1992. Report to Congress on Washington State Marine Mammals. Silver Springs, Maryland.

NMFS. 2004. 2004 Status review of Southern Resident killer whales (*Orcinus orca*) under the Endangered Species Act. U.S. Dept. of Commerce, NOAA Technical Memorandum NMFS-NWFSC-62.

Parametrix, Inc. 1991. St. Paul Waterway Remedial Action and Habitat Restoration Monitoring Report. 1990. Unpublished report from Simpson Tacoma Kraft Company and Champion International to the Washington State Department of Ecology and USEPA. Seattle, Washington.

Plotkin P. T. 1995. National Marine Fisheries Service and US Fish and Wildlife Service status reviews for sea turtles listed under the Endangered Species Act of 1973, Silver Spring, Maryland, USA, National Marine Fisheries Service.

U.S. Army Corps of Engineers (USACE). 2001. East Beach Intertidal Investigation Report. Wyckoff/Eagle Harbor Superfund Site, East Harbor Operable Unit, Bainbridge Island, WA.

USACE. 2003. No Effect Determination for Sampling Submerged, Intertidal, Fluvial, and Exposed Sediments With Respect to the Requirements of The Endangered Species Act for Anadromous Fish Seattle District, U.S. Army Corps of Engineers

U.S. Environmental Protection Agency (EPA). 2000. 1999 Environmental Monitoring Report. Wyckoff/Eagle Harbor Superfund Site, East Harbor Operable Unit, Bainbridge Island, WA. Environmental Protection Agency, Region 10, Seattle, WA.

Washington Department of Fish and Wildlife. 2007. Priority Habitats and Species Polygon, Wildlife Heritage, Spotted Owl, and Marbled Murrelet Points Databases. Olympia, Washington.

Yates, S. 1988. Marine Mammals of Puget Sound, the San Juans and the Strait of Georgia. The Globe Pequot Press, Old Saybrook, CT. Pacific International Engineering. Technical Memorandum to Richard Gilmur, Port of Tacoma regarding Use of Slip 1 and Slip 5 by Juvenile Salmonids. 22 December 1998.

Characterization of Background Distributions for Selected Elements in Surface Soil Fort Flagler Military Reservation

1.0 Introduction

This appendix describes the methodology that was used to characterize the background distributions of selected elements in surface soil at the former Fort Flagler Military Reservation (Ft. Flagler), located in Jefferson County, Washington. Ten background surface soil samples (0 to 0.5 foot below ground surface) were collected in areas believed to be uninfluenced by site-related contamination, and they were submitted to an off-site laboratory for analysis of the 23 target analyte list (TAL) metals, plus molybdenum.

U.S. Environmental Protection Agency (EPA) guidance was used to evaluate distributional assumptions and characterize the distributions. The completed background data set can be used in site-to-background comparisons to identify constituents of concern at Ft. Flagler and to determine the nature and extent of site-related contamination. In addition, the background data may be used to support human health and ecological risk assessments and proposals for no further action, develop realistic remediation goals, and evaluate the success of remediation efforts.

2.0 Methodology for the Characterization of Background Distributions

Background concentrations of naturally occurring metals form a distribution of values over a given spatial area. The characterization of background can be defined as the process of describing the statistical distributions of concentration values from samples obtained at representative locations. The statistical methodology used to characterize background distributions at Ft. Flagler is based on published EPA guidance (EPA, 1989, 1992, 1994, 1995, and 2006). Key issues in background characterization include:

- Handling of nondetects
- Evaluation of distributional assumptions
- Handling of outliers
- Calculation of summary statistics.

The following sections explain how these key issues were addressed.

Handling of Nondetects. A certain proportion of nondetect values are common in background data sets. A variety of methods to deal with nondetects have been proposed, each of which has advantages and disadvantages with respect to introducing unwanted bias into the description of background. In accordance with EPA guidance, nondetects were replaced with a value equal to one-half of the reporting limit for that analyte (EPA, 1989).

Evaluation of Distributional Assumptions. The shape of the distribution, considered to be either normal, lognormal, or nonparametric, is reported as part of the characterization (the term "nonparametric" is not a specific shape, but is used to describe distributions that are neither normal nor lognormal, as per EPA guidance). The selection of an appropriate type of statistical distribution is based on EPA guidance (EPA, 1989, 1992, and 2006).

The EPA recommends the Shapiro-Wilk test for determining whether the distribution of concentration data is normal, lognormal, or neither (EPA, 1992 and 2006). The test is performed on the untransformed data to test for normality. Lognormality is tested by taking the logarithm (log-transform) of the data and then testing for normality. The test returns a "p-level" value between zero and one, indicating the goodness of fit. A p-level of 0.05 or greater indicates an acceptable fit to a normal model at the 95 percent confidence level; in other words, there is only a one-in-twenty chance of falsely identifying the distribution as normal when it really is not. If the transformed and untransformed data both yield p-levels that are greater than 0.05, then the result with the highest p-level is used to determine if the distribution is normal or lognormal. If the Shapiro-Wilk test indicates that a data set is neither normal nor lognormal at this confidence level, then the data are assumed to have a nonparametric distribution. Data sets with greater than 15 percent nondetects are automatically treated as nonparametric distributions as per EPA guidance (EPA, 1989).

Handling of Outliers. Outliers are defined as data points whose values are anomalously high relative to the rest of the data set (EPA, 1989). Possible reasons for outliers are improper sampling, analytical error, or laboratory contamination; errors in transcription of data values, decimal points, or units; the presence of actual contamination in the sample; or a natural background concentration that is unusually high. For each element, the concentration data were rank-ordered and the maximum value was flagged if it was greater than five times the second-highest value (EPA, 1989). Samples flagged as

outliers were further examined via geochemical evaluation to determine whether there is a natural source for the elevated concentrations. Statistical or geochemical outliers were only eliminated from consideration if there were reasons to suspect errors in the data or site-related contamination in the sample.

Calculation of Summary Statistics. A complete statistical description of each background distribution is provided in Section 3.0. These descriptions include the number of samples, percent nondetects, distribution type (normal, lognormal, or nonparametric), minimum, median, geometric mean, arithmetic mean, maximum, and a concentration that is representative of the upper range of the background distribution for use as a background screening value. The standard deviation and coefficient of variation (standard deviation divided by the mean) are also provided; they are both measures of the variance of the distributions.

It is important to select the background screening value carefully so that the probability of falsely identifying site samples as contaminated or uncontaminated is minimized. Ideally, a site sample with a concentration above the screening value would have a low probability of being a member of the background distribution, and may be an indicator of contamination. The 95th upper tolerance limit (UTL) is recommended as a screening value for normally or lognormally distributed analytes, and the 95th percentile is recommended as a screening value for nonparametrically distributed analytes (EPA, 1989, 1992, and 1994).

The UTL establishes a concentration range that is constructed to contain a specified proportion of the population with a specified confidence. The proportion of the population included is referred to as the "coverage," and the probability with which the tolerance interval includes the proportion is referred to as the "tolerance coefficient." The EPA-recommended coverage of 95 percent and tolerance coefficient of 95 percent (EPA, 1989) were used to calculate the UTLs. A coverage of 95 percent means that random uncontaminated site samples will exceed the screening value less than 5 percent of the time. A tolerance coefficient of 95 percent means that one has a 95 percent confidence that the 95th UTL will contain at least 95 percent of the background distribution. Site samples with concentrations above the background 95th UTL (or 95th percentile) are not necessarily contaminated, but they should be considered suspect.

The complete descriptions of background distributions that are provided in Section 3.0 are sufficient to allow the calculation of most statistical parameters (such as the standard error of the mean, two standard deviations above the mean, etc.). The descriptions can also be used to support site-to-background data set comparisons. There are two general types of statistical site-to-background comparisons. Parametric comparisons, such as the ANOVA (analysis of variance) and the two-sample *t* test, require the means and standard deviations of the distributions that are being compared. Nonparametric comparison tests, such as the Wilcoxon rank sum test and the Gehan test, require the actual data rather than summary statistics. For these purposes, the actual data are also provided in Appendix F.

3.0 Background Distributions of Selected Elements in Surface Soil

As noted above, the Ft. Flagler background surface soil data were subjected to an outlier test to identify potentially anomalous concentrations. No statistical outliers were identified among the 24 elements considered in the background study. In addition to the outlier test, the data were examined for the presence of high nondetect values. Two high nondetects for cadmium were deleted from the background data set. Samples NWO-039-5001 and NWO-039-5010 have cadmium reporting limits of 0.37 milligrams per kilogram (mg/kg) and 0.36 mg/kg, respectively. These values comprise the top 20 percent of the distribution, whereas cadmium was detected in the remaining eight samples (at concentrations ranging from 0.14 J to 0.27 J mg/kg). Exclusion of these high nondetects avoids introducing bias into the calculation of background summary statistics for cadmium.

One hundred percent of the background surface soil samples were nondetect for thallium (Table 1). Antimony, molybdenum, selenium, and silver were detected in some of the samples, with nondetects ranging from 40 to 90 percent. The remaining 19 elements were detected in all of the background samples, and their distributions were determined to be either normal or lognormal. All five of the nonparametric distributions were designated as such due to a high frequency of nondetects.

Of the 24 elements analyzed in the background samples, iron, aluminum, calcium, and magnesium have the highest median concentrations, in that order (Table 1). Iron in the samples is most likely present as iron oxides, which are common soil-forming minerals that occur as discrete mineral grains or as coatings on silicate minerals (Cornell and Schwertmann, 2003). Aluminum is a primary component of common soil-forming

minerals such as clays, feldspars, and micas. Aluminum also substitutes for ferric iron in iron oxide minerals, and it can adsorb on iron oxide surfaces (Cornell and Schwertmann, 2003). Calcium and magnesium are common components of soil-forming minerals such as clays.

It is important to note that clays and iron oxides are fine-grained minerals that have strong affinities to adsorb specific trace elements (such as copper or arsenic). Finer-grained soil samples are therefore expected to contain naturally higher concentrations of aluminum, iron, and associated trace elements, relative to coarser-grained soil samples.

References

Cornell, R. M. and U. Schwertmann, 2003, ***The Iron Oxides: Structure, Properties, Reactions, Occurrences and Uses***, Second Edition, Wiley-VCH, Weinheim.

U.S. Environmental Protection Agency (EPA), 2006, ***Data Quality Assessment: Statistical Methods for Practitioners***, EPA/240/B-06/003, Office of Environmental Information, February.

U.S. Environmental Protection Agency (EPA), 1995, ***Determination of Background Concentrations of Inorganics in Soils and Sediments at Hazardous Waste Sites***, Office of Research and Development, EPA/540/S-96/500, December.

U.S. Environmental Protection Agency (EPA), 1994, ***Statistical Methods For Evaluating The Attainment Of Cleanup Standards***, Environmental Statistics and Information Division, Office of Policy, Planning, and Evaluation, EPA/230/R-94/004, June.

U.S. Environmental Protection Agency (EPA), 1992, ***Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Addendum to Interim Final Guidance***, Environmental Statistics and Information Division, Office of Policy, Planning, and Evaluation, EPA/530/R-93/003, July.

U.S. Environmental Protection Agency (EPA), 1989, ***Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Final Guidance***, Office of Solid Waste, Waste Management Division, EPA/530/SW-89/026, July.

Table 1

Background Summary Statistics for Surface Soil
(concentrations in mg/kg)
Fort Flagler Military Reservation

Element	No. of Samples	Percent Nondetects	Distribution Type	Minimum	Median	Geometric Mean	Arithmetic Mean	Maximum	Standard Deviation	Coefficient of Variation	95th UTL/ 95th Percentile
Aluminum	10	0	Normal	8,590	10,000	10,100	10,200	11,000	743	0.07	12,300
Antimony	10	70	Nonparametric	0.17	< 0.75	< 0.75	< 0.75	< 0.75	NA	NA	< 0.75
Arsenic	10	0	Lognormal	2.3	3.85	3.92	4.16	6.6	1.49	0.36	11.5
Barium	10	0	Lognormal	73.1	143	139	149	282	59.1	0.40	426
Beryllium	10	0	Lognormal	0.14	0.18	0.17	0.18	0.22	0.02	0.12	0.25
Cadmium	8	0	Normal	0.14	0.21	0.20	0.21	0.27	0.05	0.21	0.35
Calcium	10	0	Lognormal	3,030	5,320	5,160	5,360	8,510	1,590	0.30	12,300
Chromium	10	0	Normal	15.4	23.4	23.2	23.5	30.7	4.0	0.17	35.2
Cobalt	10	0	Normal	4.9	7	6.9	7.0	8.9	1.2	0.17	10.4
Copper	10	0	Lognormal	6.9	8.5	8.6	8.7	11.5	1.3	0.15	13.2
Iron	10	0	Normal	10,600	13,500	13,400	13,500	16,000	1,510	0.11	17,800
Lead	10	0	Normal	11.9	18.1	18.3	18.8	27.1	4.7	0.25	32.6
Magnesium	10	0	Normal	1,970	3,440	3,420	3,510	4,700	799	0.23	5,830
Manganese	10	0	Lognormal	345	862	781	906	1,950	517	0.57	4,250
Mercury	10	0	Lognormal	0.052	0.09	0.090	0.094	0.15	0.031	0.33	0.23
Molybdenum	10	40	Nonparametric	0.23	0.32	0.58	0.89	< 3.8	0.80	0.90	< 3.8
Nickel	10	0	Lognormal	26.1	39.3	39.5	40.6	66.8	10.7	0.26	80.2
Potassium	10	0	Normal	271	605	547	570	760	155	0.27	1,020
Selenium	10	90	Nonparametric	0.75	< 3.8	< 3.8	< 3.8	< 3.8	NA	NA	< 3.8
Silver	10	80	Nonparametric	0.038	< 0.23	< 0.23	< 0.23	< 0.23	NA	NA	< 0.23
Sodium	10	0	Lognormal	123	141	150	153	203	31.0	0.20	265
Thallium	10	100	Nonparametric	< 1.4	< 1.5	< 1.5	< 1.5	< 1.5	NA	NA	< 1.5
Vanadium	10	0	Lognormal	24.5	29.5	30.2	30.4	38.1	3.7	0.12	42.6
Zinc	10	0	Lognormal	36.1	53.4	50.2	51.6	81.2	13.1	0.25	101

Note: 95th UTLs are provided for analytes with normal or lognormal distributions. 95th percentiles are provided for analytes with distributions that are neither normal nor lognormal, or that have greater than 15 percent nondetects (per EPA, 1989).
mg/kg - Milligrams per kilogram.
NA - Not applicable.
UTL - Upper tolerance limit.

Ft. Flagler, Washington

Ecological Screening-Level Risk Assessment

A SLERA was performed for the Ft. Flagler FUDS site located in Jefferson County, Washington. First, the current and reasonable future habitat at the site was evaluated to determine if any ecological receptors are likely to be present and if there are any complete exposure pathways. Based on the habitat descriptions provided in earlier sections of this report, the 812.7-acre site consists of forested areas with conifer (fir and cedar) trees and deciduous (alder and oak) trees and a coastal beach area. There are no streams or fresh surface water on the site.

Current and expected future land use relevant to ecological receptors includes state park use, wildlife management, and recreational areas. The site is located near Port Townsend and is surrounded by Puget Sound on three sides (to the north, east, and west).

Based on this assessment adequate habitat appears to be present at the site.

As chemicals of potential ecological concern (COPECs) were detected in soil and sediment and adequate habitat exists, complete exposure pathways are present. Therefore, as ecological receptors are likely present at the site and there are complete exposure pathways, further SLERA evaluation is necessary. It should be noted that no surface water or air samples were collected.

According to the Screening-Level Ecological Risk Assessment Guidance for FUDS MMRP Site Inspections (USACE, 2006), only sites that are considered to be Important Ecological Places or are to be managed for ecological purposes, actually require a SLERA. As shown in Table 2-2, the site does meet five of the 33 criteria for designation as an Important Ecological Place.

For purposes of the SLERA, the site has been segregated into five AOCs:

1. Transition Range 1
2. Transition Range 2
3. Rocket Range
4. Live Grenade Court
5. Rifle Range

5.2.1 Transition Range 1

Soil

Detected concentrations of chemicals in soil were compared with selected ecological screening values (ESV) and site-specific background concentrations (Table 6-1). No detected constituents had soil concentrations that exceeded the ESVs and the background 95% UTLs/95th percentiles.

Surface Water

No surface water samples collected.

Sediment

Detected concentrations of chemicals in sediment were compared with selected ESVs and site-specific background concentrations (Table 6-2). No detected constituents had sediment concentrations that exceeded the ESVs and the background MDCs.

Air

No air samples collected.

5.2.2 Transition Range 2

Soil

Detected concentrations of chemicals in soil were compared with selected ESVs and site-specific background concentrations (Table 7-1). No detected constituents had soil concentrations that exceeded the ESVs and the background 95% UTLs/95th percentiles.

Surface Water

No surface water samples collected.

Sediment

Detected concentrations of chemicals in sediment were compared with selected ESVs and site-specific background concentrations (Table 7-2). No detected constituents had sediment concentrations that exceeded the ESVs and the background MDCs.

Air

No air samples collected.

5.2.3 Rocket Range

Soil

Detected concentrations of chemicals in soil were compared with selected ESVs and site-specific background concentrations (Table 9-1). No detected constituents had soil concentrations that exceeded the ESVs and the background 95% UTLs/95th percentiles.

Surface Water

No surface water samples collected.

Sediment

Detected concentrations of chemicals in sediment were compared with selected ESVs and site-specific background concentrations (Table 9-2). No detected constituents had sediment concentrations that exceeded the ESVs and the background MDCs. It should be noted that molybdenum had an MDC that exceeded the background MDC but no ESV is readily available for this inorganic constituent. As the sediment MDC did not exceed three times the background MDC (0.25J mg/kg < 0.66 mg/kg), adverse ecological effects are not expected.

Air

No air samples collected.

5.2.4 Live Grenade Court

Soil

Detected concentrations of chemicals in soil were compared with selected ESVs and site-specific background concentrations (Table 10-1). The maximum detected concentration (MDC) of nickel (85.8 mg/kg) exceeded the ESV of 30 mg/kg and the background 95% UTL/95th percentile of 80.2 mg/kg. This exceedance is a potential ecological concern.

Surface Water

No surface water samples collected.

Sediment

No sediment samples collected.

Air

No air samples collected.

5.2.5 Rifle Range

Soil

Detected concentrations of chemicals in soil were compared with selected ESVs and site-specific background concentrations (Table 12-1). The detected concentrations of lead (235 and 587 mg/kg) exceeded the ESV of 50 mg/kg and the background 95% UTL/95th percentile of 32.6 mg/kg. These exceedances are a potential ecological concern.

Surface Water

No surface water samples collected.

Sediment

Detected concentrations of chemicals in sediment were compared with selected ESVs and site-specific background concentrations (Table 12-2). No detected constituents had sediment concentrations that exceeded the ESVs and the background MDCs.

Air

No air samples collected.

5.2.6 Additional Ecological Issues

There is a potential concern for large lead particles, or lead shot, to be present at some of the AOCs, and therefore adversely impact certain species of birds that intentionally ingest grit to add their digestion. As soil samples were sieved prior to chemical analysis, there is the possibility that lead shot was excluded from the analysis. To evaluate this avian concern for potential lead shot toxicity, the following two questions are posed for the site:

1. Are gallinaceous birds (grouse, pheasants, turkeys, partridges, domestic fowls, etc) present, or likely to be present on site?
2. Are lead particles likely to be present in preferred grit sizes for a range of representative gallinaceous birds at the site, for example, for quail with a preferred grit size of 0.8 – 2.2 mm diameter or turkey with a preferred grit size of 2.8 – 4.2 mm diameter (Gionfriddo and Best, 1991)?

For question No. 1, it is possible that gallinaceous birds might be present on the site, based on the presence of terrestrial habitat for some of these types of birds.

For question No. 2, close visual examination during soil collection did not uncover evidence of lead fragments or lead shot at the site (Landon, 2007).

As one of these questions can be answered in the negative, no further action for the site, related to lead fragments or lead shot and potential terrestrial bird toxicity, is recommended.

5.2.7 SLERA Evaluation

Two inorganics in soil (nickel at the Live Grenade Court and lead at the Rifle Range) were found at two of the AOCs, respectively, above conservative ecological screening values, as well as above site-specific background concentrations. The ESVs for these two inorganic COPECs are from the Washington

Department of Ecology Toxics Cleanup Program [WAC 173-340-7493(2)(a)(i)] and are based on the following receptors and exposure pathways:

Soil COPEC	ESV (mg/kg)	Receptor	Pathway of Concern/Comments
Nickel	30	Plants	Direct Contact/from ORNL (1997a)
Lead	50	Plants	Direct Contact/from ORNL (1997a)

As plant receptors are likely at these two AOCs, and the MDCs of these two inorganics in soil exceed the ESVs by a considerable amount (nickel MDC = 85.8 mg/kg and lead MDC = 587 mg/kg), adverse ecological effects on plant communities are possible.

It should be noted, however, that the confidence in the nickel ESV for plants is low (ORNL, 1997a), as only 14 values were available in the plant toxicity data base, and the lowest observed adverse effect levels (LOAELs) ranged from 25 to 294 mg/kg, and the no observed adverse effect levels (NOAEL) ranged from 20 to 220 mg/kg. In addition, as the site-specific background nickel concentration of 80.2 mg/kg exceeds the plant ESV of 30 mg/kg, it is apparent that this plant toxicity screening value of 30 mg/kg is not appropriate for the Washington site.

The Washington Department of Ecology Toxics Cleanup Program [WAC 173-340-7493(2)(a)(i)] has ESVs for other receptors as well, listed as follows for these two inorganic constituents:

Soil COPEC	ESV (mg/kg)	Receptor	Pathway of Concern/Comments
Nickel	200	Soil Invertebrates	Direct Contact/from ORNL (1997b)
Nickel	980	Wildlife	Bioaccumulation in the food chain
Lead	500	Soil Invertebrates	Direct Contact/from ORNL (1997b)
Lead	118	Wildlife	Bioaccumulation in the food chain

As the nickel MDC of 85.8 mg/kg does not exceed either the soil invertebrate ESV or the wildlife ESV, nickel in soil is not a concern for these receptor populations.

As the lead MDC of 587 mg/kg exceeds both the soil invertebrate ESV and the wildlife ESV, lead is a potential concern for soil invertebrate and wildlife toxicity (as well as plant toxicity). In addition, the other lead detection of 235 mg/kg also exceeds the wildlife and plant ESVs (although not the soil invertebrate ESV), therefore elevated lead concentrations at the Rifle Range are a concern.

As discussed previously, molybdenum in sediment was initially a potential concern at the Rocket Range (Section 9.4.2.1), as this inorganic had an MDC that exceeded the background MDC, but no sediment ESV was readily available. However, as the sediment MDC did not exceed three times the background MDC (0.25J mg/kg < 0.66 mg/kg), adverse ecological aquatic effects are not expected. In addition, the Washington Department of Ecology Toxics Cleanup Program [WAC 173-340-7493(2)(a)(i)] soil ESVs for plant and wildlife toxicity are 2 and 7 mg/kg, respectively, and if these soil ESVs are used as a conservative surrogate for sediment exposure, no exceedances are noted.

5.2.8 SLERA Conclusions

Results of the site SLERA are as follows:

- The only constituent of concern in soil at the site is lead at the Rifle Range.
- There are no constituents of concern in sediment.
- No constituents of concern were determined for surface water or air, as no samples were collected from these media.

Therefore, further action for ecological concerns is recommended for the Rifle Range AOC because (1) lead concentrations were above ecological screening values and site-specific background in soil, and (2) the site represents an Important Ecological Place, as defined by USACE (2006).

References:

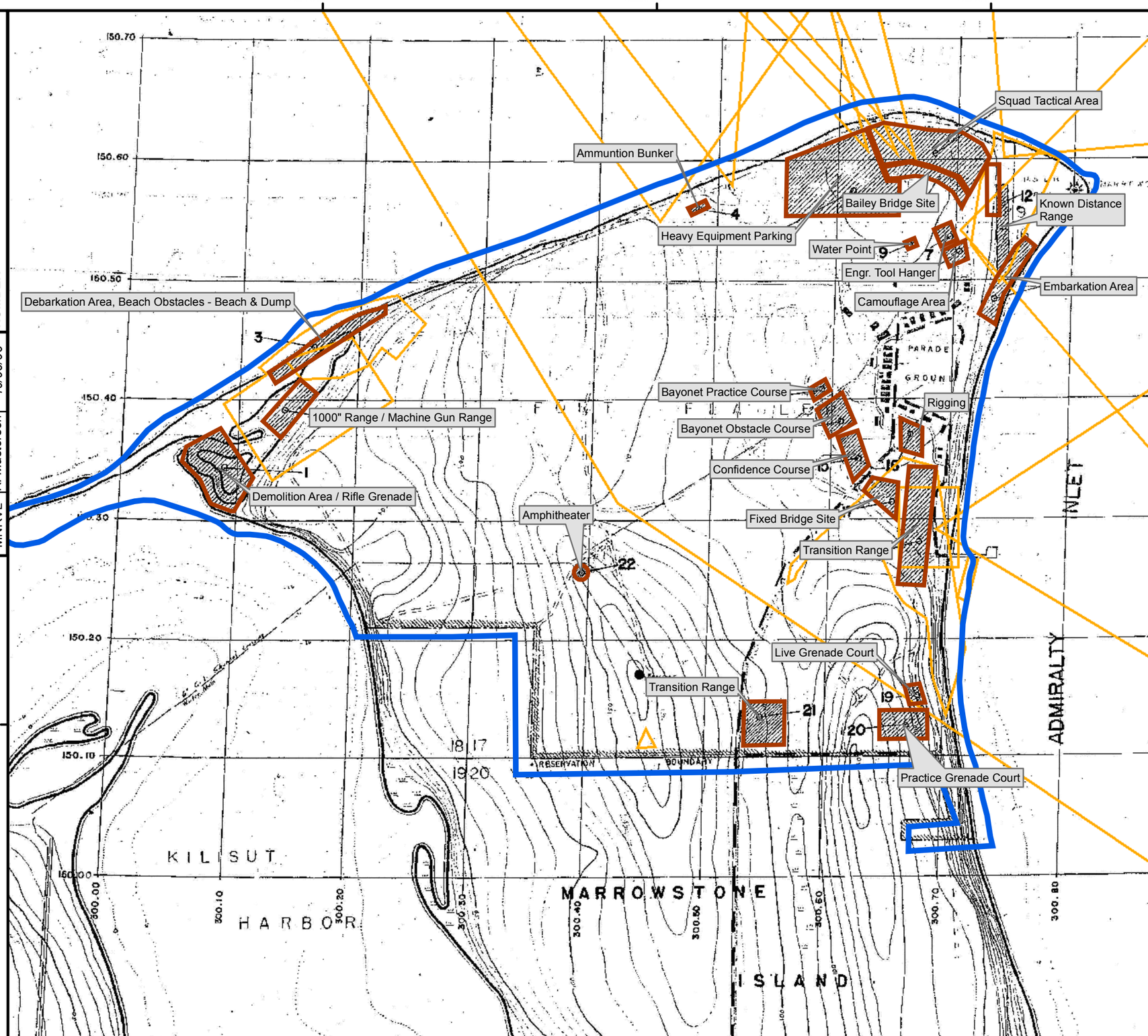
Gionfriddo and Best, 1991, *Characterization of Grit Use by Cornfield Birds*, Wilson Bulletin, 103(1) pp. 68-82.

Landon, D., 2007, personal communication between Mr. Dale Landon – Shaw E&I Team Leader and Mr. Mark Weisberg – Shaw E&I Risk Assessment Specialist, April 13, 2007.

Oak Ridge National Laboratory (ORNL), 1997a, *Toxicological Benchmarks for Screening Contaminants of Potential Concern for Effects on Terrestrial Plants:* 1997 Revision, Efroymson, R.A., M.E. Will, G.W. Suter, and A.C. Wooten, ES/ER/TM-86/R3, Prepared by Oak Ridge National Laboratory.

ORNL, 1997b, *Toxicological Benchmarks for Contaminants of Potential Concern for Effects on Soil and Litter Invertebrates and Heterotrophic Process:* 1997 Revision, Efroymson, R.A., M.E. Will, and G.W. Suter, ES/ER/TM-126/R2, Prepared by Oak Ridge National Laboratory.

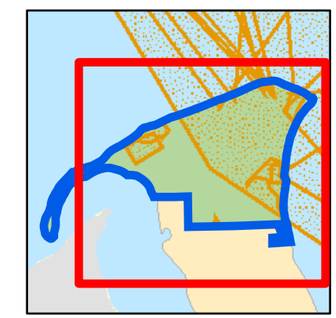
U.S. Army Corps of Engineers (USACE), 2006, Screening-Level Ecological Risk Assessments for FUDS MMRP Site Inspections, Prepared by USACE HTRW CX. August 11, 2006.



Legend

- Fort Flagler Military Reservation Property Boundary
- Fort Flagler Area of Concern
- Features from State Park historic map (circa 1945)

NOTES:
1) Map was provided by Washington State Parks.



N

0 500 1,000 2,000 Feet

REFERENCE/PROJECTION: NAD 83 UTM Zone 10N

U.S. ARMY CORPS OF ENGINEERS
OMAHA DESIGN CENTER

STATE PARK HISTORIC MAP
FT. FLAGLER MILITARY RESERVATION

FORT FLAGLER MILITARY RESERVATION

Shaw Environmental, Inc.

DRAWING NUMBER	Ft Flagler_025_attachementA_TPP
DRAWN BY	K. Masterson 10/06/06
OFFICE	MNRVL

OFFICE	DRAWN BY		DRAWING NUMBER
CEN	M. Mireiter	5/9/07	FtFlagler_077_AppendixL_1_SI

NOTES:
1) Aerial photograph obtained from the U.S. Geological Survey and is dated 1967.

N

0 2,250 4,500 9,000 Feet

REFERENCE/PROJECTION: NAD 83 UTM Zone 10N

U.S. ARMY CORPS OF ENGINEERS
OMAHA DESIGN CENTER

FIGURE L-1

HISTORICAL AERIAL PHOTO

FORT FLAGLER MILITARY RESERVATION

Shaw® Shaw Environmental, Inc.