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Completion Report for the 241-CR-151 Diversion Box Direct Push Phase 2 Characterization

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U.S. Department of Energy Contract DE-AC27-08RV14800

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Abstract: The U.S. Department of Energy (DOE) assigned the River Protection Project (RPP) Washington River Protection Solutions (WRPS) Richland, Washington, to collect and provide subsurface data near the 241-CR-151 Diversion Box (UPR-200-E-81) site located in the 200 East Area of the Hanford Site. WRPS contracted Energy Solutions Federal Services, Inc. to perform the field activities required to gather this data. This data was intended to provide information about the distribution and movement of contaminants in the vadose zone under and adjacent to an unplanned release from a failed transfer line adjacent to the 241-CR-151 Diversion Box. The data will be used to outline the vertical and horizontal extent of contamination.

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Completion Report for the 241-CR-151 Diversion Box Direct Push Phase 2 Characterization

Prepared for the U.S. Department of Energy
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CONTENTS

1.0 INTRODUCTION 1
2.0 SUMMARY OF ACTIVITIES 1
3.0 DIRECT PUSHING, SAMPLING AND LOGGING DETAILS 3
3.1 DIRECT PUSHING 3
3.2 SOIL SAMPLING 3
3.3 GLOBAL POSITIONING SATELLITE SURVEYING 5
3.4 GEOPHYSICAL LOGGING 5
4.0 BOREHOLE DECOMMISSIONING 5
5.0 ENVIRONMENTAL, SAFETY AND HEALTH 7
6.0 REFERENCES 7

APPENDICES

A FSWO-DOW-025, *Description of Work: 241-CR-151 Vault Direct Push Characterization (UPR 200-E-81 Site),* Rev. 1 ..... A-i
B GLOBAL POSITIONING SYSTEM COORDINATES AND MAP ..... B-i
C DRILLING AND SAMPLING DAILY WORK RECORDS ..... C-i
D SMALL DIAMETER GEOPHYSICAL LOGGING FOR UPR-200-E-81, PHASE 2 ..... D-i
E CHAIN OF CUSTODY FORMS AND FIELD LOGBOOK ENTRIES ..... E-i
F WASHINGTON STATE DEPARTMENT OF ECOLOGY DOCUMENTS ..... F-i
G SAFETY DOCUMENTS ..... G-i

TABLES

Table 1. Sample Intervals. 4
Table 2. Borehole Information. 6

TERMS

CHPRC	CH2M HILL Prime Remediation Contractor
DOE	U.S. Department of Energy
DOW	Description of Work
Energy*Solutions*	Energy*Solutions* Federal Services, Inc.
ID	inside diameter
OD	outside diameter
RPP	River Protection Project
RWP	Radiological Work Permit
WAC	*Washington Administrative Code*
WRPS	Washington River Protection Solutions, LLC

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COMPLETION REPORT FOR THE 241-CR-151 DIVERSION BOX DIRECT PUSH PHASE 2 CHARACTERIZATION

1.0 INTRODUCTION

The U.S. Department of Energy (DOE) assigned the River Protection Project (RPP) Washington River Protection Solutions, LLC (WRPS) Richland, Washington, to collect and provide subsurface data near the 241-CR-151 Diversion Box (UPR-200-E-81) site located in the 200 East Area of the Hanford Site. WRPS contracted Energy*Solutions* Federal Services, Inc. (Energy*Solutions*) to perform the field activities required to gather this data. This data was intended to provide information about the distribution and movement of contaminants in the vadose zone under and adjacent to an unplanned release from a failed transfer line adjacent to the 241-CR-151 Diversion Box. The data will be used to outline the vertical and horizontal extent of contamination.

FSWO-DOW-025, *Description of Work: 241-CR-151 Vault Direct Push Characterization (UPR 200-E-81 Site),* Rev 1, (see Appendix A) provides a detailed description of the additional scope of work performed. The original scope of work (Phase 1) was completed mid June 2008, per FSWO-DOW-025, Rev 0. Energy*Solutions* was responsible for the provision of equipment and personnel to conduct the direct push activities, soil sample collection, and safety oversight. The following were included in the overall Energy*Solutions* work scope: Providing for global positioning surveys, providing subcontract geophysical logging services, providing technical support and preparing final reports. The following appendices contain copies of documentation generated during the performance of the above work scope.

Appendix A, FSWO-DOW-025, *Description of Work: 241-CR-151 Vault Direct Push Characterization (UPR 200-E-81 Site)*, Rev. 1
Appendix B, Global Positioning System Coordinates and Map
Appendix C, Drilling and Sampling Daily Work Records
Appendix D, Small Diameter Geophysical Logging for UPR-200-E-81, Phase 2
Appendix E, Chain of Custody Forms and Field Logbook Entries
Appendix F, Washington State Department of Ecology Documents
Appendix G, Safety Documents

2.0 SUMMARY OF ACTIVITIES

Mid February 2009 drilling equipment and support items were staged near the 241-C Tank Farm, at the UPR-200-E-81 investigative location. FSWO-DOW-025, Rev. 1 (Appendix A) was prepared and submitted prior to the staging of this equipment. The revised description of work provides detailed work instructions and other information for conducting the Phase 2

characterization efforts for four planned additional sampling and exploration boreholes at the UPR 200-E-81 site. These additional locations were selected based on ground penetrating radar data and as-built infrastructure drawings, coupled with logging information obtained from UPR 200-E-81, Phase 1 investigative pushes done in fiscal year 2008. Data from this initial investigation was reviewed by WRPS personnel to determine a sampling strategy. A hydraulic hammer unit was to be used for placing the four proposed boreholes. Although four boreholes were planned, three additional pushes were conducted at the direction of the WRPS technical point of contact. Additionally, two surface samplings were attempted to replace failed sample collections at C6404 and C6406. Because of surface cover (course gravel) these additional attempts also failed. Table 2 and Appendix B identify borehole and sampling locations.

Ground-penetrating radar data indicated a subsurface obstruction that warranted relocating C6398, which is identified in FSWO-DOW-025, Rev. 1. Relocated boreholes taking the place of C6398 were identified as C6405 (exploratory) and C6406 (sampling). Exploratory borehole C6405 was pushed to a total depth of 73.15 meters (240 feet). Because of concerns about potential contamination, C6405 was geophysically logged from total depth to surface using a Bismuth Germinate Oxide detector and a neutron-neutron moisture probe. Minimal activity was detected near the surface at 1.22 meters (4 feet).

Based on previous logging data from 2008, sample borehole C6392 was then pushed adjacent to C6391 (pushed in 2008). Prior to pushing, Nuclear Chemical Operator (NCO) samplers attempted to obtain a surface soil sample as proposed in the DOW. Fine material was lacking in the gravel surface, which resulted in an unsuccessful attempt. Because of the surface conditions, WRPS personnel chose to bypass the surface sampling requirements and begin push activities.

Upon retrieval of the first sample from 1.52 to 2.13 meters (5 to 7 feet), the sampler was reading 1.2 millirem on contact. This exceeded the transportation requirements for shipment of materials using the Onsite Radioactive Shipment Record process. WRPS personnel chose to discard this sample. Because of high radiation concerns, WRPS personnel also decided to forgo the 3.05 to 3.66 meter (10 to 12-foot) sample interval. When unexpected high levels of radiation were encountered, all sampling activities were postponed until a path forward was determined. Weeks later, the remaining intervals for C6392 were sampled according to the DOW directions. Sampling information from all sampled boreholes is provided in Table 1 and Appendix E.

Because of the high radiation levels in C6392, exploratory borehole C6403 was pushed adjacent to C6392 to a depth of 15.24 meters (50 feet). C6403 was not part of the original work scope as called out in FSWO-DOW-025, Rev. 1. Geophysical logging data obtained from C6403 documented the presence of approximately 1,200,000 pCi/g of Cesium-137 at a depth of 1.83 meters (6 feet) below ground surface. Detailed results from both logging efforts (C6403 and C6405) are provided in Appendix D. Because of high radiation levels encountered in the immediate vicinity, WRPS personnel chose to push an additional sample borehole (C6400) adjacent to C6392. Borehole C6400 was also not part of the original work scope as called out in FSWO-DOW-025, Rev. 1.

Per FSWO-DOW-025, Rev. 1, eight sample intervals were identified for borehole C6404. The shallow sample locations produced minimal sample material for the required analysis. WRPS

personnel chose to push an additional borehole (C6402) adjacent to C6404 to reattempt to capture sufficient sample material at the shallow depths. Borehole C6402 was also not part of the original work scope as called out in FSWO-DOW-025, Rev. 1. To comply with the DOW, attempts to obtain surface soil samples were also made at boreholes C6404 and C6406. Sampling unconsolidated surface cover gravels for analysis with current CH2M HILL Prime Remediation Contractor (CHPRC) sampling procedures was not successful, and no surface samples were obtained from these efforts. Their locations are identified as C6404A and C6406A.

The hydraulic hammer unit and associated personnel initially began mobilization and site setup February 17, 2009. They commenced pushing the first borehole for this task February 23, 2009. The task was completed June 18, 2009. Not including time required for mobilization and demobilization, there were 74 field days that the hydraulic hammer unit and crew were dedicated to the UPR-200-E-81, Phase 2 activities. Seven boreholes were pushed for a total of 157.12 meters (515.5 feet), two of which were logged for gamma and moisture. Twenty five intervals were sampled with a total of 81 samples obtained. With the radiological work stoppage, personnel shortage and other factors, there were 415.25 hours of down time associated with this task. For exact dates and explanations of down time, refer to the Drilling and Sampling (Percussion) Daily Work Records located in Appendix C.

3.0 DIRECT PUSHING, SAMPLING AND LOGGING DETAILS

3.1 DIRECT PUSHING

As stated in the DOW, exploration and sampling were accomplished with the use of a hydraulic hammer system mounted on a tractor-type carrier. For the exploration pushes, a 6.35 centimeter (2.5-inch) outside diameter (OD) x 4.45 centimeter (1.75-inch) inside diameter (ID) casing was driven at predetermined locations to specified depths, or refusal. Once a push location was logged, the data was reviewed by WRPS personnel and sample locations and depths were selected. At designated boreholes, a second location within 0.6 meter (2 feet) of the exploratory hole was then pushed for sample retrieval.

3.2 SOIL SAMPLING

Soil sampling with the hammer unit was accomplished with a dual-wall sampling system. With the dual-wall system, once sample depth has been reached, the inner rod with the dummy drive tip is removed, and the drive tip is replaced with a sampler. The sampler consists of a 6.67 centimeter (2.625-inch) OD x 4.76 centimeter (1.875-inch) ID outer sample barrel, which holds a 4.13 centimeter (1.625-inch) OD x 48.63 centimeter (18.75-inch) long inner sample barrel. The inner sample barrel houses three 3.18 centimeter (1.25-inch) OD x 15.24 centimeter (6-inch) long stainless steel sample liners. Once the sampler and inner rod have been lowered and seated into the outer drive rod, the two are simultaneously advanced far enough to ensure that the

sampler is completely filled with material. Unless refusal is met, the sampler is typically driven 0.61 meters (2 feet). Table 1 shows intervals, sample numbers and sample recovery percentage.

Table 1. Sample Intervals.

Borehole Number	Depth In Feet	Sample Number	Percent Recovery
C6392	NA	B1YY16	Equipment Blank
C6392	14.0 – 16.0	B1YT69, 70 & 71	66%
C6392	NA	B1YY22	Trip Blank
C6392	19.5 – 21.5	B1YT72, 73 & 74	100%
C6392	25.0-27.0	B1YT75, 76 & 77	100%
C6392	42.0 – 44.0	B1YT78, 79 & 80	100%
C6392	56.0 – 58.0	B1YT81, 82 & 83	100%
C6400	5.0 – 7.0	B1YTF9, H0 & H1	50%
C6400	NA	B20VR1	Trip Blank
C6400	10.0 – 12.0	B1YTF8, H2 & H3	67%
C6400	132.0 – 134.5	B1YTH4, H5 & H6	
C6402	6.0 – 8.0	B20XV5, V6 & V7	60%
C6402	10.0 – 12.0	B20XV9, W0 & W1	65%
C6402	14.0 – 16.0	B20XW3, W4 & W5	50%
C6404	6.0 – 8.0	B1YT90, 91 & 92	33%
C6404	10.0 – 12.0	B1YT93, 94 & 95	5%
C6404	14.0 – 17.0	B1YT96, 97 & 98	33%
C6404	NA	B1YY18	Equipment Blank
C6404	19.5 – 21.5	B1YT99, B0 & B1	70%
C6404	NA	B1YY23	Trip Blank
C6404	31.0 – 33.0	B1YTB2, B3 & B4	100%
C6404	42.0 – 44.0	B1YTB5, B6 & B7	100%
C6404	57.0 – 59.0	B1YTB8, B9 & C0	100%
C6406	5.0 – 7.0	B1YTC7, C8 & C9	20%
C6406	NA	B1YY24	Trip Blank
C6406	10.0 – 12.0	B1YTD0, D1 & D2	50%
C6406	14.0 – 16.0	B1YTD3, D4 & D5	100%
C6406	18.0 – 20.0	B1YTD6, D7 & D8	100%
C6406	26.0 – 28.0	B1YTD9, F0 & F1	100%
C6406	54.5 – 56.5	B1YTF2, F3 & F4	100%
C6406	59.0 – 61.0	B1YTF5, F6 & F7	100%

Samples were obtained and analyzed in accordance with WRPS Sample Authorization Forms V09-002 and V09-003. Samples were analyzed for volatile organics, semi-volatile organics, metals, anions, sulfides, pH, radioisotopes and several other analytes.

The sample tip, drive head, sample liners, and inner sample barrel were cleaned by CHPRC Groundwater Sampling Operations Group using standard *Resource Conservation and Recovery Act of 1976* protocol cleaning methods in accordance with GRP-FS-04-G-013, *Laboratory Cleaning of Sampling Equipment*. This cleaning ensured that no cross contamination was introduced from previous use of the equipment or from the manufacturing process. Copies of the sample authorization forms, chain of custody forms, and sample record sheets are provided in Appendix E.

3.3 GLOBAL POSITIONING SATELLITE SURVEYING

With the use of a Trimble[1] 5800 Global Positioning Satellite Survey system and per FSWO-DOW-025, Rev. 1, the original locations of the exploratory boreholes were identified using paint and stakes. Once the task was completed and the boreholes decommissioned, each successful exploratory and sample borehole was recorded for accuracy. These recorded coordinates were placed on a map showing their locations in direct relation to the underground structures in the vicinity. The coordinates, elevation and a map showing completed push locations/boreholes are provided in Appendix B.

3.4 GEOPHYSICAL LOGGING

Pacific Northwest Geophysics and Three Rivers Scientific conducted the geophysical logging data collection and analysis services on the two exploration 6.35 centimeter (2.5-inch) probe boreholes. For the geophysical logging, a portable small diameter logging system was used to collect spectral gamma and moisture data. Results showed that both boreholes had moisture peaks and radiological peaks at approximately 1.52 meters (5 feet) below ground surface. Calibration details, survey results and data interpretation, as well as copies of the collected and processed log data, are in Appendix D.

4.0 BOREHOLE DECOMMISSIONING

Decommissioning of all the boreholes was conducted in accordance with the *Washington Administrative Code* (WAC) 173-160 requirements. Washington State Department of Ecology documentation is located in Appendix F. While decommissioning the boreholes not requiring probe placement, the tubing was back pulled while bentonite crumbles were simultaneously added to the tubing until it reached the surface. Because of excessive contamination levels in boreholes C6392 and C6403, twenty-six joints of tubing were left in the ground. When

[1]Trimble is a registered trademark of Trimble Navigation Ltd., Sunnyvale, California.

contamination levels of the tubing exceeded allowable levels per the radiological work permit (RWP), which occurred on boreholes C6392 and C6403, the clean tubing was removed and the remainder was driven a minimum of 0.6 meters (2 feet) below surface and sealed in place.

Only one borehole (C6405) was used for resistivity probe installation. Once logging was completed in the borehole, the drive tip was knocked out of the bottom of the tubing, and the tubing back pulled and filled with bentonite to near the desired probe placement depth. Silica sand was then added to the depth at which the resistivity probe was to be placed. The resistivity probe was placed and additional silica sand (approximately 1.52 meter [5 feet]) was then added to the borehole, encasing the probe in sand. Fifteen to 19 liters (4 to 5 gallons) of saline water were then added. Bentonite crumbles were then placed from above the sand to near the next probe depth. The process was repeated for multiple probe installations. Once the probes were installed, bentonite crumbles were added from above the silica sand to surface while back pulling the remaining tubing. A protective steel casing was cemented in place approximately 30.48 centimeters (12 inches) deep at the surface to protect the protruding probe wiring.

Table 2 shows both logged and sample boreholes, coordinates, pushed depth and resistivity probe placement depth.

Table 2. Borehole Information.

Borehole#	Northing	Easting	Elevation	Hole Depth	Probe Depth and Borehole Type
C6392	136473.5	575115.3	203.401	58 ft	Sample Borehole
C6400	136473.7	575116.0	203.331	134 ft	Sample Borehole
C6402	136464.5	575120.6	203.579	16 ft	Sample Borehole
C6403	136473.7	575116.0	203.302	50 ft	Logging Borehole
C6404	136464.1	575121.2	203.532	59 ft	Sample Borehole
C6404A	136463.7	575121.6	203.532	1 ft	Surface Sample Location
C6405	136487.8	575117.7	203.113	144 ft	30 ft/Logging Borehole
C6405	136487.8	575117.7	203.113	144 ft	134 ft/Logging Borehole
C6406	136488.1	575117.3	203.014	54.5 ft	Sample Borehole
C6406A	1364488.4	575116.9	203.037	1 ft	Surface Sample Location

5.0 ENVIRONMENTAL, SAFETY AND HEALTH

During the UPR-200-E-81 activities, the job site was surveilled by Energy*Solutions* Operations Safety for safety and health compliance. The results of the surveillances performed by Energy*Solutions* are provided in Appendix G. The work scope conducted under the subject statement of work was completed with no lost time, reportable *Occupational Safety and Health Act of 1970* injuries, or first aid cases, and there were no incidences of equipment or personnel radiological contamination.

6.0 REFERENCES

GRP-FS-04-G-013, *Laboratory Cleaning of Sampling Equipment*, Groundwater Remediation Project Environmental Engineering Procedure, Fluor Hanford, Richland, Washington.

Occupational Safety and Health Act of 1970, 29 USC 651 et seq.

Resource Conservation and Recovery Act of 1976, 42 USC 6901 et seq.

WAC 173-160, "Minimum Standards for Construction and Maintenance of Wells," *Washington Administrative Code*, as amended.

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APPENDIX A

FSWO-DOW-025, REV. 1, DESCRIPTION OF WORK

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FSWO-DOW-025
Revision 1

DESCRIPTION OF WORK
241-CR-151 VAULT DIRECT PUSH CHARACTERIZATION
(UPR 200-E-81 SITE)

February 2009

Prepared for
Washington River Protection Solutions, LLC

by
Remediation and Well Services
Energy*Solutions* Federal Services, Inc., Northwest Operations

CONTENTS

1.0 INTRODUCTION AND BACKGROUND 1
1.1 INTRODUCTION 1
1.2 TANK FARM BACKGROUND 2
2.0 METHODOLOGY AND PHASE 1 ACTIVITY REVIEW 4
3.0 PUSH LOCATIONS 6
3.1 PUSH LOCATION DOCUMENTATION 6
3.2 PUSH LOCATION TABLES AND NUMBERING 6
4.0 WORK TASKS 7
4.1 SITE SETUP 7
4.2 PUSH POINT CONTROL 7
4.3 GEOPHYSICAL LOGGING 8
5.0 SAMPLING 9
5.1 SAMPLING PROCESS 9
5.2 CLEANING 9
5.3 RINSEATE SAMPLES 9
5.4 EXPLORATION AND SAMPLING PUSH HOLE DECOMMISSIONING 9
6.0 ENVIRONMENTAL, SAFETY, AND HEALTH PROGRAM 10
6.1 ENVIRONMENTAL, SAFETY, AND HEALTH PROGRAM KEY ELEMENTS 11
6.2 WRPS REQUIRED ENVIRONMENTAL, SAFETY, AND HEALTH ELEMENTS 11
7.0 QUALITY ASSURANCE 11
8.0 REFERENCES 12

FIGURE

Figure 1. 241-CR-151 Diversion Box Borehole Locations. 3

TABLES

Table 1. Coordinates for Two Sample Pushes and One Exploration Direct Push. 6
Table 2. 241-CR-151 Sampling Deployment Depth 7

TERMS

bgs	below ground surface
CH2M HILL	CH2M HILL Hanford Group, Inc.
DOE	U.S. Department of Energy
DOW	description of work
Energy*Solutions*	Energy*Solutions* Federal Services, Inc., Northwest Operations
ES&H	Environmental, Safety, and Health
ID	inside diameter
OD	outside diameter
PUREX	Plutonium-Uranium Extraction (Plant)
RCRA	*Resource Conservation and Recovery Act of 1976*
RPP	River Protection Project
SGE	surface geophysical exploration
SST	single-shell tank
UPR	unplanned release
WAC	*Washington Administrative Code*
Well ID	Well identification
WMA	Waste Management Area
WRPS	Washington River Protection Solutions, LLC

FSWO-DOW-025, Rev. 1

DESCRIPTION OF WORK: 241-CR-151 VAULT DIRECT PUSH CHARACTERIZATION (UPR 200-E-81 SITE)

1.0 INTRODUCTION AND BACKGROUND

1.1 INTRODUCTION

The U.S. Department of Energy (DOE) Office of River Protection and the Washington State Department of Ecology (the regulator for *Resource Conservation and Recovery Act of 1976* [RCRA] treatment, storage, and disposal facilities) have agreed to create a RCRA Corrective Action Project with explicit milestones. These milestones are part of the *Hanford Federal Facility Agreement and Consent Order* (part of the M45 milestone series). The Tank Farm Vadose Zone Project is managing the RCRA Corrective Action Program. This program includes collection of subsurface vadose zone data.

The DOE assigned the River Protection Project (RPP) Single-Shell Tank Program the tasks of transferring waste from the single-shell tanks (SST) to double-shell tanks, and developing and implementing a strategy to retrieve SST and miscellaneous underground storage tank waste. The Single-Shell Tank Program Vadose Zone Project was given responsibility for collecting and providing subsurface data from the SST farm facilities. This contributes to preparation for the eventual retrieval of the storage tank waste. The data that is being collected is intended to provide an understanding of the distribution and movement of contaminants in the vadose zone under and adjacent to the tank farms. The intent of the SST Waste Management Area's (WMA) characterization program is to collect samples that have or have not contacted tank waste. These SST farms are designated as Radiological Buffer Areas or Contamination Areas.

For the first phase of work related to the UPR 200-E-81 site CH2M HILL Hanford Group, Inc. (CH2M HILL) recommended that the direct push technology be initially used to sample the subsurface at WMA C. The primary characterization goal was to improve the level of understanding of contaminants in the subsurface. The work was based on the needs and requirements identified in DOE/RL-98-36, *Phase 1 RCRA Facility Investigation/Corrective Measures Study Work Plan for Single-Shell Tank Waste Management Areas, Rev. 1, dated June 2000.* The specific work scope was identified in RPP-PLAN-35341, *Work Plan for Near-Surface Vadose Zone Characterization Utilizing the Hydraulic Hammer/Direct Push Technology For 35 Direct Pushes in FY08, Rev. 1.*

HNF-EP-0182, *Waste Tank Summary Report for Month Ending December 31, 2007*, described a waste loss event associated with an unplanned release (UPR 200-E-81) from the CR Vaults near the southwest corner of the C Tank Farm. Fluids released were associated with the Plutonium-Uranium Extraction (Plant) (PUREX) cladding waste. It was estimated that approximately 136,300 L (36,000 gal) of fluid that contained uranium fuel dissolved during the caustic dissolution of the aluminum fuel rods at the PUREX Plant were lost to the soil from this event.

A multi-discipline team consisting of CH2M HILL personnel, other subcontractors, and Energy*Solutions* Federal Services, Inc., Northwest Operations (Energy*Solutions*) planned and implemented the field activities of the site-specific work plans.

During the initial field investigation phase of activities conducted March 31, 2008, through July 15, 2008, five investigative probe holes and one sampling probe hole were placed. On September 15, 2008, RPP-38927, *Completion Report for the 241-CR-151 Vault (UPR-200-E-81) Direct Push Characterization and Sampling*, Rev. 0, was released documenting the activities conducted during the deployment. This revision to the Description of Work (DOW) is to provide guidance and documentation for three additional locations for sampling activities planned at the UPR 200-E-81 site.

This work is being conducted at the direction of Washington River Protection Solutions, LLC (WRPS) Vadose Zone Characterization Group. The following DOW provides the work instructions for conducting characterization/sampling efforts inside the 241-C Tank Farm at the UPR 200-E-81 site. The scope of work includes: provide equipment and personnel to conduct direct push activities; support soil sample collection; provide safety oversight; provide global positioning survey support; provide geophysical logging services; attend meeting and planning sessions; and provide a written report documenting field activities and data collection at the conclusion of activities.

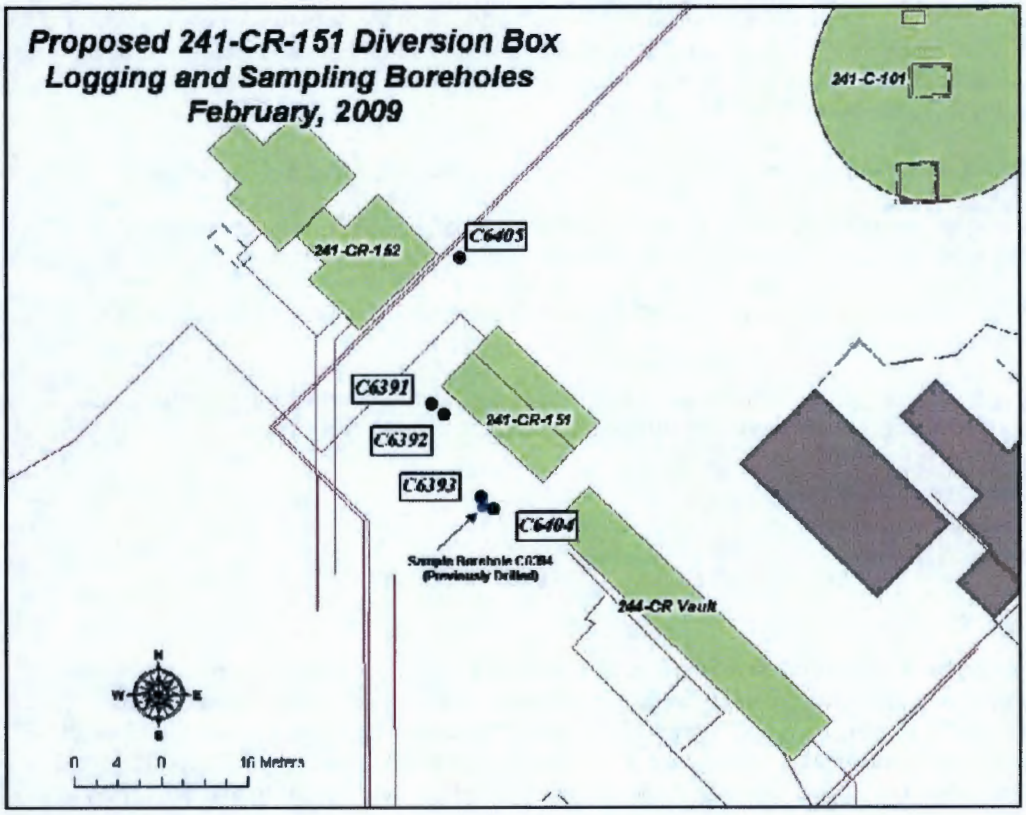
1.2 TANK FARM BACKGROUND

The Hanford Site has 149 underground SSTs that store hazardous radioactive waste. These tanks are grouped into 12 tank farms that are further grouped into eight WMAs and are regulated under RCRA. Many of these tanks have leaked, and there have been leaks in the associated infrastructure (e.g., pipelines, diversion boxes). Some of the leaked waste has entered groundwater. This DOW provides direction for field operations relative to characterization activities at UPR 200-E-81.

One large transfer line leak inside the WMA (UPR 200-E-81) and another leak outside (at UPR 200-E-86), but immediately adjacent to the boundary of the WMA, are indicated in the historical record. The estimated releases are larger than most of the other in-farm releases and functionally equivalent to a major tank leak event. There are no environmental data associated with UPR 200-E-81 where an estimated 136,260 L (36,000 gal) were released. Dose rates from this event were reported as 5 RAD at 6.1 m (20 ft). The contaminated liquid reportedly seeped into the ground and the area was subsequently covered with 0.5 m (18 in.) of gravel. This site presents a major portion of the risk associated with closure of WMA C.

Figure 1 below is a general location map of the UPR 200-E-81 area adjacent to the 241-CR-151 Vault. This map shows the single sampling push location and several of the exploration locations that were placed in 2008. Two of the three sampling probe locations and the single exploration location (C6405) planned for the current (2009) activities are also shown.

Figure 1. 241-CR-151 Diversion Box Borehole Locations.



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1.1.2 Physical Setting

The SST WMA tank farms were constructed in excavations into the near-surface sediments that overlie the Columbia River Basalt Group. Columbia River basalt forms the basement bedrock. Up to approximately 150 m (500 ft) of continental sediments overlie basalt. From oldest to youngest, these deposits include the following.

- Several facies of the Miocene-to-Pliocene age, fluvial-lacustrine Ringold Formation.
- Variably cemented and pedogenically altered deposits of the Plio-Pleistocene unit, which developed on the eroded and weathered surface of the Ringold Formation.
- A relatively loose, fine-grained silty-to-sandy unit designated the Hanford formation/Plio-Pleistocene unit interval.
- Deposits from Pleistocene age cataclysmic floods (i.e., Hanford formation) that blanket the study area with mostly sand- and silt-dominated facies, capped by a sequence of gravel-dominated facies.

2.0 METHODOLOGY AND PHASE 1 ACTIVITY REVIEW

The method selected to outline the vertical and horizontal extent of contamination is a hydraulic hammer-driven probe system mounted on a tractor-type carrier. For this application, points (locations) for investigation (exploration) are selected through an iterative process as outlined in Section 3.0. Sample depths are to be determined by moisture and gamma logs. Deepest targeted sample depths will be determined by review of the geophysical data and the total depth achieved by the initial exploratory push. Initially eight investigative sites were outlined for exploratory push investigation and geophysical log data collection.

During the initial phase of investigation, only five of the eight planned exploration pushes (C6391, C6393, C6395, C6397 and C6399) were placed by use of a single tubing string with 6.4 cm (2.5 in.) outside diameter (OD) x 4.45 cm (1.75 in.) inside diameter (ID). The tubing was advanced to 73.76 m (242 ft) bgs for probe holes C6393 and C6399. The remaining three probe holes (C6391, C6395 and C6397) were advanced to 46.33 m (152 ft) bgs. All five holes were geophysically logged with gamma and neutron moisture instrumentation. The logging data was reviewed by the CH2M HILL, DOE, Washington Department of Ecology and Energy*Solutions* technical personnel and a determination to sample 11 specific target zones in well C6394 (adjacent to C6393) was made. The exploratory push holes and the single sampling probe locations were decommissioned per applicable *Washington Administrative Code* (WAC) 173-160 requirements (e.g., filled with bentonite or bentonite/cement grout as required) as the push tubing is extracted. A dual wall system (6.67 cm [2.625 in.] OD) was deployed to collect samples from the selected sampling depths at the C6394 location. This DOW revision is to document locations and depths for one additional exploration and for sampling at three

additional locations. The locations for the proposed additional exploration probe and sampling locations and depths were selected based on data collected during the initial deployment phase.

2.1 MULTIPLE SAMPLE PUSH

There were eight sites in the UPR 200-E-81 (CR-151 Vault) area that were postulated as potential multiple sampling locations. Eleven soil samples were collected from a single sampling push location (C6394, which is offset from C6393) during the initial deployment at the CR-151 Vault site and an additional 24 (eight samples in three sampling locations) are currently planned for collection during the re-entry into the CR-151 site. The precise sampling depth for each planned push location, which is based on review of the geophysical logging data collected from the initial exploratory pushes, is listed below (page 7). The dual wall percussion system will be used to obtain multiple samples.

Sampling will be conducted with outer push tubing that is 6.67 cm (2.625 in.) OD x 4.76 cm (1.875 in.) ID and inner tubing that is 3.81 cm (1.5 in.) OD x 2.54 cm (1.0 in.) ID. The dual wall system with a "dummy" tip will be advanced to the pre-determined sample depth. The tubing will be back-pulled 0.06 m (approximately 2 in.) to 0.12 m (approximately 5 in.) to relieve pressure from the drive shoe and tip.

When sampling depth is achieved and the rods back-pulled for sampling, the removable tip will be removed by extracting the inner rods. When the inner string of tubing has been removed, a sampler will be attached to the inner string and returned to the bottom of the outer casing/push tubing and positioned against the inner receiver face of the drive shoe. The inner and outer tubing strings are "locked" together by use of a proprietary method, and the entire assembly is advanced through the targeted sample interval.

The sampler body holds three stainless steel liners that are 3.17 cm (1.25 in.) OD x 2.7 cm (1.08 in.) ID. After the sampler is advanced approximately 0.6 m (2 ft) the inner string is released and retrieved to surface. The liners are removed from the sampler body and surveyed. Trained sample-handling technicians document recovery, sample condition, and volume recovery percent; then they package and transport the sample to the selected laboratory for analysis. The "dummy" tip is reattached to the inner string and returned to bottom and placed in the casing shoe, and the entire assembly is advanced to the next designated sample depth. This process is repeated until all sample depths have been achieved or the tubing meets refusal.

Upon completion of the final sample extraction, or upon meeting refusal, the dummy tip or sampler is removed and the borehole is decommissioned per WAC 173-160, "Minimum Standards for Construction and Maintenance of Wells," requirements.

3.0 PUSH LOCATIONS

3.1 PUSH LOCATION DOCUMENTATION

Figure 1 above is a general location map of the UPR 200-E-81 area adjacent to the 241-CR-151 Vault. Specific push locations are also identified in Figure 1. These locations were selected through an iterative process using ground-penetrating radar scan data and as-built infrastructure drawing reviews. The two data sets were compared and sites for placement of push locations were selected based on the highest level of confidence achievable on review of specific locations and ground scan trace comparisons. The final location coordinates of the selected sites (determined from the ground-penetrating radar and as-built review) were plotted with computer-aided drafting (see Figure 1 above). Push locations will be documented on Well Information Reports/Field Activity Reports. In addition to the coordinate position of the probe location, the push depth, geophysical log data and other pertinent information derived during the activity (e.g., depth of contamination as identified from geophysical log interpretation, degree of contamination observed on push rods during extraction) are included in the documentation.

3.2 PUSH LOCATION TABLES AND NUMBERING

All primary (exploratory) and sampling push location activities will be tracked and documented on Field Activity Reports by referencing the Well identification (Well ID) number provided in Table 1. If the collection of a sample is attempted, a unique Well ID number will be used to track the push location on the Field Activity Report, and the sample will be identified with that Well ID number on the sample label and the shipping documentation. Each sample depth/location is identified as an offset from the exploratory push that identified the depth of interest (e.g., target sampling depth). That is, if, during the exploratory push, a zone of interest is identified at a listed coordinate position, the sampling push unique number is determined by the original identification number plus one (e.g., if a zone of interest is identified during pushing at location 1 [in Table 1, Well ID C 6391] the Well ID of the subsequent sampling push is C 6392). The unique Well ID numbers for all of the original push locations are listed, and unique sample push Well ID numbers have been assigned and reserved for use during the UPR 200-E-86 investigations by the Hanford Site Well Coordinator. For the current activity, a second sampling location adjacent to C6393 is planned. The Well ID for this location is C6404. All sampling and the single exploration push will be documented in the field activity reports and sampling chain of custody forms and located by use of global positioning survey equipment.

Table 1. Coordinates for Two Sample Pushes and One Exploration Direct Push.

Name	Northing	Easting	Elevation	Code
C6405	136487.8	575117.7	201	3
C6392	136473.3	575116.3	201	4
C6404	136464.6	575120.9	201	5

Table 2. 241-CR-151 Sampling Deployment Depth.

Well ID	Depth bgs (ft)	Well ID	Depth bgs (ft)	Well ID	Depth bgs (ft)
C6392	Surface	C6404	Surface	C6398	Surface
	5–7		6–8		5–7
	10–12		10–12		10–12
	14–16		14–16		14–16
	19.5–21.5		19.5–21.5		19–21
	25–27		31–33		27.5–9.5
	42–44		42–44		41–43
	56–58		57–59		59–61

4.0 WORK TASKS

4.1 SITE SETUP

The push equipment will be mobilized and a controlled work area set up surrounding the pre-selected and marked locations (See Table 1 and Figure 1 above). A pre-survey of the tractor and equipment will be conducted (per tank farm procedure) prior to moving the equipment into the work zone. As noted above, ground-penetrating radar scans and as-built drawing reviews and comparisons have been completed to properly select the push points. The equipment consists of a tractor-mounted mobile unit with a hydraulically powered hammer and mast system. Support equipment to be used during field activities will be mobilized into the work area as needed. A forklift will transport needed support equipment to and from the push locations. Tank farm personnel will provide support, as necessary, for guiding the equipment onto location and for subsequent movement of the unit to the listed push locations.

Tank farms radiological control technicians and nuclear chemical operators will be onsite to support work during activities that create potential personnel exposure. Contamination control measures will consist of laying spill protection material beneath the equipment (when required). Spill protection can consist of placement of rubber matting, felt and/or plastic sheeting on and around the direct push unit when necessary and prudent. Control of the work area and control of potential contamination are aided by restricting site entries by unnecessary personnel. Tank farms health physics personnel will provide direction and support to ensure radiological protection is maintained for all personnel associated with the work.

4.2 PUSH POINT CONTROL

During advancement of the push hole, casing (push rods) will be driven into the subsurface by use of the hydraulic hammer impact system. The push locations have been positioned to avoid impacting known/mapped structures. The mapped points will be investigated with all due caution and careful observation of the push advance rates, and resistance will be observed to

preclude damage to any tank farm infrastructures should the as-built drawings be in error. If rod advance indicates that obstructions are present, push advance will stop, the direct push equipment and work area will be placed in safe condition and the Vadose Project Engineer (Harold Sydnor) or his designee and the tank farm shift supervisor will be notified. If during push operations the push point is deemed to be "at refusal" as defined by trained operators of the direct push equipment (refusal is defined as a minimum of one inch of advance per minute of impact operations), the depth will be noted in the Field Activity Report and the next sequential task as defined in Section 2, "Methodology," will be performed.

All activities using the hammer unit will conform to the manufacturer's operating manual and applicable procedures that relate to the specific phase of work. As the push rods are extracted from the exploratory and sampling holes, the onsite health physics technician will monitor for radiological contamination. WRPS tank-farm-qualified Nuclear Chemical Operators will perform any decontamination required. The sealing requirements for decommissioning of the push holes are defined in the appropriate sections of WAC 173-160.

4.3 GEOPHYSICAL LOGGING

At refusal or target total depth of the exploratory investigations, Pacific Northwest Geophysics will conduct logging operations to gather geophysical information. The following logging suites will be used.

1. Bismuth germanium oxide @ 100 sec/0.5 ft.
2. Additional logging with the "Red" and/or "Green" Geiger/Muller equipment, if necessary, based on observed bismuth germanium oxide results.
3. Moisture logging.

Logging data will be collected from the total depth to surface. The logging analyst, Energy*Solutions* site personnel and the WRPS Vadose Project Engineer will review the field log data. Based on the log data sets, a sampling interval may be selected. Logging activities will be conducted in accordance with applicable Pacific Northwest Geophysics and Energy*Solutions* procedures and the Energy*Solutions* Quality Assurance and Data Management Plans.

5.0 SAMPLING

5.1 SAMPLING PROCESS

The sampling process will entail a multiple sampling methodology as described in Section 2.0.

After retrieving the sampler to surface, the sampling system will be disassembled and the stainless steel liners will be removed for packaging and shipment to the designated laboratory. If opening of the retrieved sampler would result in more than the allowable dose rates per the Radiation Work Permit, the samplers will be placed in transportation drums and opened under controlled conditions at the designated laboratory.

5.2 CLEANING

Quality control requires that all materials (e.g., sample liners, material retaining baskets [finger baskets], sample caps) used for the performance of sampling activities will be cleaned using U.S. Environmental Protection Agency guidelines/specifications as referenced in the RCRA. Cleaning of samplers, liners, etc. is the responsibility of the Nuclear Chemical Operator personnel subcontracted by WRPS for cleaning, handling, packaging, labeling and transporting the sample equipment. Materials used for push advance purposes (e.g., push rods, tips) will be high-pressure washed using an approved non-phosphate cleaner. The push materials will be visibly free of dirt, grease and other possible contamination, which would potentially provide for cross-contamination of retrieved samples. After being cleaned, the materials will be protected from unwanted contamination from surface chemicals and push operation-related chemicals. This protection will be accomplished by covering the materials with plastic or other acceptable materials, if necessary. The cleaned and protected materials will be tracked by use of cleaning certification documentation.

5.3 RINSEATE SAMPLES

Field equipment rinseate blanks may be required for analysis purposes. This determination and collection of these rinseate samples is the responsibility of WRPS and their designated subcontract personnel.

5.4 EXPLORATION AND SAMPLING PUSH HOLE DECOMMISSIONING

Applicable WAC requirements contained in WAC 173-160 will be used to control and guide actions for decommissioning the sampling and exploratory probe holes. Each probe and sampling hole will be filled with bentonite, a bentonite slurry and/or grout (neat cement or cement-bentonite mixture) during the push rod extraction process.

6.0 ENVIRONMENTAL, SAFETY, AND HEALTH PROGRAM

The primary concern for Energy*Solutions* and the client (WRPS) is the safety of personnel assigned to perform activities related to the UPR 200-E-81 investigation/characterization. These issues are addressed and all Energy*Solutions*, WRPS, and applicable *Occupational Safety and Health Act of 1970* safety and health requirements are applied and adhered to during the field operations. An activity-specific Job Hazard Analysis outlines the specific activity hazards and the mitigation methodologies. The documentation governing the operation of the direct push rig, sampling, and decommissioning activities (AHA-08-001, *UPR-200-E-81 (CR-151 Vault) Characterization Hydraulic Hammer Unit Operations,* Rev. 0, or most current revision) is included as a portion of the WRPS Tank Farm Work Package.

Both Energy*Solutions* Safety personnel and WRPS Tank Farm Industrial Hygiene and Safety personnel will survey the job site for safety and health compliance. Energy*Solutions* personnel and safety representatives will provide onsite inspections and visits during drilling, sampling and decommissioning/construction activities to ensure compliance with the guidance outlined in the Activity Hazard Analysis. Weekly inspection reports will be provided to the WRPS Technical Point of Contact (Harold Sydnor).

Energy*Solutions* subscribes to the Integrated Safety Management System and has implemented an Integrated Safety Management System approach into all of its work tasks. These requirements flow down, not only internally to Energy*Solutions* employees but also to Energy*Solutions* subcontractors. All of the following are in effect and will be observed, enforced and followed.

- Safety rules and procedures for safe job performance.
- Radiological Work Permit.
- WAC 173-160, as amended.
- *Occupational Safety and Health Act of 1970.*
- Client-identified standards.

These requirements are communicated to everyone associated with the project (visitors included) using the Energy*Solutions* Activity Hazard Analysis. The Activity Hazard Analysis is part of the Energy*Solutions* Environmental, Safety, and Health (ES&H) Program.

This program encompasses environment, safety and health, including pollution prevention and waste minimization. All work for this project will be analyzed in accordance with the five core functions of the Energy*Solutions* Integrated Safety Management System.

- Define the scope of work.
- Identify the work hazards and ES&H requirements.
- Analyze the work hazards and implement controls.
- Perform the work activity within the developed controls.
- Provide feedback on the adequacy of controls and safety management improvement.

The specific procedures used to accomplish these core functions are found in the Energy*Solutions* ES&H Program.

6.1 ENVIRONMENTAL, SAFETY, AND HEALTH PROGRAM KEY ELEMENTS

- Line management is responsible for the protection of employees, the public, and the environment.
- Clear and unambiguous lines of authority and responsibility for ensuring ES&H are established and maintained at all organizational levels.
- Personnel have "stop work" authority.
- Personnel possess the experience, knowledge, skills and abilities that are necessary to discharge their responsibilities.
- Resources are effectively allocated to address ES&H, programmatic, and operational considerations. Protecting employees, the public, and the environment is a priority whenever activities are planned and performed.
- Before work is performed, the associated hazards are evaluated and an agreed-upon set of ES&H standards and requirements is established which, if properly implemented, provides adequate assurance that employees, the public and the environment are protected from adverse consequences.
- Administrative and engineering controls to prevent and mitigate hazards are tailored to the work being performed and associated hazards. Emphasis should be on designing the work and/or controls to reduce or eliminate the hazards and to prevent accidents, UPRs, and exposures.

6.2 WRPS REQUIRED ENVIRONMENTAL, SAFETY, AND HEALTH ELEMENTS

WRPS has provided a comprehensive list of WRPS, DOE and Hanford Site-specific procedures and requirements for conducting work within the confines of the C Tank Farm. While executing the work scope detailed in this DOW, Energy*Solutions* will comply with all applicable directives and orders resulting from WRPS requirements.

7.0 QUALITY ASSURANCE

All work on the Hanford Site is subject to the requirements of DOE Order 5700.6C, *Quality Assurance*. A Quality Assurance program has been described in applicable sections of FS-WO-QAPP-001, *Federal Services Hanford Quality Assurance Program Plan*, and FSWO-QAP-001, *Quality Assurance Procedures*.

All work will be performed in accordance with approved procedures and this work plan.

8.0 REFERENCES

AHA-08-001, *UPR-200-E-81 Characterization*, Rev. 1, Energy*Solutions* Technical Services, Richland, Washington.

DOE Order 5700.6C, 1991, *Quality Assurance*, U.S. Department of Energy, Washington, D.C.

DOE/RL-98-36, *Phase 1 RCRA Facility Investigation/Corrective Measures Study Work Plan for Single-Shell Tank Waste Management Areas*

Ecology, EPA, and DOE, *Hanford Federal Facility Agreement and Consent Order*, 6 vols., Washington State Department of Ecology, U.S. Environmental Protection Agency, and U.S. Department of Energy, Olympia, Washington, as amended.

FS-WO-QAPP-001, *Federal Services Hanford Quality Assurance Program Plan*, Energy*Solutions* Federal Services, Western Operations, Richland, Washington.

FSWO-QAP-001, *Quality Assurance Procedures*, Energy*Solutions* Federal Services, Western Operations, Richland, Washington.

HNF-EP-0182, 2008, *Waste Tank Summary Report for Month Ending December 31, 2007*, Rev. 237, CH2M HILL Hanford Group, Inc., Richland, Washington.

Occupational Safety and Health Act of 1970, 29 USC 651 et seq.

Resource Conservation and Recovery Act of 1976, 42 USC 6901 et seq.

RPP-38927, *Completion Report for the 241-CR-151 Vault (UPR-200-E-81) Direct Push Characterization and Sampling*, Rev. 0, CH2M Hill Hanford Group, Inc., Richland, Washington.

RPP-PLAN-35341, 2007, *Work Plan for Near-Surface Vadose Zone Characterization Utilizing the Hydraulic Hammer/Direct Push Technology for 35 Direct Pushes in FY08*, Rev. 0, CH2M HILL Hanford Group, Richland, Washington.

WAC 173-160, "Minimum Standards for Construction and Maintenance of Wells," *Washington Administrative Code*, as amended.

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APPENDIX B

GLOBAL POSITIONING SYSTEM COORDINATES AND MAP

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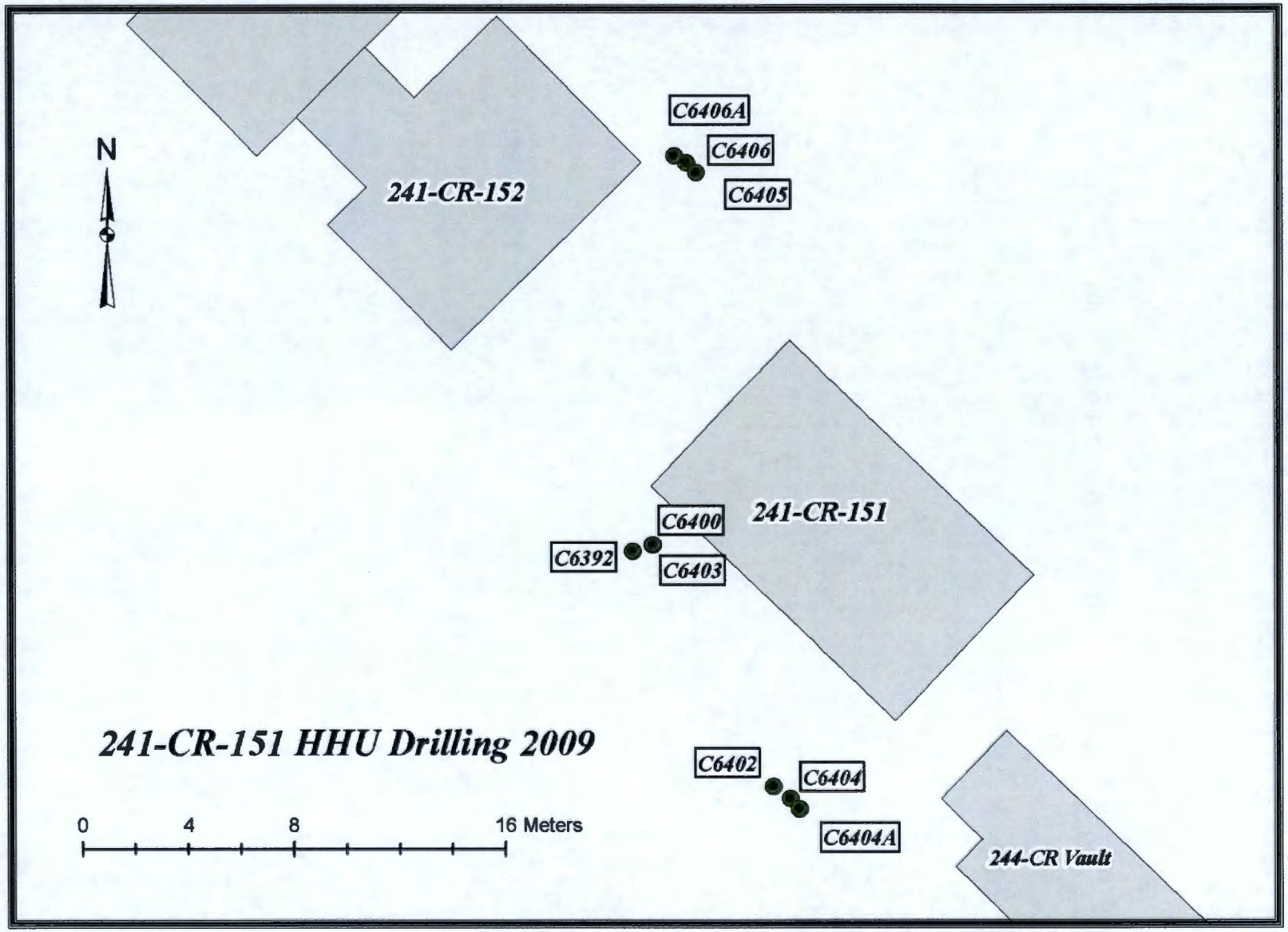
N
241-CR-152
C6406A
C6406
C6405
241-CR-151
C6400
C6392
C6403
241-CR-151 HHU Drilling 2009
C6402
C6404
C6404A
244-CR Vault
0
4
8
16 Meters

Name	Northing	Easting	Elevation
C6400	136473.7	575116	203.331
C6402	136464.5	575120.6	203.579
C6404	136464.1	575121.2	203.532
C6404A	136463.7	575121.6	203.532
C6392	136473.5	575115.3	203.401
C6406	136488.1	575117.3	203.014
C6406A	136488.4	575116.9	203.037
C6403	136473.7	575116	203.302
C6405	136487.8	575117.7	203.113

APPENDIX C

DRILLING AND SAMPLING DAILY WORK RECORDS

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ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: N/A	WELL NUMBER: N/A	REPORT NUMBER: 01	DATE: TUESDAY 02-17-09

CONTRACT NUMBER: 36472-02	START CARD NO: S27644/A118507 EXCAVATION PERMIT: DAN3363	RIG MODEL/NO: Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: MOBILIZATION TO "C" FARM	REFERENCE: FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 003	LOCATION: C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: N/A

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
N/A	N/A	CS	N/A	N/A	DWSS

BORING DEPTH (include sampling depth): N/A

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: 1/2 HR.
TOTAL TIME: 9 HRS.

DOCUMENTED DOWNTIME: N/A

WEATHER CONDITIONS (373-2716)
Temperature: 35°

CASING SUMMARY

Drive tip depth (shift start)	N/A
Drive tip depth (shift end)	
Casing stick up (shift end)	
Drive String Length	

SAMPLE SUMMARY: N/A

OPERATOR: WALKUP
License # 3005
CLAYTON, TEMPLETON, SNOOK, RERKO, EHRGOTT, CLARK.

TIME		WORK SUMMARY
0600	0640	PAPERWORK AND SAFETY MEETING AT OFFICE TOPIC:
—	—	ENSURE PROPER PPE IS USED WHEN NEEDED OR
—	—	REQUIRED.
0640	0715	TRAVEL TO "C" FARM.
0715	1200	ELECTRICIANS DROPPED OFF CORDS FOR RUDY CART
—	—	AND RAN GROUND TO GENERATOR
1200	1230	LUNCH.
1230	1500	STANDBY, UNABLE TO ACCESS FARM. RUDY CART
—	—	NOT IN FARM YET.
1500	1530	TRAVEL TO OFFICE.
		N/A

REPORT BY:
TITLE : ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 03-04-09
PRINT: MIKAEL D. WALKUP
SIGNATURE: [signature]

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE:
PRINT: Rory Z. Steffler 3-9-09
SIGNATURE: [signature]

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD Page 1 of 2

WELL I.D.: N/A	WELL NUMBER: N/A	REPORT NUMBER: 02	DATE: WEDNESDAY 02-18-09

CONTRACT NUMBER: 36472-02	START CARD NO: S27644/A118507 EXCAVATION PERMIT: DAN3363	RIG MODEL/NO: Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: MOBILIZATION INTO "C" FARM	REFERENCE: FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 003	LOCATION: C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: N/A

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
N/A	N/A	CS	N/A	N/A	DWSS

BORING DEPTH (*include sampling depth*): N/A

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: 1/2 HR.
TOTAL TIME: 9 HRS.

DOCUMENTED DOWNTIME: N/A

WEATHER CONDITIONS (373-2716)
Temperature: 41°

CASING SUMMARY

Drive tip depth (shift start)	
Drive tip depth (shift end)	
Casing stick up (shift end)	N/A
Drive String Length	

SAMPLE SUMMARY: N/A

OPERATOR: WALKUP
License # 3005
CLAYTON, SNOOK, EHRGOTT, REPKO, CLARK.

TIME		WORK SUMMARY
0600	0700	PAPERWORK AND TIMECARD AT OFFICE.
0700	0800	QUARTERLY SAFETY MEETING FOR ESES CREW TOPIC:
—	—	LOAD SECUREMENT AND SPORTS RELATED INJURIES.
0800	0830	TRAVEL TO "C" FARM.
0830	1010	ATTENDED PRE-JOB BRIEFING AT "C" FARM MO-524.
—	—	ATTENDEES: M. GARDNER, H. SYDNOR, R. ZANE,
—	—	M. REPKO, M. EHRGOTT, M. WALKUP, M. PASSEY,
—	—	K. OLSON, S. SNOOK, G. SEIDEL, J. CLAYTON,
—	—	R. STEFFLER.
1010	1130	STANDBY, UNABLE TO BEGIN MOBILIZATION OF CASE
—	—	HHU #1 INTO "C" FARM. NO PRE-ENTRY RAD. RELEASE
—	—	HAS BEEN RECEIVED YET.
1130	1300	TRAVELED TO CARPENTER DRILLING YARD IN BADGER
—	—	CANYON, LOADED CAT HHU #2 AND TRANSPORTED TO "C" FARM.

REPORT BY:
TITLE : ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 03-04-09
PRINT: MIKEL D. WALKUP
SIGNATURE: [signature]

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE:
PRINT: Rory Z Steffler 3-9-09
SIGNATURE: [signature]

ENERGYSOLUTIONS

DRILLING AND SAMPLING (PERCUSSION)
DAILY WORK RECORD

Page 2 of 2

Date	Well No.	Continuation of Report No.
02-18-09	N/A	02

DESCRIPTION OF OPERATIONS/REMARKS

1300-1330	LUNCH.
1330-1500	STANDBY, UNABLE TO MOBILIZE INTO "C" FARM.
1500-1530	TRAVEL TO OFFICE.

N/A

Report By	MIKEL W. WALKER	Reviewed By	Rory Z Steffler		
Title	ES TECHNICAL/SAFETY REP	Title	ES Technical Reviewer	Date	3-9-09
Signature	[signature]	Signature	R.Z. Steffler		

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 2

WELL I.D.: * C6405	WELL NUMBER: N/A	REPORT NUMBER: 03	DATE: THURSDAY 02-19-09
CONTRACT NUMBER: 36472-02	START CARD NO: S27644/A118507 EXCAVATION PERMIT: DAN3363	RIG MODEL/NO: Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0	
PURPOSE: MOBILIZATION INTO "C" FARM	REFERENCE: FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 003	LOCATION: C Tank Farm SW NE Section 2 26E 12N	

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: N/A

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
N/A	N/A	CS	N/A	N/A	DWSS

BORING DEPTH (Include sampling depth)

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: 1/2 HR.
TOTAL TIME: 9 HRS.

DOCUMENTED DOWNTIME: N/A

WEATHER CONDITIONS (373-2716)
Temperature: 38°

CASING SUMMARY

Drive tip depth (shift start)	
Drive tip depth (shift end)	
Casing stick up (shift end)	N/A
Drive String Length	

SAMPLE SUMMARY

N/A

OPERATOR: WALKUP
License # 3005
CLAYTON, TEMPLETON, SNOOK, SEIBEL, CLARK, REPKO, EHRGOTT.

TIME		WORK SUMMARY
0600	0700	PAPERWORK, TIMECARD AND SAFETY MEETING AT OFFICE.
—	—	TOPIC: USE HANDRAILS ON OFFICE STERS.
0700	0730	TRAVEL TO "C" FARM.
0730	1030	NCO'S ONSITE AT 0800 HRS., RCT'S ONSITE AT 0830HRS.,
—	—	ELECTRICIANS ONSITE AT 0900 HRS. ELECTRICIANS ENTERED
—	—	"C" FARM WITH RUDY CART AND WIRED IT IN. ELECTRICAL
—	—	INSPECTION WILL BE COMPLETED THIS AFTERNOON.
1030	1230	RAD. RELEASE ON CASE HHU #1 RECEIVED. DRESSED,
—	—	ENTERED "C" FARM AND MOBILIZED CASE HHU #1
—	—	WITH SUPPORT EQUIPMENT TO EXPLORATORY BORING
—	—	* C6405 AND SET-UP. EXITED "C" FARM.
1230	1300	LUNCH.
1300	1500	ELECTRICAL INSPECTOR ONSITE AT 1315. GENERATOR
—	—	WAS INSPECTED AND PASSED. ELECTRICIANS WILL

REPORT BY:
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 03-04-09
PRINT: MIKEL D. WALKUP
SIGNATURE: [signature]

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 3-9-09
PRINT: Roy Z. Steffler
SIGNATURE: [signature]

ENERGYSOLUTIONS

DRILLING AND SAMPLING (PERCUSSION)
DAILY WORK RECORD

Page 2 of 2

Date	Well No.	Continuation of Report No.
02-19-09	# C6405	03

	DESCRIPTION OF OPERATIONS/REMARKS
	PERFORM VOLTAGE CHECK ON BUDY CART IN THE MORNING
	ON MONDAY 02-23-09. WE WERE ALSO INFORMED THAT
	ELECTRICIANS WILL NEED TO START AND SHUT OFF THE
	GENERATOR AT THE BEGINNING AND END OF EACH SHIFT.
1500-1530	TRAVEL TO OFFICE.
	N/A

Report By	MIKEL W. WALKUP	Reviewed By	Rory Z Steffler		
Title	ES TECHNICAL/SAFETY REP	Title	ES Technical Reviewer	Date	3-9-09
Signature		Signature	R.Z. Steffler		

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 2

WELL I.D.:	WELL NUMBER:	REPORT NUMBER:	DATE:
* C6405	N/A	04	MONDAY 02-28-09

CONTRACT NUMBER:	START CARD NO: S27644/A118507	RIG MODEL/NO: Hydraulic Hammer Unit
36472-02	EXCAVATION PERMIT: DAN3363	CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE:	REFERENCE:	LOCATION:
DRIVE EXPLORATORY BORING * C6405	FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 003	C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: 120.0'

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.50"	1.875"	CS	2.875"	2.3"	DWSS

BORING DEPTH (include sampling depth): * C6405 : G.S. TO 120.0' BGS

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: 1/2 HR.
TOTAL TIME: 9 HRS.

DOCUMENTED DOWNTIME: N/A

WEATHER CONDITIONS (373-2716)
Temperature: 42°

CASING SUMMARY

Drive tip depth (shift start)	G.S.
Drive tip depth (shift end)	120.0' BGS
Casing stick up (shift end)	2.3'
Drive String Length	122.3'

SAMPLE SUMMARY: N/A

OPERATOR: WALKUP
License # 3005
CLAYTON, TEMPLETON, SNOW, SEIDEL, CLARK, REPKO, EHRGOTT

TIME		WORK SUMMARY
0600	0645	PAPERWORK, TIME CARD AND SAFETY MEETING AT OFFICE.
—	—	TOPIC: USE OF A FACE SHIELD AT THE WASH PAD.
0645	0730	TRAVEL TO "C" FARM.
0730	~~0900~~ 1000	STANDBY FOR ELECTRICIANS TO PERFORM VOLTAGE CHECK
—	MW 3-10-09 —	ON BUDDY CART.
1000	1020	BUDDY CART INSPECTED AND PASSED.
1020	1045	DRESSED AND ENTERED "C" FARM. INSPECTED AND
—	—	WARMED EQUIPMENT. NO PROBLEMS NOTED.
1045	1200	DROVE 2.5" EXPLORATORY BORING * C6405 FROM G.S.
—	—	TO 64.0' BGS. EXITED "C" FARM.
1200	1230	LUNCH
1230	1430	DRESSED AND ENTERED "C" FARM. DROVE 2.5"
—	—	EXPLORATORY BORING * C6405 FROM 64.0' BGS TO
—	—	120.0' BGS. NOTE: STOPPED ONE TIME FOR ~1/2 HR. TO

REPORT BY:
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 03-04-09
PRINT: MIKE L. WALKUP
SIGNATURE: [signature]

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 3-10-09
PRINT: Rory Z Staffey
SIGNATURE: [signature]

ENERGYSOLUTIONS

DRILLING AND SAMPLING (PERCUSSION)
DAILY WORK RECORD

Page 2 of 2

Date	Well No.	Continuation of Report No.
02-23-09	# C6405	04

	DESCRIPTION OF OPERATIONS/REMARKS
	LET CROSSOVER SUB. AND DRIVE HEAD COOL.
1430-1500	SECURED SITE FOR END OF SHIFT AND EXITED "C" FARM.
1500-1530	TRAVEL TO OFFICE.

N/A

Report By	MIKEL W. WALKER	Reviewed By	Rory Z Steffler		
Title	ES TECHNICAL/SAFETY REP	Title	E.S. Technical Reviewer	Date	3-10-09
Signature		Signature	R.Z. Steffler		

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD Page 1 of 1

WELL I.D.:	WELL NUMBER:	REPORT NUMBER:	DATE:
* C6405	N/A	05	TUESDAY 02-24-09

CONTRACT NUMBER:	START CARD NO: S27644/A118507	RIG MODEL/NO: Hydraulic Hammer Unit
36472-02	EXCAVATION PERMIT: DAN3363	CASE HHU #1
		AHA: AHA-08-001 Rev. 0

PURPOSE:	REFERENCE:	LOCATION:
DRIVE EXPLORATORY BORING * C 6405	FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 003	C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level **TOTAL SHIFT FOOTAGE:** -0-

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.50"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH *(include sampling depth)*
* C6405: 120.0' BGS

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: 1/2 HR.
TOTAL TIME: 9 HRS.

DOCUMENTED DOWNTIME:
~~N/A~~ 3-10-09
3.25 - NO WORK PACKAGE
4.25 - WIND

WEATHER CONDITIONS (373-2716)
Temperature: 46°
CLOUDY AND BREEZY

CASING SUMMARY

Drive tip depth (shift start)	120.0' BGS
Drive tip depth (shift end)	120.0' BGS
Casing stick up (shift end)	2.3'
Drive String Length	122.3'

SAMPLE SUMMARY
N/A

OPERATOR: WALKUP
License # 3005
CLAYTON, TEMPLETON
SNOOK, SEIDEL,
CLARK, REPKO,
EHRGOTT

TIME		*WORK SUMMARY*
0600	0630	PAPERWORK, TIMECARD AND SAFETY MEETING AT OFFICE
—	—	TOPIC: WORKING ON PLASTIC IN WET CONDITIONS.
0630	0715	TRAVEL TO "C" FARM AND ACE.
0715	1030	STANDBY, NO WORK PACKAGE RELEASED DUE TO AN
—	—	ALARM IN A PIT THE NIGHT BEFORE IN "C" FARM
1030	1130	STANDBY, WORK PACKAGE HAS BEEN RELEASED.
—	—	UNABLE TO ACCESS FARM DUE TO WIND. AOP-008
—	—	IS IN EFFECT.
1130	1200	LUNCH
1200	1500	STANDBY, AOP-008 IS STILL IN EFFECT.
1500	1530	TRAVEL TO OFFICE.
		N/A

REPORT BY:
TITLE : ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 03-04-09
PRINT: MIKEL W. WALKUP
SIGNATURE: [signature]

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 3-10-09
PRINT: Rory Z Steffler
SIGNATURE: [signature]

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.:	WELL NUMBER:	REPORT NUMBER:	DATE:
# C6405	N/A	06	WEDNESDAY 02-25-09

CONTRACT NUMBER:	START CARD NO: S27644/A118507	RIG MODEL/NO: Hydraulic Hammer Unit
36472-02	EXCAVATION PERMIT: DAN3363	CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE:	REFERENCE:	LOCATION:
DRIVE EXPLORATORY BORING # C6405	FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 003	C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: 68.0'

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.50"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH (include sampling depth): # C6405: 120.0' BGS - 188.0' BGS

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: 1/2 HR.
TOTAL TIME: 9 HRS.

DOCUMENTED DOWNTIME:
1/2 HR. - WIND
2 HRS. - ODORS
1 HR. - NO RCT'S

WEATHER CONDITIONS (373-2716)
Temperature: 55°, CLOUDY
WINDS TO 30 MPH

CASING SUMMARY

Drive tip depth (shift start)	120.0' BGS
Drive tip depth (shift end)	188.0' BGS
Casing stick up (shift end)	2.3'
Drive String Length	190.3'

SAMPLE SUMMARY: N/A

OPERATOR: WALKUP
License # 3005
CLAYTON, TEMPLETON, SNOOK, VILLAREAL, CLARK, REPKO, EHRGOTT

TIME		WORK SUMMARY
0600	0645	PAPERWORK, TIME CARD AND SAFETY MEETING AT OFFICE.
—	—	TOPIC: PROPER LIFTING TECHNIQUES
0645	0730	TRAVEL TO "C" FARM.
0730	0846	STANDBY FOR RCT'S.
0846	0915	DRESSED AND ENTERED "C" FARM. INSPECTED AND WARMED
—	—	EQUIPMENT. NO PROBLEMS NOTED.
0915	1200	DROVE 2.5" EXPLORATORY BORING # C6405 FROM 120.0' BGS
—	—	TO 188.0' BGS. EXITED "C" FARM.
1200	1230	LUNCH
1230	1430	STANDBY, ACCESS TO "C" FARM RESTRICTED DUE TO ODORS.
1430	1500	STANDBY, ACCESS TO "C" FARM RESTRICTED DUE TO WINDS.
1500	1530	TRAVEL TO OFFICE.
		N/A

REPORT BY:
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 03-04-09
PRINT: MIKE L. WALKUP
SIGNATURE:

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 3-10-09
PRINT: Rory Z Steffler
SIGNATURE:

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 2

WELL I.D.:	WELL NUMBER:	REPORT NUMBER:	DATE:
#C6405	N/A	07	THURSDAY 02-26-09

CONTRACT NUMBER:	START CARD NO: S27644/A118507	RIG MODEL/NO: Hydraulic Hammer Unit
36472-02	EXCAVATION PERMIT: DAN3363	CASE HHU #1
		AHA: AHA-08-001 Rev. 0

PURPOSE:	REFERENCE:	LOCATION:
DRIVE EXPLORATORY BORING #C6405	FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 003	C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: 52.0'

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.50"	1.75"	CS	2.375"	2.3'	DWSS

BORING DEPTH (Include sampling depth): #C6405: 188.0' BGS - 240.0' BGS

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: 1/2 HR.
TOTAL TIME: 9 HRS.

DOCUMENTED DOWNTIME: N/A 3-10-09
1 HR. - NO RCT'S

WEATHER CONDITIONS (373-2716)
Temperature: 52°, CLOUDY AND BREEZY

CASING SUMMARY	
Drive tip depth (shift start)	188.0' BGS
Drive tip depth (shift end)	240.0' BGS
Casing stick up (shift end)	2.3'
Drive String Length	242.3'
SAMPLE SUMMARY	
N/A	

OPERATOR: WALKUP
License # 3005
CLAYTON, TEMPLETON, SNOOK, VILLA REAL, CLARK, REPKO, OLSON

TIME		WORK SUMMARY
0600	0640	PAPERWORK, TIMECARD AND SAFETY MEETING AT OFFICE.
—	—	TOPIC: AGGRESIVE DRIVERS.
0640	0730	TRAVEL TO "C" FARM. OLSON ACE.
0730	0830	STANDBY FOR RCT'S.
0830	0915	DRESS AND ENTER "C" FARM. INSPECT AND WARM
—	—	EQUIPMENT. NO PROBLEMS NOTED.
0915	1130	DROVE 2.5" EXPLORATORY BORING #C6405 FROM
—	—	188.0' BGS TO 220.0' BGS. NOTE: STOPPED 2 TIMES FOR
—	—	~20 MINUTES TO LET CROSSOVER SUB. AND DRIVE
—	—	HEAD COOL. EXITED "C" FARM.
1130	1200	LUNCH
1200	1335	DRESS AND ENTER "C" FARM. DRIVE #C6405 FROM
—	—	220.0' BGS TO T.D. AT 240.0' BGS.
1335	1500	MOBILIZED CASE HHU #1 AND SUPPORT EQUIPMENT

REPORT BY:	REVIEWED BY:
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE	TITLE: ES TECHNICAL REVIEWER DATE: 3-10-09
DATE: 03-04-09	PRINT: Rory Z Steffler
PRINT: MIKEL W. WALKUP	SIGNATURE: R.Z. Steffler
SIGNATURE: Mikel Walkup	

ENERGYSOLUTIONS

DRILLING AND SAMPLING (PERCUSSION)
DAILY WORK RECORD

Page 2 of 2

Date	Well No.	Continuation of Report No.
02-26-09	# C6405	07

	DESCRIPTION OF OPERATIONS/REMARKS
	TO SAMPLE BORING # C 6392 AND SET-UP.
	EXITED "C" FARM.
1500-1530	TRAVEL TO OFFICE
	w/a

Report By	MIKEL D. WALKER	Reviewed By	Rory Z Steffler		
Title	ES TECHNICAL/SAFETY REP	Title	ES Technical Reviewer	Date	3-10-09
Signature		Signature			

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.:	WELL NUMBER:	REPORT NUMBER:	DATE:
# C6392	N/A	08	FRIDAY 02-27-09

CONTRACT NUMBER:	START CARD NO: S27644/A118507	RIG MODEL/NO: Hydraulic Hammer Unit
36472-02	EXCAVATION PERMIT: DAN3363	CASE HHU #1
		AHA: AHA-08-001 Rev. 0

PURPOSE: SAMPLE # C6392	REFERENCE: FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 003	LOCATION: C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: -0-

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.625"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH (Include sampling depth): N/A

START TIME: 0600
END TIME: 1430
CONTRACTOR TIME: 1/2 HR.
TOTAL TIME: 8 HRS.

DOCUMENTED DOWNTIME:
8 HRS. - NO SAMPLER SUPPORT
1 1/4 HRS. - NO RCT'S

WEATHER CONDITIONS (373-2716)
Temperature: 50°, SUNNY

CASING SUMMARY

Drive tip depth (shift start)	N/A
Drive tip depth (shift end)	N/A
Casing stick up (shift end)	N/A
Drive String Length	N/A

SAMPLE SUMMARY

N/A

OPERATOR: OLSON
License # 1217
SNOOK, VILLAREAL, CLAYTON, REPKO, TEMPLETON, CLARK

TIME		WORK SUMMARY
0600	0640	PAPER, TIMECARD AND SAFETY MEETING AT OFFICE.
—	—	TOPIC: ROTATING PARTS.
0640	0715	TRAVEL TO "C" FARM.
0715	0836	STANDBY FOR HPT'S.
0836	1200	STANDBY, NO SUPPORT FROM SAMPLERS
1200	1230	LUNCH
1230	1400	STANDBY, NO SUPPORT FROM SAMPLERS.
1400	1430	TRAVEL TO OFFICE.

N/A

REPORT BY:
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 03-04-09
PRINT: [illegible]
SIGNATURE: [illegible]

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 3-10-09
PRINT: Rory Z Steffler
SIGNATURE: [illegible]

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD Page 1 of 1

WELL I.D.: #C6405 #C6392	**WELL NUMBER:** N/A	**REPORT NUMBER:** 09	**DATE:** MONDAY 03-02-09

CONTRACT NUMBER: 36472-02	**START CARD NO:** S27644/A118507 **EXCAVATION PERMIT:** DAN3363	**RIG MODEL/NO:** Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: SAMPLE #C6392 GAMMA LOG #C6405	**REFERENCE:** FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 003	**LOCATION:** C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level **TOTAL SHIFT FOOTAGE:** -0-

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.625"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH *(include sampling depth)* N/A

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: 1/2 HR.
TOTAL TIME: 9 HRS.

DOCUMENTED DOWNTIME:
9 HRS. - NO SAMPLER SUPPORT
1 HR. - NO RCT'S

WEATHER CONDITIONS (373-2716)
Temperature: 46°, RAIN

CASING SUMMARY

Drive tip depth (shift start)	N/A
Drive tip depth (shift end)	N/A
Casing stick up (shift end)	N/A
Drive String Length	N/A

SAMPLE SUMMARY
N/A

OPERATOR: WALKUP
License # 3005
CLAYTON, TEMPLETON, SNOOK, VILLAREAL, CLARK, REPKO, EHRGOTT, RANDALL

TIME		*WORK SUMMARY*
0600	0640	PAPERWORK, TIMECARD AND SAFETY MEETING AT OFFICE.
—	—	TOPIC: SELECTION AND USE OF PAPR.
0640	0730	TRAVEL TO "C" FARM AND ACE.
0730	0845	STANDBY FOR HPT'S
0845	1200	PNG DRESS AND ENTER "C" FARM. BEGIN GAMMA
—	—	LOGGING IN #C6405. EXIT "C" FARM.
1200	1230	LUNCH
1230	1450	PNG DRESS AND ENTER "C" FARM. CONTINUE GAMMA
—	—	LOGGING IN #C6405. LOGGING COMPLETED FROM
—	—	235.6' BGS TO 181.0' BGS. EXIT "C" FARM.
1450	1530	TRAVEL TO OFFICE.
NOTE: ESSS		CREW ON STANDBY ENTIRE SHIFT. NO SUPPORT FROM
—	—	SAMPLERS.
		N/A

REPORT BY:
TITLE : ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 03-02-09
PRINT: MIKE W. WALKUP
SIGNATURE: [signature]

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 3-10-09
PRINT: Rory Z Steffler
SIGNATURE: [signature]

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: # C6405 # C6392	WELL NUMBER: N/A	REPORT NUMBER: 10	DATE: TUESDAY 03-03-09
CONTRACT NUMBER: 36472-02	START CARD NO: S27644/A118507 EXCAVATION PERMIT: DAN3363	RIG MODEL/NO: Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0	
PURPOSE: SAMPLE # C6392 GAMMA LOG # C6405	REFERENCE: FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 003	LOCATION: C Tank Farm SW NE Section 2 26E 12N	
REFERENCE MEASURING POINT: Ground Level		TOTAL SHIFT FOOTAGE: -0-	

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.625"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH *(include sampling depth)* N/A

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: 1/2 HR.
TOTAL TIME: 9 HRS.

DOCUMENTED DOWNTIME:
9 HRS. - NO SAMPLER SUPPORT
1 HR. - NO RCT'S

WEATHER CONDITIONS (373-2716)
Temperature: 48°, CLOUDY

CASING SUMMARY

Drive tip depth (shift start)	N/A
Drive tip depth (shift end)	N/A
Casing stick up (shift end)	N/A
Drive String Length	N/A

SAMPLE SUMMARY
N/A

OPERATOR: WALKUP
License # 3005
CLAYTON, TEMPLETON, SNOCK, CLARK, EMRGOTT, REPKO, RANDALL

TIME		WORK SUMMARY
0600	0645	PAPERWORK, TIME CARD AND SAFETY MEETING AT OFFICE.
—	—	TOPIC: EXHAUST FANS. WEEKLY: SMOKE DETECTORS.
0645	0720	TRAVEL TO "C" FARM.
0720	0835	STANDBY FOR RCT'S.
0835	1200	PPE DRESS AND ENTER "C" FARM. CONTINUE GAMMA
—	—	LOGGING IN # C6405. EXIT "C" FARM.
1200	1230	LUNCH
1230	1500	PPE DRESS AND ENTER "C" FARM. COMPLETED LOGGING
—	—	FROM 240.0' BGS TO 235.5' BGS AND FROM 181.0' BGS TO
—	—	133.0' BGS. EXIT "C" FARM.
1500	1530	TRAVEL TO OFFICE.
NOTE:	ESES	CREW WAS STANDBY ENTIRE SHIFT. NO SUPPORT FROM
—	—	SAMPLERS.
		N/A

REPORT BY:
TITLE : ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 03-04-09
PRINT: MIKE W. WALKUP
SIGNATURE:

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 3-10-09
PRINT: Rory Z Steffler
SIGNATURE:

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: # C6405 # C6392	WELL NUMBER: N/A	REPORT NUMBER: 11	DATE: WEDNESDAY 03-04-09

CONTRACT NUMBER: 36472-02	START CARD NO: S27644/A118507 EXCAVATION PERMIT: DAN3363	RIG MODEL/NO: Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0
PURPOSE: SAMPLE # C6392 GAMMA LOG # C6405	REFERENCE: FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 003	LOCATION: C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: -0-

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.625"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH (Include sampling depth): N/A

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: 1/2 HR.
TOTAL TIME: 9 HRS.

DOCUMENTED DOWNTIME:
9 HRS. - NO SAMPLER SUPPORT
1 1/2 HR. - NO RCT'S

WEATHER CONDITIONS (373-2716)
Temperature: 47°, CLOUDY

CASING SUMMARY

Drive tip depth (shift start)	N/A
Drive tip depth (shift end)	N/A
Casing stick up (shift end)	N/A
Drive String Length	N/A

SAMPLE SUMMARY
N/A

OPERATOR: WALKUP
License # 3005
CLAYTON, TEMPLETON, SNOOK, VILLARREAL, RANDALL, REPKO, CLARK, EHRGOTT

TIME		WORK SUMMARY
0600	0640	PAPERWORK, TIME CARD AND SAFETY MEETING AT OFFICE.
—	—	TC RSC: SITE HOUSEKEEPING
0640	0715	TRAVEL TO "C" FARM.
0715	0840	STANDBY FOR RCT'S.
0840	1200	PPE DRESS AND ENTER "C" FARM. CONTINUE GAMMA
—	—	LOGGING IN # C6405. EXIT "C" FARM.
1200	1230	LUNCH
1230	1450	PPE DRESS AND ENTER "C" FARM. COMPLETED LOGGING
—	—	FROM 133.0' BGS TO 69.5' BGS. EXIT "C" FARM.
1450	1530	TRAVEL TO OFFICE.
NOTE:	ESSS	CREW ON STANDBY ENTIRE SHIFT. NO SUPPORT FROM
—	—	SAMPLERS.
		N/A

REPORT BY:
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 03-04-09
PRINT: MIKE W. WALKUP
SIGNATURE: [signature]

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 3-10-09
PRINT: Rory Z. Steffler
SIGNATURE: [signature]

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD Page 1 of

WELL I.D.: # C6405 # C6392	**WELL NUMBER:** N/A	**REPORT NUMBER:** 12	**DATE:** THURSDAY 03-05-09
CONTRACT NUMBER: 36472-02	**START CARD NO:** S27644/A118507 **EXCAVATION PERMIT:** DAN3363	**RIG MODEL/NO:** Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0	
PURPOSE: SAMPLE # C6392 GAMMA LOG # C6405	**REFERENCE:** FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 003	**LOCATION:** C Tank Farm SW NE Section 2 26E 12N	

REFERENCE MEASURING POINT: Ground Level **TOTAL SHIFT FOOTAGE:** -0-

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.625"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH *(include sampling depth)* N/A

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: 1/2 HR.
TOTAL TIME: 9 HRS.

DOCUMENTED DOWNTIME:
9 HRS. - NO SAMPLER SUPPORT
1 1/2 HRS. - NO RGT'S

WEATHER CONDITIONS (373-2716)
Temperature: 49°, RAIN AND BREEZY

CASING SUMMARY

Drive tip depth (shift start)	n/a
Drive tip depth (shift end)	n/a
Casing stick up (shift end)	n/a
Drive String Length	n/a

SAMPLE SUMMARY
N/A

OPERATOR: WALKUP
License # 3005
CLAYTON, SNOOK, VILLAREAL, REPKO, RANDALL, CLARK, EMBSOTT

TIME		*WORK SUMMARY*
0600	0630	PAPERWORK, TIMECARD AT OFFICE.
0630	0715	SAFETY MEETING: PINCH POINTS.
0715	0750	TRAVEL TO "C" FARM.
0750	0835	STANDBY FOR RGT'S.
0835	1200	PWG DRESS AND ENTER "C" FARM. CONTINUE GAMMA
—	—	LOGGING IN # C6405. EXIT "C" FARM.
1200	1230	LUNCH
1230	1455	PWG DRESS AND ENTER "C" FARM. COMPLETED LOGGING
—	—	IN # C6405 FROM 69.5' BGS TO 36.6 BGS. SECURE SITE
—	—	FOR WEEKEND AND EXIT "C" FARM.
1455	1530	TRAVEL TO OFFICE.
NOTE:	ESFS	CREW ON STANDBY ENTIRE SHIFT. NO SUPPORT FROM
—	—	SAMPLERS.
		N/A

REPORT BY:
TITLE : ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 03-05-09
PRINT: MIKE L. WALKUP
SIGNATURE: [signature]

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 3-10-09
PRINT: Rory Z Steffler
SIGNATURE: [signature]

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: * C6405 * C6392	WELL NUMBER: N/A	REPORT NUMBER: 13	DATE: MONDAY 03-09-09

CONTRACT NUMBER: 36472-02	START CARD NO: S27644/A118507 EXCAVATION PERMIT: DAN3363	RIG MODEL/NO: Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: SAMPLE * C6392 GAMMA LOG * C6405	REFERENCE: FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 003	LOCATION: C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: -0-

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.625"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH (*include sampling depth*): N/A

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: 1/2 HR.
TOTAL TIME: 9 HRS.

DOCUMENTED DOWNTIME: 9 HRS. - NO SAMPLER SUPPORT
1/2 HRS. - NO RCT'S

WEATHER CONDITIONS (373-2716)
Temperature: 42°, COOL AND CLOUDY

CASING SUMMARY

Drive tip depth (shift start)	N/A
Drive tip depth (shift end)	N/A
Casing stick up (shift end)	N/A
Drive String Length	N/A

SAMPLE SUMMARY: N/A

OPERATOR: WALKUP
License # 3005
CLAYTON, TEMPLETON, SNOW, VILLAREAL, REPKO, RADDALL, CLARK.

TIME		WORK SUMMARY
0600	0740	PAPERWORK, TIMECARD AND SAFETY BREAKFAST AT OFFICE.
—	—	TOPIC: HEARING PROTECTION AT HOME AND WORK.
0740	0815	TRAVEL TO "C" FARM AND ACE.
0815	0910	STANDBY FOR RCT'S.
0910	1200	RNG DRESS AND ENTER "C" FARM. COMPLETED GAMMA
—	—	LOGGING IN * C6405 FROM 26.0' BGS TO 10.0' BGS.
—	—	EXIT "C" FARM.
1200	1230	LUNCH.
1230	1500	RNG DRESS AND ENTER "C" FARM. COMPLETED GAMMA
—	—	LOGGING IN * C6405 FROM 10.0' BGS TO G.S. SECURED
—	—	SITE FOR END OF SHIFT AND EXITED "C" FARM.
1500	1530	TRAVEL TO OFFICE.
NOTE:	ES&S	CREW ON STANDBY ENTIRE SHIFT. NO SUPPORT
—	—	FROM SAMPLERS.

REPORT BY:
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 03-09-09
PRINT: MIKE L. WALKUP
SIGNATURE: [signature]

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 3-10-09
PRINT: Rory E. Steffler
SIGNATURE: [signature]

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD Page 1 of 1

WELL I.D.: #C6405 #C6392	WELL NUMBER: N/A	REPORT NUMBER: 14	DATE: TUESDAY 03-10-09

CONTRACT NUMBER: 36472-02	START CARD NO: S27644/A118507 EXCAVATION PERMIT: DAN3363	RIG MODEL/NO: Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0
PURPOSE: SAMPLE #C6392 MOISTURE LOG #C6405	REFERENCE: FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 003	LOCATION: C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: -0-

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.625"	1.875"	CS	2.875"	2.8'	DWSS

BORING DEPTH (include sampling depth): N/A

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: 1/2 HR.
TOTAL TIME: 9 HRS.

DOCUMENTED DOWNTIME: NO SAMPLER SUPPORT

WEATHER CONDITIONS (373-2716)
Temperature: 35°, COOL AND SUNNY

CASING SUMMARY

Drive tip depth (shift start)	N/A
Drive tip depth (shift end)	N/A
Casing stick up (shift end)	N/A
Drive String Length	N/A

SAMPLE SUMMARY: N/A

OPERATOR: WALKER
License # 3005
CLAYTON, TEMPLETON, SNOW, REPKO, EHRGOTT, CLARK

TIME		WORK SUMMARY
0600	0715	PAPERWORK, TIME CARD, WEEKLY AND DAILY SAFETY
—	—	MEETING AT OFFICE. WEEKLY TOPIC: BUILDING EVACUATION
—	—	PLAN AND STAGING AREA AT OUR NEW OFFICE. DAILY TOPIC:
—	—	PROTECTION OF HANDS FROM INJURY OR LOSS.
0715	0820	TRAVEL TO "C" FARM.
0820	1200	STANDBY, NO SUPPORT FROM SAMPLING.
1200	1230	LUNCH.
1230	1530	STANDBY, NO SUPPORT FROM SAMPLING GROUP. TRAVEL
—	—	TO OFFICE.

N/A

REPORT BY:
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 03-10-09
PRINT: MIKEL W. WALKER
SIGNATURE: [signature]

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 3-11-09
PRINT: Rory Z. Steffler
SIGNATURE: [signature]

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD Page 1 of 2

WELL I.D.: # C6405 # C6392	WELL NUMBER: N/A	REPORT NUMBER: 15	DATE: WEDNESDAY 03-11-09

CONTRACT NUMBER: 36472-02	START CARD NO: S27644/A118507 EXCAVATION PERMIT: DAN3363	RIG MODEL/NO: Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: SAMPLE # C6392 MOISTURE LOG # C6405	REFERENCE: FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 003	LOCATION: C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: -0-

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.625"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH (Include sampling depth): N/A

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: 1/2 HR.
TOTAL TIME: 9 HRS.

DOCUMENTED DOWNTIME: 9 HRS. - NO SAMPLER SUPPORT.

WEATHER CONDITIONS (373-2716)
Temperature: 41°, SUNNY AND COOL

CASING SUMMARY

Drive tip depth (shift start)	N/A
Drive tip depth (shift end)	N/A
Casing stick up (shift end)	N/A
Drive String Length	N/A

SAMPLE SUMMARY: N/A

OPERATOR: WALKUP
License # 3005
CLAYTON, TEMPLETON, SNOOK, VILLAREAL, OLSON, PASSEY, CLARK, REPKO, PRICE

TIME		WORK SUMMARY
0600	0645	PAPERWORK, TIMECARD AND SAFETY MEETING AT OFFICE.
—	—	TOPIC: REVIEWED ENERGY SOLUTIONS COMMITMENT TO SAFETY
—	—	MEMO.
0645	0720	TRAVEL TO "C" FARM.
0720	1000	B. PRICE OF PNG TO SHURE TO PICK-UP SOURCE
—	—	FOR MOISTURE LOGGING. ESES CREW ON STANDBY, NO SUPPORT
—	—	FROM SAMPLING GROUP.
1000	1200	PNG DRESS, ENTER "C" FARM AND BEGIN MOISTURE
—	—	LOGGING IN # C6405. ESES CREW ON STANDBY, NO SUPPORT
—	—	FROM SAMPLING GROUP. PNG EXIT "C" FARM.
1200	1230	LUNCH
1230	1445	PNG DRESS AND ENTER "C" FARM. CONTINUE MOISTURE
—	—	LOGGING IN # C6405. ESES CREW ON STANDBY, NO SUPPORT
—	—	FROM SAMPLING GROUP. PNG COMPLETED MOISTURE

REPORT BY:	REVIEWED BY:
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE DATE: 03-11-09 PRINT: MIKEL W. WALKUP SIGNATURE: [signature]	TITLE: ES TECHNICAL REVIEWER DATE: 3-12-09 PRINT: Rory Z Steffler SIGNATURE: [signature]

ENERGYSOLUTIONS

DRILLING AND SAMPLING (PERCUSSION)
DAILY WORK RECORD

Page 2 of 2

Date	Well No.	Continuation of Report No.
03-11-09	N/A	15

DESCRIPTION OF OPERATIONS/REMARKS

	LOGGING IN #C6405 FROM 240.0' BGS TO 139.0' BGS AND
	EXITED "C" FARM. RCT'S RETURNED SOURCE.
1445-1530	SECURED SITE AND TRAVELED TO OFFICE.

N/A

Report By	MIKEL W. [illegible]	Reviewed By	Rory Z Steffler		
Title	ES TECHNICAL/SAFETY REP	Title	ES Technical Reviewer	Date	3-12-09
Signature	[illegible]	Signature	R.Z. Steffler		

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 2

WELL I.D.: #C6405 #C6392	WELL NUMBER: N/A	REPORT NUMBER: 16	DATE: THURSDAY 03-12-09
CONTRACT NUMBER: 36472-02	START CARD NO: S27644/A118507 EXCAVATION PERMIT: DAN3363	RIG MODEL/NO: Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0	
PURPOSE: SAMPLE #C6392 MOISTURE LOG #C6405	REFERENCE: FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 003	LOCATION: C Tank Farm SW NE Section 2 26E 12N	

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: 7.0'

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.625"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH (include sampling depth): #C6392- G.S. TO 7.3'

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: 1/2 HR.
TOTAL TIME: 9 HRS.

DOCUMENTED DOWNTIME:
45 MINS - SAMPLERS
1 HR - RCT'S

WEATHER CONDITIONS (373-2716)
Temperature: 47°, SUNNY AND COOL.

CASING SUMMARY

Drive tip depth (shift start)	G.S.
Drive tip depth (shift end)	7.3'
Casing stick up (shift end)	3.0'
Drive String Length	10.3'

SAMPLE SUMMARY: SEE BODY OF REPORT

OPERATOR: WALKUP
License # 3005
CLAYTON, TEMPLETON, SNOW, OLSON, REPKO, CLARK, PRICE, RESANE, RUST

TIME		WORK SUMMARY
0600	0640	PAPERWORK, TIMECARD AND SAFETY MEETING AT OFFICE.
—	—	TOPIC: WORKING SAFELY AFTER BEING ON STANDBY FOR AN
—	—	EXTENDED PERIOD OF TIME.
0640	0715	TRAVEL TO "C" FARM.
0715	0800	STANDBY FOR SAMPLER SUPPORT AND RCT'S
0800	0820	SAMPLERS ONSITE AT 0800 HRS. STANDBY FOR RCT'S.
0820	0840	RCT'S AND RNG TO PICK UP SOURCE FOR MOISTURE LOGGING.
0840	0945	RNG, ESES CREW DRESS AND ENTER "C" FARM. ESES CREW
—	—	POTHOLE TO ~1.0'. NO SOIL FOR OBTAINING SAMPLE. 300 CPM
—	—	ALSO DETECTED ON GRAVEL. INSTRUCTED BY H. SYDNOR
—	—	TO SCRATCH SURFACE SAMPLES FOR NKD AND DRIVE
—	—	DUMMY TIP TO NEXT INTERVAL AT 5.0' BGS
0945	0956	DRIVE DUAL WALL FROM G.S. TO 5.0' BGS AND
—	—	FILL DUMMY TIP. TIP SHOWED 300 CPM AND WAS BAGGED.

REPORT BY:
TITLE : ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 03-12-09
PRINT: MIKE W. WALKUP
SIGNATURE: [signature]

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 3-13-09
PRINT: Rory Z Steffler
SIGNATURE: [signature]

ENERGYSOLUTIONS

DRILLING AND SAMPLING (PERCUSSION)
DAILY WORK RECORD

Page 2 of 2

Date	Well No.	Continuation of Report No.
03-12-09	N/A	16

DESCRIPTION OF OPERATIONS/REMARKS

0955-1035	RUN SAMPLER TO 5.0' BGS. DRIVE SAMPLE FROM 5.0' BGS TO 7.0' BGS AT 1004 HRS. AND RETRIEVE. SAMPLE WAS READING 1.2 MR THRU THE LINERS AND OUTER CASING. SAMPLE WAS LEFT IN HOLE AND SITE WAS PLACED IN A SAFE CONFIGURATION. EXITED "C" FARM. DETERMINATION IS BEING MADE ON HOW TO PROCEED. SAMPLERS WILL NOT BE ABLE TO SHIP WITH THE BLUE CARD THEY HAVE.
1035-1200	STANDBY FOR DETERMINATION FROM RAD. CON. ON HOW TO PROCEED.
1200-1230	LUNCH
1230-1430	PNG DRESS AND ENTER "C" FARM. MOISTURE LOGGING CONTINUES TO BE PERFORMED IN #C6405. ESES CREW ON STANDBY FOR DETERMINATION ON HOW TO PROCEED FROM RADCON.
1430-1455	DECISION WAS MADE BY H. SYDNOR TO LEAVE THE SAMPLER IN THE CASING ON #C6392 AND MOVE ~1.0' NORTH AND PUSH ANOTHER 2.5" EXPLORATORY BORING TO ~58.0' BGS. THE BORING NUMBER HAS NOT YET BEEN ASSIGNED. PNG COMPLETED MOISTURE LOGGING IN #C6405 FROM 139.0' BGS TO B.S. PNG EXITED "C" FARM.
1455-1530	SECURED SITE AND TRAVELED TO OFFICE.
N/A	N/A

Report By	MIKEL W. WALKER	Reviewed By	Rory Z Steffler		
Title	ES TECHNICAL/SAFETY REP	Title	E.S. Technical Reviewer	Date	3-13-09
Signature		Signature			

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: # C6403	WELL NUMBER: N/A	REPORT NUMBER: 17	DATE: FRIDAY 03-13-09

CONTRACT NUMBER: 36472-02	START CARD NO: S27644/A118507 EXCAVATION PERMIT: DAN3363	RIG MODEL/NO: Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: DRIVE EXPLORATORY BORING # C6403 FROM G.S. TO T.D. AT 50.0'. GAMMA LOG # C6403	REFERENCE: FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 003	LOCATION: C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: 50.0'

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.5"	1.75"	CS	2.875"	1.6'	DWSS

BORING DEPTH (Include sampling depth): # C6403 - G.S. TO 51.3' BGS

START TIME: 0600
END TIME: 1430
CONTRACTOR TIME: 1/2 HR.
TOTAL TIME: 8 HRS.

DOCUMENTED DOWNTIME: ONE HR. - OPERATORS 3 1/2 HRS. - WAITING ON DIRECTION FROM WRPS.

WEATHER CONDITIONS (373-2716)
Temperature: 49°, PARTLY CLOUDY

CASING SUMMARY

Drive tip depth (shift start)	G.S.
Drive tip depth (shift end)	51.3' BGS
Casing stick up (shift end)	2.0'
Drive String Length	53.6'

SAMPLE SUMMARY

N/A

OPERATOR: WALKUP
License # 3005
VILLAREAL, REPKO, EHRGOTT, CLARK, TEMPLETON, CLAYTON

TIME		WORK SUMMARY
0600	0640	PREBRIEFING, TIMECARD AND SAFETY MEETING AT OFFICE.
—	—	TOPIC: USE OF THE RIGHT EQUIPMENT FOR THE JOB.
0640	0715	TRAVEL TO "C" FARM.
0715	0830	STANDBY FOR KEY TO ENTER "C" FARM.
0830	0915	EST'S CREW DRESS AND ENTER "C" FARM. MOBILIZE CASE
—	—	HHU TO # C6403.
0915	1030	DROVE 2.5" FROM G.S. TO T.D. AT 50.0' BGS # C6403
—	—	AND EXITED "C" FARM.
1030	1200	STANDBY FOR DIRECTION FROM WRPS.
1200	1230	LUNCH
1230	1430	STANDBY FOR DIRECTION FROM WRPS. RIG ONSITE @ 1245HRS
—	—	DRESSED AND ENTERED "C" FARM. COMPLETED PRELIMINARY
—	—	GAMMA LOGGING IN # C6403 FROM 50.0' BGS TO G.S. EXITED FARM.
1430	1500	TRAVELED TO OFFICE.

REPORT BY:
TITLE : ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 03-13-09
PRINT: MIKEL W. WALKUP
SIGNATURE: [signature]

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 3-23-09
PRINT: Rory Z Steffler
SIGNATURE: [signature]

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD Page 1 of 1

WELL I.D.: * C6403 * C6405	WELL NUMBER: N/A	REPORT NUMBER: 18	DATE: MONDAY 03-16-09

CONTRACT NUMBER: 36472-02	START CARD NO: S27644/A118507 EXCAVATION PERMIT: DAN3363	RIG MODEL/NO: Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0
PURPOSE: MOISTURE LOG * C6403 GAMMA LOG * C6405	REFERENCE: FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 003	LOCATION: C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: -0-

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
N/A	N/A	CS	N/A	N/A	N/A

BORING DEPTH (*Include sampling depth*) N/A

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: 1/2 HR.
TOTAL TIME: 9 HRS.

DOCUMENTED DOWNTIME: 9 HRS - WAITING ON DIRECTION FROM WRPS

WEATHER CONDITIONS (373-2716)
Temperature: 51°, WINDY AND CLOUDY.

CASING SUMMARY

Drive tip depth (shift start)	N/A
Drive tip depth (shift end)	N/A
Casing stick up (shift end)	N/A
Drive String Length	N/A

SAMPLE SUMMARY

N/A

OPERATOR: WALKUP
License # 3005
REPKO, EHRGOTT, TEMPLETON, SNOOK, VILLAREAL, CLARK, RANDALL

TIME		WORK SUMMARY
0600	0645	PAPERWORK, TIMECARD AND SAFETY MEETING AT OFFICE.
—	—	TOPIC: WORKING IN A CONGESTED AREA.
0645	0720	TRAVEL TO "C" FARM.
0720	0930	STANDBY FOR DIRECTION FROM WRPS FOR SAMPLING ACTIVITIES.
0930	1010	RNG AND HPT'S PICKING UP SOURCE. ESTS ON STANDBY.
1010	1200	RNG DRESS AND ENTER "C" FARM. BEGIN PERFORMING
—	—	MOISTURE LOGGING IN * C6403. EXIT "C" FARM.
1200	1230	LUNCH
1230	1430	RNG DRESS AND ENTER "C" FARM. COMPLETED MOISTURE
—	—	LOGGING IN * C6403 FROM 50.0' BGS TO G.S. MOVED
—	—	LOGGING TO * C6405. RAN GAMMA LOG FROM 4.5' BGS TO
—	—	2.5' BGS. RNG EXITED "C" FARM. RCT'S RETURNED SOURCE
1430	1530	TRAVELED TO OFFICE.
—	—	N/A

REPORT BY:
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 03-16-09
PRINT: MIKE W. WALKUP
SIGNATURE: [signature]

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 3-23-09
PRINT: Rocy Z. Steffler
SIGNATURE: [signature]

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: C6403 C6405	WELL NUMBER: N/A	REPORT NUMBER: 19	DATE: TUESDAY 03-17-09

CONTRACT NUMBER: 36472-02	START CARD NO: S27644/A118507 EXCAVATION PERMIT: DAN3363	RIG MODEL/NO: Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: RNG CALIBRATE TOOLING AT CALIBRATION MODULES.	REFERENCE: FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 003	LOCATION: C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: -0-

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
N/A	N/A	CS	N/A	N/A	N/A

BORING DEPTH (Include sampling depth): N/A

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: 1/2 HR.
TOTAL TIME: 9 HRS.

DOCUMENTED DOWNTIME: 9 HRS - NO SAMPLER SUPPORT, WAITING ON DIRECTION FROM WRPS.

WEATHER CONDITIONS (373-2716)
Temperature: 51°, WINDY CHANCE OF RAIN.

CASING SUMMARY	
Drive tip depth (shift start)	N/A
Drive tip depth (shift end)	N/A
Casing stick up (shift end)	N/A
Drive String Length	N/A
SAMPLE SUMMARY	
N/A	

OPERATOR: WALKUP
License # 3005
SWOOK, VILLAREAL, CLAYTON, TEMPLETON, EHRGOTT, REPKO, CLARK

TIME		WORK SUMMARY
0600	0640	TIME CARD, PAPERWORK AND SAFETY MEETING AT OFFICE.
—	—	DAILY TOPIC: KIDDE FIRE EXTINGUISHER RECALL. WEEKLY TOPIC:
—	—	FIRST AID TRAINING AND IT'S USES OUTSIDE OF WORK.
0640	0715	TRAVEL TO "C" FARM.
0715	1200	ESES CREW ON STANDBY FOR DIRECTION FROM WRPS. ALSO
—	—	NO SAMPLER SUPPORT AVAILABLE.
1200	1230	LUNCH.
1230	1400	RNG CALIBRATING AT CALIBRATION MODULES. ESES CREW
—	—	ON STANDBY FOR DIRECTION FROM WRPS. ALSO NO
—	—	SAMPLER SUPPORT AVAILABLE. FARM SHUT DOWN DUE TO
—	—	WINDS. CONSTANT AT 21 MPH. GUSTS TO 32 MPH.
1400	1500	ESES MET WITH K. HENRY WRPS RADCON TO DISCUSS HANDLING
—	—	OF RAD. CONTAMINATED SAMPLES.
1500	1530	TRAVELED TO OFFICE.

REPORT BY:	REVIEWED BY:
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE DATE: 03-17-09 PRINT: MIKEL W. WALKUP SIGNATURE: [signature]	TITLE: ES TECHNICAL REVIEWER DATE: 3-23-09 PRINT: Rory Z. Steffler SIGNATURE: [signature]

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 2

WELL I.D.: * C6403	WELL NUMBER: N/A	REPORT NUMBER: 20	DATE: WEDNESDAY 03-18-09

CONTRACT NUMBER: 36472-02	START CARD NO: S27644/A118507 EXCAVATION PERMIT: DAN3363	RIG MODEL/NO: Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: GREEN GM * C6403	REFERENCE: PSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 003	LOCATION: C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: -0-

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
N/A	N/A	CS	N/A	N/A	N/A

BORING DEPTH (Include sampling depth): N/A

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: 1/2 HR.
TOTAL TIME: 9 HRS.

DOCUMENTED DOWNTIME:
9 HRS - NO SAMPLER SUPPORT.
9 HRS - NO DIRECTION FROM WRPS.

WEATHER CONDITIONS (373-2716)
Temperature: 57°, PARTLY CLOUDY

CASING SUMMARY

Drive tip depth (shift start)	N/A
Drive tip depth (shift end)	N/A
Casing stick up (shift end)	N/A
Drive String Length	N/A

SAMPLE SUMMARY

N/A

OPERATOR: WALKUP
License # 3005
SNOOK, RANDALL, CLAYTON, TEMPLETON, ELKGOTT, CLARK, REPKO, VILLAREAL.

TIME		WORK SUMMARY
0600	0715	PAPERWORK, TIMECARD AND SAFETY MEETING AT OFFICE.
—	—	TOPIC: BBQ SAFETY AT HOME.
0715	0745	TRAVELED TO "C" FARM.
0745	0815	STANDBY FOR RCT'S.
0815	0840	DISCUSS WITH RCT'S AND OPERATORS PROCEDURE FOR REMOVING
—	—	CONTAMINATED SAMPLE FROM * C6392 AND DISPOSING OF IT.
—	—	RCT'S WANT TO TAKE CLEAN SAMPLER TO THEIR MANAGEMENT
—	—	FOR APPROVAL OF METHOD TO BE USED.
0840	1100	STANDBY FOR SAMPLER FROM FLOOR. ENG PRESS AND
—	—	ENTER "C" FARM AT 0900 HRS. GREEN GM LOGGED * C6403
—	—	FROM 500BGS TO G.S. EXITED "C" FARM. RCT'S TO SQUARE BLDG.
—	—	WITH SAMPLER AT 1100 HRS.
1100	1200	STANDBY FOR RCT DECISION ON HANDLING SAMPLE.
1200	1230	LUNCH

REPORT BY:	REVIEWED BY:
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE DATE: 03-18-09 PRINT: MIKE L. W. WALKUP SIGNATURE: [signature]	TITLE: ES TECHNICAL REVIEWER DATE: 3-23-09 PRINT: Rory Z. Steffler SIGNATURE: [signature]

ENERGYSOLUTIONS

DRILLING AND SAMPLING (PERCUSSION)
DAILY WORK RECORD

Page 2 of 2

Date	Well No.	Continuation of Report No.
03-18-09	#C6403	20

DESCRIPTION OF OPERATIONS/REMARKS

1230-1330	STANDBY FOR WRPS AND RCT DIRECTION ON HOW TO HANDLE SAMPLE. NO SUPPORT FROM SAMPLE GROUP. DECISION MADE AT 1320 HRS. BY RCT'S ON HOW TO DISPOSE OF SAMPLE. DECISION ALSO MADE TO WAIT UNTIL A.M. TO DO IT.
1330-1410	TRAVEL TO OFFICE.
1410-1530	WORK AT OFFICE.

N/A

Report By	MIKEL D. WALKER	Reviewed By	Rory Z Steffler		
Title	ES TECHNICAL/SAFETY REP	Title	E.S. Technical Reviewer	Date	3-23-09
Signature		Signature	R.P. Steffler		

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD Page 1 of 1

WELL I.D.: # C6392	WELL NUMBER: N/A	REPORT NUMBER: 21	DATE: THURSDAY 03-19-09

CONTRACT NUMBER: 36472-02	START CARD NO: S27644/A118507 EXCAVATION PERMIT: DAN3363	RIG MODEL/NO: Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: RETRIEVE AND DISPOSE OF SAMPLE. DRIVE DWGS FROM 7.0' BGS TO 14.0' BGS # C6392	REFERENCE: PSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 003	LOCATION: C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: 7.0'

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.625"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH (Include sampling depth): #C6392 - 14.3'

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: 1/2 HR.
TOTAL TIME: 9 HRS.

DOCUMENTED DOWNTIME: STANDBY FOR RCT'S. NO SAMPLER SUPPORT.

WEATHER CONDITIONS (373-2716)
Temperature: 61°, PARTLY CLOUDY

CASING SUMMARY

Drive tip depth (shift start)	7.3' BGS
Drive tip depth (shift end)	14.3' BGS
Casing stick up (shift end)	2.0'
Drive String Length	16.3'

SAMPLE SUMMARY: N/A

OPERATOR: WALKUP
License # 3005
SNOOK, ENGLOTT, RENO, VILLAREAL, CLARK, CLAYTON, TEMPLETON

TIME		WORK SUMMARY
0600	0650	PAPERWORK, TIMECARD AND SAFETY MEETING AT OFFICE.
—	—	TOPIC: BLACK MOLD AND SPORES.
0650	0720	TRAVEL TO "C" FARM.
0720	0820	STANDBY FOR RCT'S.
0820	0855	PRE-JOB FOR HANDLING OF CONTAMINATED SAMPLE.
0855	0945	RCT'S DRESS AND ENTER "C" FARM. RCT'S RETRIEVED SAMPLE,
—	—	PACKAGED AND SET ASIDE. EXITED "C" FARM.
0945	1130	STANDBY FOR TOC SAMPLERS WORKING WITHIN 25' OF HHU
—	—	TO COMPLETE THEIR JOB BEFORE DRIVING MORE PIPE.
1130	1230	ESFS CREW DRESS AND ENTER "C" FARM. DRIVE DUMMY TIP
—	—	FROM 7.0' BGS TO NEXT INTERVAL AT 14.0' BGS. ESFS CREW
—	—	SECURED SITE FOR WEEKEND AND EXITED FARM.
1230	1300	LUNCH
1300	1530	STANDBY, NO SAMPLER SUPPORT. TRAVELED TO OFFICE AND COMPLETED PAPERWORK.

REPORT BY:
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 03-19-09
PRINT: MIKEL W. WALKUP
SIGNATURE: [signature]

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 3-23-09
PRINT: Rocy J. Stafflar
SIGNATURE: [signature]

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: * C6392	WELL NUMBER: N/A	REPORT NUMBER: 22	DATE: MONDAY 03-23-09

CONTRACT NUMBER: 36472-02	START CARD NO: S27644/A118507 EXCAVATION PERMIT: DAN3363	RIG MODEL/NO: Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: SAMPLE * C6392	REFERENCE: FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 003	LOCATION: C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: - 0 -

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.625"	1.875"	CS	2.875"	2.3'	DWGS

BORING DEPTH (include sampling depth), * C6392 - 14.3

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: 1/2 HR.
TOTAL TIME: 9 HRS.

DOCUMENTED DOWNTIME: 9 HRS. - NO SAMPLER SUPPORT

WEATHER CONDITIONS (373-2716)
Temperature: 54°, PARTLY CLOUDY

CASING SUMMARY

Drive tip depth (shift start)	14.3' BGS
Drive tip depth (shift end)	14.3' BGS
Casing stick up (shift end)	2.0'
Drive String Length	16.3'

SAMPLE SUMMARY

N/A

OPERATOR: WALKUP
License # 3065
SWCOK, REPKD, EHRGOTT, CLARK, TEMPLETON, CLAYTON.

TIME		WORK SUMMARY
0600	0650	PREWORK, TIMECARD AND SAFETY MEETING AT OFFICE.
—	—	TOPIC: LOOK AND LIVE.
0650	0720	TRAVEL TO "C" FARM.
0720	1200	STANDBY, NO SAMPLER SUPPORT.
1200	1230	LUNCH.
1230	1500	STANDBY, NO SAMPLER SUPPORT.
1500	1530	TRAVELED TO OFFICE

N/A

REPORT BY:
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 03-23-09
PRINT: MICHAEL D. WALKUP
SIGNATURE: [signature]

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 3-24-09
PRINT: Rory Z. Steffler
SIGNATURE: [signature]

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: # C6392	WELL NUMBER: N/A	REPORT NUMBER: 33	DATE: TUESDAY 03-24-09

CONTRACT NUMBER: 36472-02	START CARD NO: S27644/A118507 EXCAVATION PERMIT: DAN3363	RIG MODEL/NO: Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: SAMPLE #C6392	REFERENCE: PSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 003	LOCATION: C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: -0-

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.625"	1.875"	CS	2.875"	2.3'	OWSS

BORING DEPTH (include sampling depth): #C6392 - 14.3'

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: 1/2 HR.
TOTAL TIME: 9 HRS.

DOCUMENTED DOWNTIME: 9 HRS. - WAITING ON DIRECTION FROM WRPS AND NO SAMPLERS.

WEATHER CONDITIONS (373-2716)
Temperature: 56°, PARTLY CLOUDY

CASING SUMMARY

Drive tip depth (shift start)	14.3' BGS
Drive tip depth (shift end)	14.3' BGS
Casing stick up (shift end)	2.0'
Drive String Length	16.3'

SAMPLE SUMMARY

N/A

OPERATOR: WALKUP
License # 3005
CLAYTON, TEMPLETON, SNOW, REPKO, EMBGOTT, CLARK

TIME		WORK SUMMARY
0600	0710	PAPERWORK, TIMECARD AND SAFETY MEETING AT OFFICE.
—	—	TOPIC: LADDER SAFETY PART #1.
0710	0745	TRAVEL TO "C" FARM.
0745	1200	STANDBY FOR DIRECTION FROM WRPS ON HOW TO PROCEED
—	—	AND NO SUPPORT FROM SAMPLERS.
1200	1230	LUNCH
1230	1345	MEETING WITH ESES, WRPS AND GROUNDWATER. PATH
—	—	FORWARD HAS PRELIMINARY APPROVED. SEE ATTACHED
—	—	ROSTER FOR ATTENDEES.
1345	1415	TRAVEL TO OFFICE.
1415	1530	ESES TOOK DODGE P.U. TO LITHIA FOR RECALL WORK.
		N/A

REPORT BY:
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 03-24-09
PRINT: MICHAEL W. WALKUP
SIGNATURE: [signature]

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 3-26-09
PRINT: Rory Z. Steffler
SIGNATURE: [signature]

CH2M HILL
ATTENDANCE ROSTER

Subject:	Date:
CLO-WO-08-0263 Vadose Push @ C-Farm Glove Bag Planning & HOT Samples	3·24·09
	Leader: W Clark

NAME (Print)	Signature	Position/Title	Organization
W. Clark	W Clark	FWS	WRPS
M. EHRBOTT	Mike Ehrbott	OP.	ESFS
J. Mehrer	[illegible]	Scientist	CHPRC/GRAM INC.
Nathan Bowles	[illegible]	FWS Sampling	CHPRC/FGG
Mark A. Repko	Mark A. Repko	op	E.S.F.S.
Scott Snook	Scott Snook	NCO	WRPS
M. WALKUP	[illegible]	STR	ESFS
Larry Roanne	Larry Roanne	NCO (Sampler)	CHPRC
Steve Rust	[illegible]	HCO Sampler	CHPRC
PL TEMPLETON	[illegible]	HPT	CO

A-6003-211 (11/05)

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD Page 1 of 1

WELL I.D.: # C6392	WELL NUMBER: N/A	REPORT NUMBER: 24	DATE: WEDNESDAY 03-25-09

CONTRACT NUMBER: 36472-02	START CARD NO: S27644/A118507 EXCAVATION PERMIT: DAN3363	RIG MODEL/NO: Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: SAMPLE # C6392	REFERENCE: FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 003	LOCATION: C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: -0-

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.625"	1.875"	CS	2.875"	2.8'	DWSS

BORING DEPTH (include sampling depth): # C6392 - 14.3'

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: 1/2 HR.
TOTAL TIME: 9 HRS.

DOCUMENTED DOWNTIME: 9 HRS. - WAITING ON DIRECTION FROM WRPS.

WEATHER CONDITIONS (373-2716)
Temperature: 53°, PARTLY CLOUDY AND RAIN

CASING SUMMARY

Drive tip depth (shift start)	14.3' BGS
Drive tip depth (shift end)	14.3' BGS
Casing stick up (shift end)	2.0'
Drive String Length	16.3'

SAMPLE SUMMARY: N/A

OPERATOR: WALKUP
License # 3006
TEMPLETON, CLAYTON, SNOOK, REPKO, CLARK, EHRGOTT

TIME		WORK SUMMARY
0600	0720	PAPERWORK, TIME CARD AND SAFETY MEETING AT OFFICE.
—	—	TOPIC: PROPER LIFTING TECHNIQUES.
0720	0830	TRAVELED TO "C" FARM AND 222-S LABS.
0830	1000	ATTENDED MEETING AT 222-S LABS. WITH WRPS AND SAMPLERS.
1000	1130	STANDBY FOR SAMPLING ACTIVITY DIRECTION FROM WRPS.
1130	1200	LUNCH.
1200	1215	TRAVELED TO LITHIA DODGE AND RETURNED TO OFFICE.
1215	1530	PAPERWORK AT OFFICE.

N/A

REPORT BY: TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE DATE: 03-25-09 PRINT: MICHAEL W. WALKUP SIGNATURE: [signature]	*REVIEWED BY:* TITLE: ES TECHNICAL REVIEWER DATE: 3-26-09 PRINT: Rory Z Steffler SIGNATURE: [signature]

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 2

WELL I.D.: #C6392 #C6405	WELL NUMBER:	REPORT NUMBER: 25	DATE: THURSDAY 03-26-09
CONTRACT NUMBER: 36472-02	START CARD NO: S27644/A118507 EXCAVATION PERMIT: DAN3363	RIG MODEL/NO: Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0	
PURPOSE: SAMPLE #C6392 PROBE INSTALLATION #C6405	REFERENCE: FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 003	LOCATION: C Tank Farm SW NE Section 2 26E 12N	

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: 108.0'

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.625"	1.875"	CS	2.875"	2.3'	DWGS
2.5"	1.75"	CS	2.875"	2.3'	SWG

BORING DEPTH (include sampling depth): #C6392 - 14.8', #C6405 - 132.0

START TIME: 0600
END TIME: 1615
CONTRACTOR TIME: 1/2 HR.
TOTAL TIME: 9 3/4 HRS.

DOCUMENTED DOWNTIME: 1 HR. 35 MIN. - WAITING ON DIRECTION FROM WRPS. 45 MIN. - RCT'S

WEATHER CONDITIONS (373-2716)
Temperature: 57°, SUNNY

CASING SUMMARY

Drive tip depth (shift start)	#C6405	240.0' BGS
Drive tip depth (shift end)	"	132.0' BGS
Casing stick up (shift end)	"	2.3'
Drive String Length	"	134.3'

SAMPLE SUMMARY

N/A

OPERATOR: WALKUP
License # B705
TEMPLETON, SNCOK, REPKO, EHRGOTT, CLARK

TIME		WORK SUMMARY
0600	0710	PAPERWORK, TIMECARD AND SAFETY MEETING AT OFFICE.
—	—	TOPIC: TAKING CHANCES WITH SAFETY.
0710	0740	TRAVELED TO "C" FARM.
0740	0915	STANDBY FOR SAMPLING ACTIVITY DIRECTION FROM WRPS.
0915	1012	ESES DRESS AND ENTER "C" FARM. MOBILIZE CASE HHU AND
—	—	SUPPORT EQUIPMENT #C6405 AND SET-UP.
1012	1215	BEGIN DECOMMISSIONING AND PROBE INSTALLATION PER
—	—	WRPS. BACK-PULL 2.5" CASING FROM 240.0' BGS TO
—	—	186.0' BGS. EXITED "C" FARM.
1215	1245	LUNCH
1245	1330	STANDBY FOR RCT'S.
1330	1545	ESES DRESS AND ENTER "C" FARM. BACK-PULL 2.5" CASING
—	—	FROM 186.0' BGS TO 132.0' BGS. INSTALLED MOISTURE
—	—	PROBE FROM 130.0' BGS TO 132.0' BGS. ADDED SAND

REPORT BY:
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 03-26-09
PRINT: MIKE W. WALKUP
SIGNATURE: [signature]

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 4-6-09
PRINT: RZ Steffler
SIGNATURE: [signature]

ENERGYSOLUTIONS

DRILLING AND SAMPLING (PERCUSSION)
DAILY WORK RECORD

Page 2 of 2

Date	Well No.	Continuation of Report No.
03-26-09	* C6392 + * C6405	26

DESCRIPTION OF OPERATIONS/REMARKS

———	AND SALINE SOLUTION. SECURED SITE AND EXITED
———	"C" FARM.
1545-1615	TRAVELED TO OFFICE.
	N/A

Report By	MICHAEL D. WALKER	Reviewed By	Rory Z Steffler		
Title	ES TECHNICAL/SAFETY REP	Title	ES Technical Reviewer	Date	4-6-09
Signature	[signature]	Signature	[signature]		

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: # C6405	WELL NUMBER: N/A	REPORT NUMBER: 26	DATE: FRIDAY 03-27-09
CONTRACT NUMBER: 36472-02	START CARD NO: S27644/A118507 EXCAVATION PERMIT: DAN3363	RIG MODEL/NO: Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0	
PURPOSE: PROBE INSTALLATION # C6405	REFERENCE: FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 003	LOCATION: C Tank Farm SW NE Section 2 26E 12N	

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: 132.0'

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.5"	1.75"	CS	2.875"	2.2'	SWS

BORING DEPTH (*include sampling depth*): N/A

START TIME: 0600
END TIME: 1430
CONTRACTOR TIME: 1/2 HR.
TOTAL TIME: 8 HRS.

DOCUMENTED DOWNTIME: 2 HRS AND 40 MIN. - RCT'S

WEATHER CONDITIONS (373-2716)
Temperature: 59°, CLOUDY

CASING SUMMARY

Drive tip depth (shift start)	# C6405 132.0' BGS
Drive tip depth (shift end)	" G.S.
Casing stick up (shift end)	" N/A
Drive String Length	" N/A

SAMPLE SUMMARY

N/A

OPERATOR: WALKER
License # 3005
CLAYTON, REPKO, SNOOK, EHRGOTT, CLARK

TIME		WORK SUMMARY
0600	0650	PAPERWORK, TIMECARD AND SAFETY MEETING AT OFFICE.
—	—	TOPIC: SITE HOUSEKEEPING.
0650	0720	TRAVELED TO "C" FARM
0720	0830	STANDBY FOR RCT'S.
0830	1230	ESEG DRESS AND ENTERED "C" FARM. INSPECT EQUIPMENT.
—	—	NO PROBLEMS NOTED. ADDED ROD THAT HAD BEEN BACK-PULLED
—	—	THE PREVIOUS DAY. TALLY WAS OFF BY 14.0'. MOISTURE PROBE
—	—	HAD BEEN INSTALLED INSIDE THE 2.5" CASING. DECISION WAS
—	—	MADE BY WRPS TO PULL CASING AND PROBE TO G.S. ALL 2.5"
—	—	CASING AND PROBE WERE BACK-PULLED. # C6405 WILL BE
—	—	RE-ENTERED ON MONDAY AND DRIVEN TO 140.0' BGS.
—	—	SECURED SITE FOR WEEKEND AND EXITED "C" FARM.
1230	1300	LUNCH
1300	1430	NO RCT SUPPORT. TRAVELED TO OFFICE.

REPORT BY:
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 03-27-09
PRINT: MIKE W. WALKER
SIGNATURE: [signature]

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 4-6-09
PRINT: RZ Steffler
SIGNATURE: [signature]

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: #C6405	WELL NUMBER: N/A	REPORT NUMBER: 27	DATE: MONDAY 03-30-09

CONTRACT NUMBER: 36472-02	START CARD NO: S27644/A118507 EXCAVATION PERMIT: DAN3363	RIG MODEL/NO: Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: REDRILL AND BEGIN PROBE INSTALLATION IN #C6405	REFERENCE: FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 003	LOCATION: C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: 104.0'

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.5"	1.75"	CS	2.875"	2.3'	SWS

BORING DEPTH (include sampling depth): #C6405 - 104.0'

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: 1/2 HR.
TOTAL TIME: 9 HRS.

DOCUMENTED DOWNTIME: 5 1/4 HRS. - RCT'S AND ROP - 003

WEATHER CONDITIONS (373-2716)
Temperature: 57°, PARTLY CLOUDY

CASING SUMMARY

Drive tip depth (shift start)	G.S.	#C6405
Drive tip depth (shift end)	104.0' BGS	"
Casing stick up (shift end)	2.3'	"
Drive String Length	106.3'	"

SAMPLE SUMMARY: N/A

OPERATOR: WALKUP
License # 3005
SNOOK, TEMPLETON, CLAYTON, EHRGOTT, REPKO, CLARK.

TIME		WORK SUMMARY
0600	0645	PREFIELDWORK, TIME CARD AND SAFETY MEETING AT OFFICE.
—	—	TOPIC: FORKLIFT INCIDENT AT ENERGY NW.
0645	0715	TRAVELED TO "C" FARM.
0715	0800	STANDBY FOR RCT'S AND WORK PACKAGE.
0800	1200	STANDBY, ROP - 003 IN EFFECT. CAM ALARM IN "C" FARM, ACCESS
—	—	RESTRICTED. NOTE: ZANE AND REYNOLDS ONSITE AT 1120 HRS.
—	—	OFFSITE AT 1222 HRS.
1200	1230	LUNCH
1230	1300	STANDBY. ROP - 003 STILL IN EFFECT.
1300	1320	ROP - 003 REMOVED. ESFS DRESS AND ENTER "C" FARM.
—	—	INSPECT AND WARM RIG. NO PROBLEMS NOTED.
1320	1450	#C6405 - RE-ENTERED WITH 2.5' FROM G.S. TO 104.0' BGS
—	—	SECURED SITE AND EXITED "C" FARM.
1450	1530	TRAVELED TO OFFICE.

REPORT BY:
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 03-30-09
PRINT: MIKE W. WALKUP
SIGNATURE:

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 4-6-09
PRINT: RZ Steffes
SIGNATURE:

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: * C6405	WELL NUMBER: N/A	REPORT NUMBER: 28	DATE: TUESDAY 03-31-09

CONTRACT NUMBER: 36472-02	START CARD NO: S27644/A118507 EXCAVATION PERMIT: DAN3363	RIG MODEL/NO: Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0
PURPOSE: RUSH * C6405 TO T.D. AND BEGIN PROBE INSTALLATION.	REFERENCE: FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 003	LOCATION: C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: -0-

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.5"	1.75"	CS	2.875"	2.3'	SWS

BORING DEPTH (Include sampling depth), * C6405 - 104.0'

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: 1/2 HR.
TOTAL TIME: 9 HRS.

DOCUMENTED DOWNTIME:
6 HRS. - WIND
50 MIN. - ELECTRICIANS

WEATHER CONDITIONS (373-2716)
Temperature: 56°, VERY WINDY

CASING SUMMARY

Drive tip depth (shift start)	* C6405	104.0' BGS
Drive tip depth (shift end)	"	104.0' BGS
Casing stick up (shift end)	"	2.3'
Drive String Length	"	106.3'

SAMPLE SUMMARY

N/A

OPERATOR: WALKUP
License # 3005
EHRGOTT, REPKO, CLARK, SNOOK, TEMPLETON, CLAYTON

TIME		WORK SUMMARY
0600	0705	PAPERWORK, TIMECARD AND SAFETY MEETING AT OFFICE.
—	—	TOPIC: PREVENTING SLIPS, TRIPS AND FALLS.
0705	0740	TRAVELED TO "C" FARM.
0740	0830	STANDBY FOR ELECTRICIANS TO START GENERATOR.
0830	0900	ESES DRESS AND ENTER "C" FARM. INSPECT AND FUEL HHU.
—	—	AOP-008 IN EFFECT. EXITED "C" FARM.
0900	1000	STANDBY FOR WINDS. 25 MPH SUSTAINED, GUSTS TO 35 MPH.
—	—	TRAVELED TO OFFICE.
1000	1200	STANDBY AOP-008. PAPERWORK AT OFFICE
1200	1230	LUNCH
1230	1530	STANDBY AOP-008. PAPERWORK AT OFFICE.
		N/A

REPORT BY:
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 03-31-09
PRINT: [illegible] W. WALKUP
SIGNATURE: [signature]

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 4-6-09
PRINT: RZ Steffes
SIGNATURE: [signature]

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD Page 1 of 1

WELL I.D.: # C6405	WELL NUMBER: N/A	REPORT NUMBER: 29	DATE: WEDNESDAY 04-01-09

CONTRACT NUMBER: 36472-02	START CARD NO: S27644/A118507 EXCAVATION PERMIT: DAN3363	RIG MODEL/NO: Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: PUSH # C6405 TO T.D. AND BEGIN PROBE INSTALLATION.	REFERENCE: FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 003	LOCATION: C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: 40.0'

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.5"	1.75"	CS	2.875"	2.3'	SWS

BORING DEPTH (include sampling depth), # C6405 - 140.0

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: 1/2 HR.
TOTAL TIME: 9 HRS.

DOCUMENTED DOWNTIME: 1 HR, 50 MINS. - RAIN

WEATHER CONDITIONS (373-2716)
Temperature: 55°, CLOUDY

CASING SUMMARY

Drive tip depth (shift start)	# C6405	104.0' BGS
Drive tip depth (shift end)	"	144.0' BGS
Casing stick up (shift end)	"	2.3'
Drive String Length	"	146.3'

SAMPLE SUMMARY

N/A

OPERATOR: OLSON
License #
CLAYTON, TEMPLETON, WALKER, SNOOK, REPKO, CLARK

TIME		WORK SUMMARY
0600	0650	PAPERWORK, TIMECARD AND SAFETY MEETING AT OFFICE.
—	—	TOPIC: SAFETY WHEN WORKING WITH GASOLINE.
0650	0725	TRAVELED TO "C" FARM.
0725	0800	MEETING AT MO524 WITH WRAS, ESES AND FLUOR.
0800	1240	ESES DRESS AND ENTER "C" FARM. DRIVE # C6405 FROM
—	—	104.0' BGS TO T.D. AT 144.0' BGS. BACK-PULL 2.5" CASING
—	—	AND INSTALL MOISTURE PROBE FROM 134.0' BGS TO 138.0' BGS.
—	—	INSTALLED SAND ABOVE AND BELOW PROBE AND ADDED SALINE
—	—	SOLUTION. RIGGERS INSTALLED FRAMEWORK FOR GREENHOUSE.
—	—	EXITED "C" FARM FOR LUNCH. SAND TO 130.0' BGS.
1240	1310	LUNCH
1310	1500	DID NOT MAKE AN ENTRY DUE TO RAIN.
1500	1530	TRAVELED TO OFFICE.

N/A

REPORT BY:
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 04-01-09
PRINT: MIKEL W. WALKER
SIGNATURE: Mikel W. Walker

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 4-7-09
PRINT: RZ Steffler
SIGNATURE: R.Z. Steffler

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD Page 1 of 1

WELL I.D.: #C6405	WELL NUMBER: N/A	REPORT NUMBER: 30	DATE: THURSDAY 04-02-09

CONTRACT NUMBER: 36472-02	START CARD NO: S27644/A118507 EXCAVATION PERMIT: DAN3363	RIG MODEL/NO: Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0
PURPOSE: #C6405 - DECOMMISSIONING AND PROBE INSTALLATION	REFERENCE: FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 003	LOCATION: C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: 100.0'

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.5"	1.75"	CS	2.875"	2.3'	SWS

BORING DEPTH (*include sampling depth*), #C6405 - 28.0'

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: 1/2 HR.
TOTAL TIME: 9 HRS.

DOCUMENTED DOWNTIME: 1 HR. - RAIN

WEATHER CONDITIONS (373-2716)
Temperature: 53°, RAIN AND CLOUDY.

CASING SUMMARY

Drive tip depth (shift start) #C6405	128.0' BGS
Drive tip depth (shift end) "	28.0' BGS
Casing stick up (shift end)	2.0'
Drive String Length	32.0'

SAMPLE SUMMARY

N/A

OPERATOR: WALKUP
License # 3005
TEMPLETON, CLAYTON, SNOOK, EMRGOTT, REPKO, CLARK.

TIME		WORK SUMMARY
0600	0645	PAPERWORK, TIME CARD AND SAFETY MEETING AT OFFICE.
—	—	WEEKLY TOPIC: EYE PROTECTION.
0645	0800	TRAVELED TO ENG. NW AND "C" FARM.
0800	1330	EXS DRESS AND ENTER "C" FARM. INSPECTED AND WARMED HHU.
—	—	NO PROBLEMS NOTED. BACK-PULLED 2.5" CASING FROM 128.0'
—	—	BGS TO 28.0' BGS. PROBE WILL BE INSTALLED MONDAY 04/06/09
—	—	EXITED "C" FARM.
1330	1400	LUNCH
1400	1500	STANDBY - RAIN.
1500	1530	TRAVELED TO OFFICE.
		N/A

REPORT BY:
TITLE : ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 04-02-09
PRINT: MIKE W. WALKUP
SIGNATURE: [signature]

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 4-7-09
PRINT: RZ Steffler
SIGNATURE: [signature]

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD Page 1 of 1

WELL I.D.: #C6405	WELL NUMBER: N/A	REPORT NUMBER: 31	DATE: 04-06-09

CONTRACT NUMBER: 36472-02	START CARD NO: S27644/A118507 EXCAVATION PERMIT: DAN3363	RIG MODEL/NO: Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: #C6405 Decommissioning and probe installation	REFERENCE: FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 003	LOCATION: C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: 28'

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.5"	1.75"	CS	2.875"	2.3'	SWS

BORING DEPTH (include sampling depth): #C-6405 28.0' ~~0~~

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: 1/2 hr.
TOTAL TIME: 9 hrs.

DOCUMENTED DOWNTIME: 3hrs. for Sampling package.

WEATHER CONDITIONS (373-2716)
Temperature: 72° Clear

CASING SUMMARY

Drive tip depth (shift start)	28' bgs
Drive tip depth (shift end)	~~0~~
Casing stick up (shift end)	N/A
Drive String Length	N/A

SAMPLE SUMMARY: N/A

OPERATOR: Mark Repko
License # 3012
Templeton, Clayton, Snook, Ehrgott, Villareal, Clark

TIME		WORK SUMMARY
0600	0700	paperwork, Timecard and Safety meeting at office.
—	—	Safety Topic: Construction Equipment Dangers.
0700	0745	Traveled to "C" Tank Farm.
0745	0900	Gathered materials for probe installation, Fuel, Bentonite
0900	1130	Set moisture probe at 30' bgs and decommissioned #C-6405
—	—	moved and setup on #6392.
1130	1200	Lunch
1200	1300	Standbye for work package (Sampling).
1300	1330	Riggers to install scaffold for glove box.
1330	1530	Standbye for work package. (Sampling).
		N/A

REPORT BY:
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE 04-06-09
PRINT: Mark A. Repko
SIGNATURE: Mark A. Repko

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 5-11-09
PRINT: RZ Steffler
SIGNATURE: R.Z. Steffler

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD Page 1 of 1

WELL I.D.: #C-6405	WELL NUMBER: N/A	REPORT NUMBER: 32	DATE: 04-07-09

CONTRACT NUMBER: 36472-02	START CARD NO: S27644/A118507 EXCAVATION PERMIT: DAN3363	RIG MODEL/NO: Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0
PURPOSE: #C-6405 Install Surface Protection	REFERENCE: FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 003	LOCATION: C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level — TOTAL SHIFT FOOTAGE: N/A

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.5"	1.75"	CS	2.875"	2.3'	SWS
N/A					

BORING DEPTH (Include sampling depth): N/A

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: 1/2 hr.
TOTAL TIME: 9

DOCUMENTED DOWNTIME: 4hrs downtime No sampling support

WEATHER CONDITIONS (373-2716)
Temperature: 74° Clear

CASING SUMMARY
Drive tip depth (shift start) N/A
Drive tip depth (shift end) N/A
Casing stick up (shift end) N/A
Drive String Length N/A
SAMPLE SUMMARY

OPERATOR: Mark Repko
License # 3012
Templeton, Clayton Snook, Chrgott, Villareal, Clark

TIME		WORK SUMMARY
0600	0700	paperwork, Timecard and Safety meeting at office
—	—	Safety Topic: Construction power tool safety.
0700	0745	Traveled to C Tank farm
0745	0900	Gathered equipment to install surface protection
0900	1000	Cemented surface protection.
1000	1030	Operators installed glove bag.
1030	1100	LOAD UP BENTONITE
1100	—	LEAVE SITE FOR ENERGY NORTHWEST.
		NOT USED

REPORT BY:	REVIEWED BY:
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE DATE: 04-07-09 PRINT: Mark A. Repko SIGNATURE: Mark A. Repko	TITLE: ES TECHNICAL REVIEWER DATE: 5-12-09 PRINT: RZ Stoffle SIGNATURE: R.Z. Stoffle

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD Page 1 of 1

WELL I.D.: C-6392	WELL NUMBER: N/A	REPORT NUMBER: 33	DATE: 4-8-09

CONTRACT NUMBER: 36472-02	START CARD NO: S27644/A118507 EXCAVATION PERMIT: OAN 3363 (U-Dig Number	RIG MODEL/NO: Hydraulic Hammer Unit HHU #2 AHA: AHA-08-001 Rev.0

PURPOSE: Sample # C-6392 at 14'-16' bgs and 19.5' to 21.5 bgs	REFERENCE: FSWO-DOW-025 Rev. 2 RWP: CO-460 Rev.003	LOCATION: C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: 0

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.625"	1.875"	CS	2.875"	2.3"	DWSS

BORING DEPTH (include sampling depth): 14.3 bgs #C-6392

START TIME: 6:00
END TIME: 15:30
CONTRACTOR TIME: 1/2 HR.
TOTAL TIME: 9 Hrs.

DOCUMENTED DOWNTIME: 9hrs No Package

WEATHER CONDITIONS (373-2716)
Temperature: 68°
windy 16 mph cloudy

CASING SUMMARY

Drive tip depth (shift start)	14.3 bgs
Drive tip depth (shift end)	14.3 bgs
Casing stick up (shift end)	
Drive String Length	

SAMPLE SUMMARY: 0

OPERATOR: Kelly Olson
License # 1217
Templeton, Clayton, Snook, Izzy, Clark, Olson and Passey

TIME		WORK SUMMARY
6:00	7:00	Paper work, Time Card and Safety meeting at office (Topic Welding Safety)
7:00	7:30	Traveled To C Farm
7:30	—	No Package Released today!
8:00	11:15	work on HHV and Support equipment
11:15	11:45	Lunch
11:45	15:00	Stand By
15:00	15:30	Travel To office

N/A

REPORT BY: Mike Passey
TITLE : ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 4-8-09
PRINT: Mike Passey
SIGNATURE: [signature]

REVIEWED BY: KD Reynolds
TITLE: ES FIELD PROJECT MANAGER
DATE: 5-11-09
PRINT: RZ Steffler
SIGNATURE: R.Z. Steffler

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD Page 1 of 1

WELL I.D.: C-6392	WELL NUMBER: N/A	REPORT NUMBER: 34	DATE: 4/9/2009

CONTRACT NUMBER: 36472-02	START CARD NO: 527644/118507 EXCAVATION PERMIT: OAN 3363 (U-Dig Number	RIG MODEL/NO: Hydraulic Hammer Unit HHU # 1 AHA-08-001 Rec.0

PURPOSE: Sample #C-6392 at 14'-16' bgs and 19.5' – 21.5' bgs	REFERENCE: FSWO-Dow-025 Rev.1 RWP: CO-460 Rev.003	LOCATION: C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: 0

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.625"	1.875"	CS	2.875"	2.3"	Dwss

BORING DEPTH (include sampling depth): 14.5 bgs C-6392

START TIME: 6:00
END TIME: 15:30
CONTRACTOR TIME: ½ Hr.
TOTAL TIME: 9 Hrs.

DOCUMENTED DOWNTIME: 9hrs no Package

WEATHER CONDITIONS (373-2716)
Temperature: 65°
Partly Cloudy

CASING SUMMARY

Drive tip depth (shift start)	14.5 bgs
Drive tip depth (shift end)	14.5 bgs
Casing stick up (shift end)	
Drive String Length	

SAMPLE SUMMARY: 0

OPERATOR: Kelly Olson
License # 1217
Templeton, Clayton, Snook, Izzy, Clark, Olson & Passey

TIME		WORK SUMMARY
6:00	6:30	Weekly Safty (Motor Cycle Safty)
6:30	8:00	All hand's Meeting
8:00	8:30	Travel
8:30	11:30	Stand-by No work Package at C-Farm
		Had set-up Pre Job SX-Farm went over setup HHU
11:30	12:00	Lunch
12:00	13:00	Pickup equipment for Arlington Job at Energy northwest
13:00	14:30	Moved HHU #2 cat into SX-Farm and set up on
		C-7171 and Survey out
14:30	15:30	Travel & Paper work at office
		N/A

REPORT BY: Mike
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 4/9/2009
PRINT: Mike Passey
SIGNATURE: [signature]

REVIEWED BY: KD Reynolds
TITLE: ES FIELD PROJECT MANAGER
DATE: 5-11-09
PRINT: RZ Stoffler
SIGNATURE: R.Z. Stoffler

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD Page 1 of 1

WELL I.D.: C6392 | WELL NUMBER: N/A | REPORT NUMBER: 35 | DATE: 4/10/09

CONTRACT NUMBER: 36472-02

START CARD NO: S27644/A118507
EXCAVATION PERMIT: DAN3363

RIG MODEL/NO: Hydraulic Hammer Unit
CASE HHU #1
AHA: AHA-08-001 Rev. 0

PURPOSE: Sample Borehole C6392 From 14.0' To 16.0' bgs, AND 19.5' To 21.5' bgs

REFERENCE: FSWO-DOW-025 Rev.1
RWP: CO-460 Rev. 003

LOCATION: C Tank Farm
SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: 0.0'

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.625"	1.875"	CS	2.875"	2.3"	DW35

BORING DEPTH (include sampling depth): 14' To 16' bgs @ C6392

START TIME: 6:00
END TIME: 15:30
CONTRACTOR TIME: .5
TOTAL TIME: 9.0 HRS

DOCUMENTED DOWNTIME: 9 HRS No Package On Standby

WEATHER CONDITIONS (373-2716)
Temperature: 61° Partly Cloudy
WIND - 11 MPH @ 12:00

CASING SUMMARY

Drive tip depth (shift start)	14.0' bgs
Drive tip depth (shift end)	14.0' bgs
Casing stick up (shift end)	~ 2.0'
Drive String Length	16.0'

SAMPLE SUMMARY: N/A

OPERATOR: EHRGOTT REPKO
License # SK09116 - #1580

TIME		WORK SUMMARY
0600	0645	PLANNED SCOPE OF WORK " ON STANDby IN C-FARM
0645	~~0720~~ 1130 RJS 6-9-09	TRAVEL TO C-FARM : ON STANDby, WORK PACKAGE
—	—	NOT RELEASED AT C-FARM.
1130	1200	LUNCH.
1200	1500	HOUSE KEEPING, CLEAN UP.
1500	1530	TRAVEL BACK TO OFFICE. END OF SHIFT.

NOT USED ME

REPORT BY:
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 4/10/09
PRINT: MIKE EHRGOTT
SIGNATURE: Mike Ehrgott

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 6-9-09
PRINT: RJ Stoffler
SIGNATURE: RJ Stoffler

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: #C6392	**WELL NUMBER:** N/A	**REPORT NUMBER:** 36	**DATE:** 04/13/09

CONTRACT NUMBER: 36472-02	**START CARD NO:** S27644/A118507 **EXCAVATION PERMIT:** DAN3363	**RIG MODEL/NO:** Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: Continue sampling in #C6392	**REFERENCE:** FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 003	**LOCATION:** C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: -0-

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.635"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH
(include sampling depth)
#C6392—14.3' bgs

START TIME: 0600 Hrs.
END TIME: 1530 Hrs.
CONTRACTOR TIME: ½ Hr.
TOTAL TIME: 9 Hrs.

DOCUMENTED DOWNTIME:
9 Hrs.—No package or support from sampling group.

WEATHER CONDITIONS (373-2716)
Temperature: 52 degrees, winds 10 to 20 mph

CASING SUMMARY

Drive tip depth (shift start)	14.3' bgs
Drive tip depth (shift end)	14.3' bgs
Casing stick up (shift end)	2.0'
Drive String Length	16.3'

SAMPLE SUMMARY
N/A

OPERATOR: Walkup
License #3005
Ehrgott, Snook, Villareal, Clayton, Templeton, Clark

TIME		*WORK SUMMARY*
0600	0645	Paperwork, timecard and safety meeting at office. Topic: Look and live.
0645	0715	Traveled to "C" Farm.
0715	1200	Standby, no work package or support from sampling group. Transported HHUXL from EnergyNorthwest to WRPS wash pad behind Smurf Building.
1200	1230	Lunch
1200	1530	Standby, no work package or support from sampling group. Traveled to office and completed paperwork.

N/A

REPORT BY:
TITLE : ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 04-13-09
PRINT: MIKEL W. [illegible]
SIGNATURE: [signature]

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 5-11-09
PRINT: R2 Steffler
SIGNATURE: R.2. Steffler

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: #C6392	**WELL NUMBER:** N/A	**REPORT NUMBER:** 37	**DATE:** 04/14/09

CONTRACT NUMBER: 36472-02	**START CARD NO:** S27644/A118507 **EXCAVATION PERMIT:** DAN3363	**RIG MODEL/NO:** Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: Continue sampling in #C6392	**REFERENCE:** FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 004	**LOCATION:** C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: 2.0'

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.635"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH
(include sampling depth)
#C6392—16.0' bgs
#C6392—Sample 14.0' bgs to 16.0' bgs.

START TIME: 0600 Hrs.
END TIME: 1530 Hrs.
CONTRACTOR TIME: ½ Hr.
TOTAL TIME: 9 Hrs.

RZ ***DOCUMENTED DOWNTIME:***
~~1~~ Hrs. and 15 minutes

WEATHER CONDITIONS (373-2716)
Temperature: 49 degrees, winds 5 to 15 mph, gust to 25 mph

CASING SUMMARY

Drive tip depth (shift start)	14.3' bgs
Drive tip depth (shift end)	16.0' bgs
Casing stick up (shift end)	2..3'
Drive String Length	18.3'

SAMPLE SUMMARY

#C6392—14.0' bgs to 16.0' bgs. Sample #'s B1YT69, B1YT70 and B1YT71. ~~100%~~ 66% recovery 05/12/09

OPERATOR: Walkup
License #3005
Ehrgott, Snook, Villareal, Clayton, Templeton, Clark, Rosane, Rust

TIME		*WORK SUMMARY*
0600	0655	Paperwork, timecard and safety meeting at office. Topic: Use of correct fueling procedures.
0655	0730	Traveled to "C" Farm.
0730	0935	Acc at Smurf Building under revised RWP CO-460 Rev. 004. Standby for RCT's and work package.
0935	0945	Pre-Job at "C" Farm MO 524 for sampling activities.
0945	1105	Standby for GFCI inspection on air samplers by electricians.
1105	1120	Dress and enter "C" Tank Farm. Inspected and warmed equipment. No deficiencies notes.
1120	1250	Drove sample from 14.0' bgs to 16.0' bgs at 1151 Hrs. and retrieved. 66% recovery. Sample was contaminated with
----	----	400 cpm. Sample #'s B1YT69, B1YT70 and B1YT71. Secured site and exited farm.
1250	1530	Unable to re-enter "C" Farm. There is not enough time for the samplers to do their paperwork and get another sample to
----	----	labs. Washed HHUXL at WRPS wash pad and transported it to "SX" Farm where it was off-loaded. Traveled to office.
		N/A

REPORT BY: TITLE : ES SITE TECHNICAL AND SAFETY REPRESENTATIVE DATE: 04-14-09 PRINT: MIKEL W. WALKUP SIGNATURE:	***REVIEWED BY:*** TITLE: ES TECHNICAL REVIEWER DATE: 5-13-09 PRINT: RZ Steffler SIGNATURE:

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: #C6392	**WELL NUMBER:** N/A	**REPORT NUMBER:** 38	**DATE:** 04/15/09

CONTRACT NUMBER: 36472-02	**START CARD NO:** S27644/A118507 **EXCAVATION PERMIT:** DAN3363	**RIG MODEL/NO:** Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: Continue sampling in #C6392	**REFERENCE:** FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 004	**LOCATION:** C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: 3.5'

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.635"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH
(include sampling depth)
#C6392—19.5' bgs

START TIME: 0600 Hrs.
END TIME: 1530 Hrs.
CONTRACTOR TIME: ½ Hr.
TOTAL TIME: 9 Hrs.

DOCUMENTED DOWNTIME:
5 ½ Hrs.--Wind

WEATHER CONDITIONS (373-2716)
Temperature: 62 degrees, winds 5 to 15 mph, gust to 25 mph

CASING SUMMARY

Drive tip depth (shift start)	16.0' bgs
Drive tip depth (shift end)	19.5' bgs
Casing stick up (shift end)	2..3'
Drive String Length	21.8'

SAMPLE SUMMARY
N/A

OPERATOR: Walkup
License #3005
Ehrgott, Caylor, Villareal, Clayton, Templeton, Clark, Rosane, Rust

TIME		*WORK SUMMARY*
0600	0650	Paperwork, timecard and safety meeting at office. Topic: Loading & Unloading HHUXL from trailer.
0650	0745	Fueled pickup and traveled to "C" Farm.
0745	0910	Dressed and entered "C" Tank Farm. Inspected and warmed equipment. No deficiencies noted. Drove dummy tip from
-----	-----	16.0' bgs to next sample interval at 19.5' bgs. Pulled inner string and dummy tip. Dummy tip was contaminated with
-----	-----	70,000 dpm. Take-up joint and dummy tip were packaged for disposal due to contamination. Exited "C" Tank Farm.
0910	1200	Standby, unable to re-enter "C" Farm due to wind.
1200	1230	Lunch.
1230	1530	Standby, unable to re-enter "C" Farm due to wind. Received pre-job briefing at "SX" Farm and traveled to office.
		N/A

REPORT BY:
TITLE : ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 04-15-09
PRINT: MIKEL D. WALKUP
SIGNATURE: [signature]

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 5-11-09
PRINT: RZ Steffler
SIGNATURE: [signature]

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: #C6392	**WELL NUMBER:** N/A	**REPORT NUMBER:** 39	**DATE:** 04/16/09

CONTRACT NUMBER: 36472-02	**START CARD NO:** S27644/A118507 **EXCAVATION PERMIT:** DAN3363	**RIG MODEL/NO:** Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: Continue sampling in #C6392	**REFERENCE:** FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 004	**LOCATION:** C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: -0-

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.635"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH
(Include sampling depth)
#C6392—19.5' bgs

START TIME: 0600 Hrs.
END TIME: 1530 Hrs.
CONTRACTOR TIME: ½ Hr.
TOTAL TIME: 9 Hrs.

DOCUMENTED DOWNTIME:
9 Hrs.—No 2nd RCT support available for pulling potentially hot sample.

WEATHER CONDITIONS (373-2716)
Temperature: 69 degrees, winds 5 to 10 mph

CASING SUMMARY

Drive tip depth (shift start)	19.5' bgs
Drive tip depth (shift end)	19.5' bgs
Casing stick up (shift end)	2..3'
Drive String Length	21.8'

SAMPLE SUMMARY
N/A

OPERATOR: Walkup
License #3005
Ehrgott, Villareal, Templeton, Clark, Rosane, Rust

TIME		*WORK SUMMARY*
0600	0640	Paperwork, timecard and safety meeting at office. Topic: Proper use of hand jacks.
0640	0715	Traveled to "C" Farm.
0715	1130	Standby, no second RCT support available for driving and pulling potentially hot sample.
1130	1230	Lunch
1230	1530	Standby, no second RCT support available for driving and pulling potentially hot sample. Traveled to office.

WIR

REPORT BY:
TITLE : ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 04-16-09
PRINT: MIKEL W. WALKUP
SIGNATURE: [signature]

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 5-11-09
PRINT: RZ Steffler
SIGNATURE: [signature]

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: #C6392	**WELL NUMBER:** N/A	**REPORT NUMBER:** 40	**DATE:** 04/20/09

CONTRACT NUMBER: 36472-02	**START CARD NO:** S27644/A118507 **EXCAVATION PERMIT:** DAN3363	**RIG MODEL/NO:** Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: Continue sampling in #C6392	**REFERENCE:** FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 004	**LOCATION:** C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: -0-

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.635"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH *(include sampling depth)*
#C6392—19.5' bgs

START TIME: 0600 Hrs.
END TIME: 1530 Hrs.
CONTRACTOR TIME: ½ Hr.
TOTAL TIME: 9 Hrs.

DOCUMENTED DOWNTIME:
9 Hrs.—No support from sampling group.

WEATHER CONDITIONS (373-2716)
Temperature: 80 degrees and sunny

CASING SUMMARY

Drive tip depth (shift start)	19.5' bgs
Drive tip depth (shift end)	19.5' bgs
Casing stick up (shift end)	2.3'
Drive String Length	21.8'

SAMPLE SUMMARY
N/A

OPERATOR: Walkup
License #3005
Ehrgott, Villarcal, Templeton, Clark, Snook, Clayton

TIME		*WORK SUMMARY*
0600	0710	Paperwork, timecard and safety meeting at office. Topic: Work clothes and safety.
0710	0740	Traveled to "C" Farm.
0740	1130	Standby, no support from the sampling group. Raised winch assembly on HHUXL at "SX" Farm approximately 6.0" and
——	——	installed new mast cradle.
1130	1200	Lunch
1200	1530	Standby, no support from the sampling group. Traveled to office.

N/A

REPORT BY:
TITLE : ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 04-20-09
PRINT: MIKEL W. WALKUP
SIGNATURE:

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 5-11-09
PRINT: RZ Steffler
SIGNATURE: RZ Steffler

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: #C6392	**WELL NUMBER:** N/A	**REPORT NUMBER:** 41	**DATE:** 04/21/09

CONTRACT NUMBER: 36472-02	**START CARD NO:** S27644/A118507 **EXCAVATION PERMIT:** DAN3363	**RIG MODEL/NO:** Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: Continue sampling in #C6392	**REFERENCE:** FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 004	**LOCATION:** C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: 5.5'

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.635"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH *(include sampling depth)*
#C6392—25.0' bgs

START TIME: 0600 Hrs.
END TIME: 1530 Hrs.
CONTRACTOR TIME: ½ Hr.
TOTAL TIME: 9 Hrs.

DOCUMENTED DOWNTIME:
3 1/2 Hrs.—No support from sampling group.
50 Mins.—No RCT support.

WEATHER CONDITIONS (373-2716)
Temperature: 86 degrees and sunny

CASING SUMMARY

Drive tip depth (shift start)	19.5' bgs
Drive tip depth (shift end)	25.0 bgs
Casing stick up (shift end)	2.3'
Drive String Length	28.3'

SAMPLE SUMMARY
#'s B1Y72, B1Y73 and B1Y74 at 1006 Hrs. 100% recovery.

OPERATOR: Walkup
License #3005
Ehrgott, Villareal, Templeton, Clark, Snook, Clayton, Rosane, Rust

TIME		*WORK SUMMARY*
0600	0630	Paperwork, timecard and safety meeting at office. Topic: Adverse affect of medications on workers in hot areas.
0630	0745	Whole body count in town (M. Ehrgott). Traveled to "C" Farm.
0745	0835	Standby, no RCT support.
0835	0925	Standby, no electricians to start generator.
0925	1023	Dressed and entered "C" Farm. Inspected and warmed equipment. No deficiencies noted. Drove sample from 19.5' bgs to
——	——	21.5' bgs at 1006 Hrs. 100% recovery. Sample #B1Y72, B1Y73 and B1Y74. Sampler was reading ~10,000 dpm.
——	——	Sample was retrieved, shipped to labs and sampler was packaged for disposal.
1023	1130	Drove dual wall with dummy tip from 21.5' bgs to next sample interval at 25.0' bgs. Pulled inner string and dummy tip.
——	——	Tip was reading 400 dpm. Take-up joint and dummy tip were packaged for disposal. Exited "C" Farm.
1130	1200	Lunch.
1200	1530	Standby, no support from the sampling group. Traveled to office. Picked up new generators at warehouse.
		N/A

REPORT BY:
TITLE : ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 04-21-09
PRINT: MIKE L. W. WALKUP
SIGNATURE: [signature]

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 5-11-09
PRINT: RZ Stiffler
SIGNATURE: [signature]

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: #C6392	WELL NUMBER: N/A	REPORT NUMBER: 42	DATE: 04/22/09

CONTRACT NUMBER: 36472-02	START CARD NO: S27644/A118507 EXCAVATION PERMIT: DAN3363	RIG MODEL/NO: Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: Continue sampling in #C6392	REFERENCE: FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 004	LOCATION: C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: 17.0'

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.635"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH *(include sampling depth)* #C6392—42.0' bgs

START TIME: 0600 Hrs.
END TIME: 1530 Hrs.
CONTRACTOR TIME: ½ Hr.
TOTAL TIME: 9 Hrs.

DOCUMENTED DOWNTIME:

3 1/2 Hrs.—Wind

1 Hr. and 20 mins.—No RCT support.

WEATHER CONDITIONS (373-2716)

Temperature: 77 degrees , sunny and winds 15-25 mph.

CASING SUMMARY

Drive tip depth (shift start)	25.0' bgs
Drive tip depth (shift end)	42.0 bgs
Casing stick up (shift end)	2.3'
Drive String Length	44.3'

SAMPLE SUMMARY

#'s B1YT75, B1YT76 and B1YT77 at 0927 Hrs. 100% recovery.

OPERATOR: Walkup
License #3005
Passey, Villareal, Templeton, Clark, Snook, Clayton, Rosane, Rust

TIME		WORK SUMMARY
0600	0635	Paperwork, timecard and safety meeting at office. Topic: Lessons learned-keep threads clean on drill rod.
0635	0710	Traveled to "C" Farm.
0710	0900	Standby, no RCT support.
0900	0950	Dressed and entered "C" Farm. Inspected and warmed equipment. No deficiencies noted. Drove sample from 25.0' bgs to
----	----	27.0' bgs at 0927 Hrs. and retrieved. 100% recovery. Sample #'s B1YT75, B1YT76 and B1YT77. Sample was reading
----	----	1000 cpm. Sample was shipped to labs and the sampler was packaged for disposal.
0950	1130	Drove dual wall with dummy tip from 27.0' bgs to next sample interval at 42.0' bgs. Secured site and exited "C" Farm.
1130	1200	Lunch
1200	1530	Standby, too windy to re-enter "C" Farm. Traveled to office.
		N/A

REPORT BY:
TITLE : ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 04-22-09
PRINT: MIKEL WALKUP
SIGNATURE: Mikel Walkup

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 5-11-09
PRINT: RZ Steffler
SIGNATURE: RZ Steffler

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: #C6392	**WELL NUMBER:** N/A	**REPORT NUMBER:** 43	**DATE:** 04/23/09

CONTRACT NUMBER: 36472-02	**START CARD NO:** S27644/A118507 **EXCAVATION PERMIT:** DAN3363	**RIG MODEL/NO:** Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: Continue sampling in #C6392	**REFERENCE:** FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 004	**LOCATION:** C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: -0-

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.635"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH
(Include sampling depth)
#C6392—42.0' bgs

START TIME: 0600 Hrs.
END TIME: 1530 Hrs.
CONTRACTOR TIME: ½ Hr.
TOTAL TIME: 9 Hrs.

DOCUMENTED DOWNTIME:
9 Hrs.—No support from the sampling group.

WEATHER CONDITIONS (373-2716)
Temperature: 72 degrees and partly cloudy

CASING SUMMARY

Drive tip depth (shift start)	42.0' bgs
Drive tip depth (shift end)	42.0 bgs
Casing stick up (shift end)	2.3'
Drive String Length	44.3'

SAMPLE SUMMARY
N/A

OPERATOR: Walkup
License #3005
Passey, Villarcal, Templeton, Clark, Snook, Clayton

TIME		*WORK SUMMARY*
0600	0640	Paperwork, timecard and safety meeting at office. Topic: Do not explore unknown areas in tank farms.
0640	0715	Traveled to "C" Farm.
0715	1200	Standby, no support from the sampling group.
1200	1230	Lunch
1230	1530	Standby, no support from the sampling group. Traveled to office.

N/A

REPORT BY:
TITLE : ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 04-23-09
PRINT: MIKEL WALKUP
SIGNATURE:

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 5-12-09
PRINT: RZ Steffler
SIGNATURE: RZ Steffler

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: #C6392	**WELL NUMBER:** N/A	**REPORT NUMBER:** 44	**DATE:** 04/24/09

CONTRACT NUMBER: 36472-02	**START CARD NO:** S27644/A118507 **EXCAVATION PERMIT:** DAN3363	**RIG MODEL/NO:** Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: Continue sampling in #C6392	**REFERENCE:** FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 004	**LOCATION:** C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: -0-

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.635"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH *(include sampling depth)*
#C6392—42.0' bgs

START TIME: 0600 Hrs.
END TIME: 1430 Hrs.
CONTRACTOR TIME: ½ Hr.
TOTAL TIME: 8 Hrs.

DOCUMENTED DOWNTIME:
8 Hrs.—No support from the sampling group.
RZS 5-12-09

WEATHER CONDITIONS (373-2716)
Temperature: 67 degrees and partly cloudy

CASING SUMMARY

Drive tip depth (shift start)	42.0' bgs
Drive tip depth (shift end)	42.0 bgs
Casing stick up (shift end)	2.3'
Drive String Length	44.3'

SAMPLE SUMMARY
N/A

OPERATOR: Walkup
License #3005
Weakley, Villareal, Templeton, Clark, Snook, Clayton

TIME		*WORK SUMMARY*
0600	0650	Paperwork, timecard and safety meeting at office. Topic: Teamwork
0650	0725	Traveled to "C" Farm.
0725	1200	Standby, no support from the sampling group.
1200	1230	Lunch
1230	1530	Standby, no support from the sampling group. Traveled to office.

N/A

REPORT BY:
TITLE : ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 04-24-09
PRINT: [illegible]
SIGNATURE: [illegible]

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 5-12-09
PRINT: RZ Steffler
SIGNATURE: [illegible]

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: #C6392	**WELL NUMBER:** N/A	**REPORT NUMBER:** 45	**DATE:** 04/27/09
CONTRACT NUMBER: 36472-02	**START CARD NO:** S27644/A118507 **EXCAVATION PERMIT:** DAN3363	**RIG MODEL/NO:** Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0	
PURPOSE: Continue sampling in #C6392	**REFERENCE:** FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 004	**LOCATION:** C Tank Farm SW NE Section 2 26E 12N	

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: -0-

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.635"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH
(include sampling depth)
#C6392—42.0' bgs

START TIME: 0600 Hrs.
END TIME: 1530 Hrs.
CONTRACTOR TIME: ½ Hr.
TOTAL TIME: 9 Hrs.

DOCUMENTED DOWNTIME:
9 Hrs.—No support from the sampling group.

WEATHER CONDITIONS (373-2716)
Temperature: 58 degrees, partly cloudy and windy.

CASING SUMMARY

Drive tip depth (shift start)	42.0' bgs
Drive tip depth (shift end)	42.0 bgs
Casing stick up (shift end)	2.3'
Drive String Length	44.3'

SAMPLE SUMMARY
N/A

OPERATOR: Walkup
License #3005
Weakley, Villareal, Templeton, Clark, Snook, Clayton

TIME		*WORK SUMMARY*
0600	0710	Paperwork, timecard and safety meeting at office. Topic: Working safely with new employees.
0710	0740	Traveled to "C" Farm.
0740	1200	Standby, no support from the sampling group.
1200	1230	Lunch
1230	1530	Standby, no support from the sampling group. Traveled to office.

N/A

REPORT BY:
TITLE : ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 04-27-09
PRINT: MIKE L. WALKUP
SIGNATURE:

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 5-12-09
PRINT: RZ Steffler
SIGNATURE:

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: #C6392	**WELL NUMBER:** N/A	**REPORT NUMBER:** 46	**DATE:** 04/28/09

CONTRACT NUMBER: 36472-02	**START CARD NO:** S27644/A118507 **EXCAVATION PERMIT:** DAN3363	**RIG MODEL/NO:** Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: Continue sampling in #C6392	**REFERENCE:** FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 004	**LOCATION:** C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: -0-

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.635"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH *(include sampling depth)* #C6392—42.0' bgs

START TIME: 0600 Hrs.
END TIME: 1530 Hrs.
CONTRACTOR TIME: ½ Hr.
TOTAL TIME: 9 Hrs.

DOCUMENTED DOWNTIME:
9 Hrs.—Standby because of excessive winds.

WEATHER CONDITIONS (373-2716)
Temperature: 55 degrees, partly cloudy and windy.

CASING SUMMARY

Drive tip depth (shift start)	42.0' bgs
Drive tip depth (shift end)	42.0 bgs
Casing stick up (shift end)	2.3'
Drive String Length	44.3'

SAMPLE SUMMARY
N/A

OPERATOR: Walkup
License #3005
Weakley, Villareal, Templeton, Clark, Snook, Clayton

TIME		*WORK SUMMARY*
0600	0715	Paperwork, timecard and safety meeting at office. Topic: Biological hazards
0715	0750	Traveled to "C" Farm.
0750	1200	Standby, too windy to sample. 5-15 mph gusts to 25 mph.
1200	1230	Lunch
1230	1530	Standby, too windy to sample. 5-15 mph gusts to 25 mph. Traveled to office and completed paperwork.

N/A

REPORT BY:
TITLE : ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 04-28-09
PRINT: Mikel Williams
SIGNATURE:

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 5-12-09
PRINT: RZ Steffler
SIGNATURE:

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: #C6392	**WELL NUMBER:** N/A	**REPORT NUMBER:** 47	**DATE:** 04/29/09

CONTRACT NUMBER: 36472-02	**START CARD NO:** S27644/A118507 **EXCAVATION PERMIT:** DAN3363	**RIG MODEL/NO:** Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: Continue sampling in #C6392	**REFERENCE:** FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 004	**LOCATION:** C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: -0-

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.635"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH
(include sampling depth)
#C6392—42.0' bgs

START TIME: 0600 Hrs.
END TIME: 1530 Hrs.
CONTRACTOR TIME: ½ Hr.
TOTAL TIME: 9 Hrs.

DOCUMENTED DOWNTIME:
9 Hrs.—Standby because of rain, unable to survey for Alpha.

WEATHER CONDITIONS (373-2716)
Temperature: 58 degrees, rain and some wind.

CASING SUMMARY

Drive tip depth (shift start)	42.0' bgs
Drive tip depth (shift end)	42.0 bgs
Casing stick up (shift end)	2.3'
Drive String Length	44.3'

SAMPLE SUMMARY
N/A

OPERATOR: Walkup
License #3005
Weakley, Villareal, Templeton, Clark, Snook, Clayton

TIME		*WORK SUMMARY*
0600	0640	Paperwork, timecard and safety meeting at office. Weekly topic: Site-wide lockout tagout.
0640	0710	Traveled to "C" Farm.
0710	1200	Standby, unable to survey for Alpha in rain.
1200	1230	Lunch
1230	1530	Standby, unable to survey for Alpha in rain. Traveled to office and completed paperwork.

N/A

REPORT BY:
TITLE : ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 04-29-09
PRINT: MIKE W. WALKUP
SIGNATURE: [signature]

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 5-12-09
PRINT: RZ Steffler
SIGNATURE: [signature]

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: #C6392	**WELL NUMBER:** N/A	**REPORT NUMBER:** 48	**DATE:** 04/30/09

CONTRACT NUMBER: 36472-02	**START CARD NO:** S27644/A118507 **EXCAVATION PERMIT:** DAN3363	**RIG MODEL/NO:** Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: Continue sampling in #C6392	**REFERENCE:** FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 004	**LOCATION:** C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: 16.0'

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.635"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH *(include sampling depth)*
#C6392—58.0' bgs

START TIME: 0600 Hrs.
END TIME: 1530 Hrs.
CONTRACTOR TIME: ½ Hr.
TOTAL TIME: 9 Hrs.

DOCUMENTED DOWNTIME:
1 Hr. and 10 minutes for RCT's

WEATHER CONDITIONS (373-2716)
Temperature: 57 degrees, sunny, winds 5-15 mph.

CASING SUMMARY

Drive tip depth (shift start)	42.0' bgs
Drive tip depth (shift end)	58.0 bgs
Casing stick up (shift end)	2.3'
Drive String Length	60.3'

SAMPLE SUMMARY
#C6392 #'s B1YT78, B1YT79, B1YT80, B1YT81, B1YT82, and B1YT83

OPERATOR: Walkup
License #3005
Weakley, Villareal, Templeton, Clark, Snook, Clayton, Rust, Rosane

TIME		*WORK SUMMARY*
0600	0640	Paperwork, timecard and safety meeting at office. Topic: Grinding wheel inspection.
0640	0710	Traveled to "C" Farm.
0710	0820	Standby for RCT's.
0820	0920	Dressed and entered "C" Farm. Inspected and warmed equipment. No problems noted. Pulled inner string and dummy tip.
0920	1018	Ran inner string and sampler. Drove sample from 42.0' bgs to 44.0' bgs at 0943 Hrs. and retrieved. 100% recovery.
——	——	Sample #'s B1YT78, B1YT79 and B1YT80.
1018	1230	Drove dual wall with dummy tip from 44.0' bgs to next sample interval at 56.0' bgs. Pulled inner string and dummy tip.
——	——	Dummy tip was contaminated with ~400 cpm. Field decontamination was completed by RCT's. Exited "C" Farm.
1230	1300	Lunch
1300	1430	Dressed and entered "C" Farm. Ran inner string and sampler. Drove sample from 56.0' bgs to 58.0' bgs at 1346 Hrs. and
——	——	retrieved. 100% recovery. Sample #'s B1YT81, B1YT82 and B1YT83. Secured site and exited "C" Farm.
1430	1530	Traveled to office and completed paperwork.
		N/A

REPORT BY:
TITLE : ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 04-30-09
PRINT: MIKE W. WALKUP
SIGNATURE:

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 5-12-09
PRINT: RZ Steffler
SIGNATURE: RZ Steffler

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 2

WELL I.D.: #C6404	**WELL NUMBER:** N/A	**REPORT NUMBER:** 49	**DATE:** 05/04/09

CONTRACT NUMBER: 36472-02	**START CARD NO:** S27644/A118507 **EXCAVATION PERMIT:** DAN3363	**RIG MODEL/NO:** Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: Mobilize to #C6404 and begin sampling activities.	**REFERENCE:** FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 004	**LOCATION:** C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: 14.0'

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.635"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH *(Include sampling depth)*
#C6404—14.0' bgs

START TIME: 0600 Hrs.
END TIME: 1530 Hrs.
CONTRACTOR TIME: ½ Hr.
TOTAL TIME: 9 Hrs.

DOCUMENTED DOWNTIME:
1 Hr. for RCT,s and ½ Hr. for samplers.

WEATHER CONDITIONS (373-2716)
Temperature: 68 degrees, partly cloudy

CASING SUMMARY

Drive tip depth (shift start)	G.S.
Drive tip depth (shift end)	14.0' bgs
Casing stick up (shift end)	2.3'
Drive String Length	16.3' bgs.

SAMPLE SUMMARY
#C6404 #'s B1YT90, B1YT91, B1YT92, B1YT93, B1YT94 and B1YT95

OPERATOR: Walkup
License #3005
Passey, Villareal, Templeton, Clark, Snook, Clayton, Rust, Rosane, Steffler

TIME		*WORK SUMMARY*
0600	0710	Paperwork, timecard and safety meeting at office. Topic: Swivel hook inspection.
0710	0745	Traveled to "C" Farm and ACED in at Smurf.
0745	0845	Standby for RCT's.
0845	0951	Dressed and entered "C" Farm. Inspected equipment. No problems noted. Mobilized CASE HHU and support equipment
-----	-----	to #C6404 and set-up.
0951	1012	Drove dual wall with dummy tip from G.S. to first sample interval at 6.0' bgs. Pulled inner string and dummy tip.
1012	1030	Ran inner string and sampler. Drove sample from 6.0' bgs to 8.0' bgs at 1017 Hrs. and retrieved. ~33% recovery.
-----	-----	Sample #'s B1YT90, B1YT91 and B1YT92. Sample was reading ~300 cpm.
1030	1134	Exited "C" Farm, an ESFS employee was sick.
1134	1203	Dressed and entered "C" Farm. Drove dual wall with dummy tip from 8.0' bgs to next sample interval at 10.0' bgs.
-----	-----	Pulled inner rod and dummy tip.
1203	1226	Standby for samplers
1226	1240	Ran inner string and sampler. Drove sample from 10.0' bgs to 12.0' bgs at 1228 Hrs. and retrieved. ~5% recovery.
-----	-----	Sample #'s B1YT93, B1YT94 and B1YT95. Sample was reading ~400 cpm.

REPORT BY: TITLE : ES SITE TECHNICAL AND SAFETY REPRESENTATIVE DATE: 05-04-09 PRINT: Michael W. Warner SIGNATURE:	***REVIEWED BY:*** TITLE: ES TECHNICAL REVIEWER DATE: 5-12-09 PRINT: RZ Steffler SIGNATURE: R.Z. Steffler

ENERGYSOLUTIONS

DRILLING AND SAMPLING (PERCUSSION)
DAILY WORK RECORD

Page 2 of 2

Date	Well No.	Continuation of Report No.
05/04/09	#C6404	49

DESCRIPTION OF OPERATIONS/REMARKS

1240--1310	Drove dual wall with dummy tip from 12.0' bgs to next sample interval at 14.0' bgs. Inner string was not
----------	pulled. Secured site and exited "C" Farm.
1310-1340	Lunch
1340-1530	There was not enough time to drive another sample and get it to the labs.. Traveled to office and completed
----------	paperwork.

N/A

Report By	Mikel W. Walkup	Reviewed By	RZ Steffler		
Title	ES TECHNICAL/SAFETY REP	Title	E.S. Tech. Reviewer	Date	5-12-09
Signature		Signature	R.Z. Steffler		

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: #C6404	**WELL NUMBER:** N/A	**REPORT NUMBER:** 50	**DATE:** 05/05/09

CONTRACT NUMBER: 36472-02	**START CARD NO:** S27644/A118507 **EXCAVATION PERMIT:** DAN3363	**RIG MODEL/NO:** Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: Continue sampling activities at #C6404	**REFERENCE:** FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 004	**LOCATION:** C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: -0-

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.635"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH
(include sampling depth)
#C6404—14.0' bgs

START TIME: 0600 Hrs.
END TIME: 1530 Hrs.
CONTRACTOR TIME: ½ Hr.
TOTAL TIME: 9 Hrs.

DOCUMENTED DOWNTIME:
9 Hrs. for wind.

WEATHER CONDITIONS (373-2716)
Temperature: 69 degrees, winds 15-25 mph with gusts of 30-40 mph.

CASING SUMMARY

Drive tip depth (shift start)	14.0'
Drive tip depth (shift end)	14.0' bgs
Casing stick up (shift end)	2.3'
Drive String Length	16.3' bgs.

SAMPLE SUMMARY
N/A

OPERATOR: Walkup
License #3005
Elurgott, Villareal, Templeton, Clark, Snook, Clayton, Rust, Rosane

TIME		*WORK SUMMARY*
0600	0715	Paperwork, timecard and safety meeting at office. Topic: Cuts from hose clamps, zip ties, etc.
0715	0750	Traveled to "C" Farm.
0750	1200	ESFS crew on standby, unable to access "C" Farm due to high winds.
1200	1230	Lunch
1230	1530	ESFS crew on standby, unable to access "C" Farm due to high winds. Traveled to office and completed paperwork.

N/A

REPORT BY:
TITLE : ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 05-05-09
PRINT: MIKE W. WALKUP
SIGNATURE: Mike Walkup

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 5-12-09
PRINT: RZ Steffler
SIGNATURE: R.Z. Steffler

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD Page 1 of 2

WELL I.D. C6404 | WELL NUMBER: N/A ~~C6404~~ ME | REPORT NUMBER: 51 | DATE: WEDNESDAY 5/6/09

CONTRACT NUMBER: 36472-02

START CARD NO: S27644/A118507
EXCAVATION PERMIT: DAN3363

RIG MODEL/NO: Hydraulic Hammer Unit
CASE HHU #1
AHA: AHA-08-001 Rev. 0

PURPOSE: #C6404 Soil Sampling. w/Dual wall

REFERENCE: FSWO-DOW-025 Rev.1
RWP: CO-460 Rev. 003

LOCATION: C Tank Farm
SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: 5.5' bgs

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.635"	1.875"	CS	2.875"	2.3'	DW55

BORING DEPTH (Include sampling depth): C6404 19.5' bgs

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: 1/2 HR.
TOTAL TIME: 9 HR

DOCUMENTED DOWNTIME: 20 min, waiting on electricians 3.5 HR due to wind & rain.

WEATHER CONDITIONS (373-2716)
Temperature: Cloudy, Slight wind 50° and light rain

CASING SUMMARY

Drive tip depth (shift start)	14' bgs, #C6404
Drive tip depth (shift end)	19.5' bgs, C6404
Casing stick up (shift end)	~3.0
Drive String Length	22.3'

SAMPLE SUMMARY

C6404, 14'-17', B1YT96, B1YT97, B1YT98 RK

OPERATOR: Ehrbott, Walkup, Weakley
License # 2005
Swook, Izzy, Clayton, Templeton, Clark

TIME		WORK SUMMARY
0600	0640	Paper work, time cards, Safety Topic: Protective Eye
—	—	Care.
0640	0820	All hands meeting for EnergySolutions F.S
0850	—	Arrived on site "C" Farm
0915	—	Electrician's on site to start Gen-set.
0930	—	Enter change trailer & C-Farm
0945		Inspect Rig warm up, Trip out Dummy tip from 14' bgs
—	—	To ground surface, Trip in Sampler.
1024	—	Push Sampler from 14' bgs to 17' bgs, Extra 12" due to
—	—	Soft Soil Conditions. Sample Boring C6404 53% Recovery.
—	—	B1YT96 - Sample #'s, B1YT97, B1YT98.
1045	—	Ex: Trip Dummy tip in, Drive from 17' bgs to 19.5' bgs - Next
—	1110	Sample interval.
1110	—	Exit Farm.

REPORT BY:
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE:
PRINT: MIKE EHRBOTT
SIGNATURE: Mike Ehrbott

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 5-12-09
PRINT: RZ Steffler
SIGNATURE: R.Z. Steffler

ENERGYSOLUTIONS

DRILLING AND SAMPLING (PERCUSSION)
DAILY WORK RECORD

Page 2 of 2

Date	Well No.	Continuation of Report No.
5/6/09	HF06H04	51

DESCRIPTION OF OPERATIONS/REMARKS

1130/1200	LUNCH
1200	WAITING FOR SAMPLERS, RAINING WITH SLIGHT WIND.
—	ON STANDBY, DUE TO WIND & RAIN.
1345	LEAVING SITE FOR SX-FARM AND THEN ENW.
—	WEEKLY INSPECTION. SITE SECURE.
1530	ARRIVED AT OFFICE

NOT USED
5/6/09 ME

Report By	MIKE ELIOTT	Reviewed By	RZ Steffler		
Title	ES TECHNICAL/SAFETY REP	Title	E.S. Tech. Reviewer	Date	5-12-09
Signature	Mike Eliott	Signature	R.Z. Steffler		

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: #C6404	**WELL NUMBER:** N/A	**REPORT NUMBER:** 52	**DATE:** 05/07/09

CONTRACT NUMBER: 36472-02	**START CARD NO:** S27644/A118507 **EXCAVATION PERMIT:** DAN3363	**RIG MODEL/NO:** Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: Continue sampling activities at #C6404	**REFERENCE:** FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 004	**LOCATION:** C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: -0-

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.635"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH
(include sampling depth)
#C6404—19.5' bgs

START TIME: 0600 Hrs.
END TIME: 1530 Hrs.
CONTRACTOR TIME: ½ Hr.
TOTAL TIME: 9 Hrs.

DOCUMENTED DOWNTIME:
9 Hrs. for wind.

WEATHER CONDITIONS (373-2716)
Temperature: 65 degrees, winds 15-25 mph with gusts up to 28 mph

CASING SUMMARY

Drive tip depth (shift start)	19.5'
Drive tip depth (shift end)	19.5' bgs
Casing stick up (shift end)	2.8'
Drive String Length	22.3' bgs.

SAMPLE SUMMARY
N/A

OPERATOR: Walkup
License #3005
Ehrgott, Villareal, Templeton, Clark, Snook, Clayton, Rust, Rosane

TIME		*WORK SUMMARY*
0600	0650	Paperwork, timecard and safety meeting at office. Topic: Diseases which can be caught from various animals on site.
0650	0720	Traveled to "C" Farm.
0720	1200	ESFS crew on standby, unable to access "C" Farm due to high winds.
1200	1230	Lunch
1230	1530	ESFS crew on standby, unable to access "C" Farm due to high winds. Traveled to office and completed paperwork.

N/A

REPORT BY:
TITLE : ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 05-07-09
PRINT: MIKEL W. WALKUP
SIGNATURE:

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 5-12-09
PRINT: RZ Steffler
SIGNATURE: RZ Steffler

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: #C6404	**WELL NUMBER:** N/A	**REPORT NUMBER:** 53	**DATE:** 05/08/09

CONTRACT NUMBER: 36472-02	**START CARD NO:** S27644/A118507 **EXCAVATION PERMIT:** DAN3363	**RIG MODEL/NO:** Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: Continue sampling activities at #C6404	**REFERENCE:** FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 004	**LOCATION:** C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: -0-

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.635"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH
(include sampling depth)
#C6404—19.5' bgs

START TIME: 0600 Hrs.
END TIME: 1430 Hrs.
CONTRACTOR TIME: ½ Hr.
TOTAL TIME: 8 Hrs.

DOCUMENTED DOWNTIME:
8 Hrs.—No support from sampling group.

WEATHER CONDITIONS (373-2716)
Temperature: 72 degrees, winds 5-15 mph , sunny

CASING SUMMARY

Drive tip depth (shift start)	19.5'
Drive tip depth (shift end)	19.5' bgs
Casing stick up (shift end)	2.8'
Drive String Length	22.3' bgs.

SAMPLE SUMMARY
N/A

OPERATOR: Walkup
License #3005
Ehrgott, Villareal, Templeton, Clark, Snook, Clayton, Weakley

TIME		*WORK SUMMARY*
0600	0715	Paperwork, timecard and safety meeting at office. Weekly topic: Near miss, hoisting with wrong size cable.
0715	0750	Traveled to "C" Farm.
0750	1200	ESFS crew on standby, unable to access "C" Farm due to no support from the sampling group.
1200	1230	Lunch
1230	1530	ESFS crew on standby, unable to access "C" Farm due to no support from the sampling group. Worked on HHUXL at
——	——	"SX" Tank Farm. Traveled to office and completed paperwork.

N/A

REPORT BY: TITLE : ES SITE TECHNICAL AND SAFETY REPRESENTATIVE DATE: 05-08-09 PRINT: [illegible] SIGNATURE: [illegible]	***REVIEWED BY:*** TITLE: ES TECHNICAL REVIEWER DATE: 5-12-09 PRINT: RZ Steffler SIGNATURE: RZ Steffler

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: #C6404	**WELL NUMBER:** N/A	**REPORT NUMBER:** 54	**DATE:** 05/11/09

CONTRACT NUMBER: 36472-02	**START CARD NO:** S27644/A118507 **EXCAVATION PERMIT:** DAN3363	**RIG MODEL/NO:** Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: Continue sampling activities at #C6404	**REFERENCE:** FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 004	**LOCATION:** C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: -0-

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.635"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH
(include sampling depth)
#C6404—19.5' bgs

START TIME: 0600 Hrs.
END TIME: 1530 Hrs.
CONTRACTOR TIME: ½ Hr.
TOTAL TIME: 9 Hrs.

DOCUMENTED DOWNTIME:
9 Hrs. for wind.

WEATHER CONDITIONS (373-2716)
Temperature: 74 degrees, winds 10-18 mph, gusts 30mph

CASING SUMMARY

Drive tip depth (shift start)	19.5'
Drive tip depth (shift end)	19.5' bgs
Casing stick up (shift end)	2.8'
Drive String Length	22.3' bgs.

SAMPLE SUMMARY
N/A

OPERATOR: Walkup
License #3005
Elrgott, Villareal, Templeton, Clark, Snook, Clayton, Weakley, Rosane, Rust

TIME		*WORK SUMMARY*
0600	0645	Paperwork, timecard and safety meeting at office. Topic: Following prescribed LOTO procedures.
0645	0730	Traveled to "C" Farm. ACED in at Smurf building.
0730	1200	ESFS crew on standby, unable to access "C" Farm due to high winds.
1200	1230	Lunch
1230	1530	ESFS crew on standby, unable to access "C" Farm due to high winds. Traveled to office and completed paperwork.

N/A.

REPORT BY:
TITLE : ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 05-11-09
PRINT: MIKE L. WALKUP
SIGNATURE:

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 5-12-09
PRINT: RZ Steffler
SIGNATURE: RZ Steffler

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: #C6404	**WELL NUMBER:** N/A	**REPORT NUMBER:** 55	**DATE:** 05/12/09

CONTRACT NUMBER: 36472-02	**START CARD NO:** S27644/A118507 **EXCAVATION PERMIT:** DAN3363	**RIG MODEL/NO:** Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: Continue sampling activities at #C6404	**REFERENCE:** FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 004	**LOCATION:** C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: -0-

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.635"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH
(include sampling depth)
#C6404—19.5' bgs

START TIME: 0600 Hrs.
END TIME: 1530 Hrs.
CONTRACTOR TIME: ½ Hr.
TOTAL TIME: 9 Hrs.

DOCUMENTED DOWNTIME:
9 Hrs. for wind.

WEATHER CONDITIONS (373-2716)
Temperature: 67 degrees, winds 15-25 mph, gusts 40mph

CASING SUMMARY

Drive tip depth (shift start)	19.5'
Drive tip depth (shift end)	19.5' bgs
Casing stick up (shift end)	2.8'
Drive String Length	22.3' bgs.

SAMPLE SUMMARY
N/A

OPERATOR: Walkup
License #3005
Ehrgott, Villareal, Templeton, Clark, Snook, Clayton, Rosane, Rust.

TIME		*WORK SUMMARY*
0600	0650	Paperwork, timecard and safety meeting at office. Topic: Sleep deprivation and fitness for duty.
0650	0725	Traveled to "C" Farm.
0725	1200	ESFS crew on standby, unable to access "C" Farm due to high winds. AOP-008 is in effect.
1200	1230	Lunch
1230	1530	ESFS crew on standby, unable to access "C" Farm due to high winds. AOP-008 is in effect. Traveled to office and
——	——	completed paperwork.

N/A

REPORT BY:
TITLE : ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 05-12-09
PRINT: MIKE WALKUP
SIGNATURE: [signature]

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 5-13-09
PRINT: RZ Steffler
SIGNATURE: [signature]

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: #C6404	**WELL NUMBER:** N/A	**REPORT NUMBER:** 56	**DATE:** 05/13/09

CONTRACT NUMBER: 36472-02	**START CARD NO:** S27644/A118507 **EXCAVATION PERMIT:** DAN3363	**RIG MODEL/NO:** Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: Continue sampling activities at #C6404	**REFERENCE:** FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 004	**LOCATION:** C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: 11.5'

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.635"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH
(Include sampling depth)
#C6404—31.0' bgs

START TIME: 0600 Hrs.
END TIME: 1530 Hrs.
CONTRACTOR TIME: ½ Hr.
TOTAL TIME: 9 Hrs.

DOCUMENTED DOWNTIME:
1 Hr. and 25 minutes---No RCT's
4 Hrs. and 30 minutes---Safety Expo

WEATHER CONDITIONS (373-2716)
Temperature: 64 degrees, winds 05-15 mph

CASING SUMMARY

Drive tip depth (shift start)	19.5'
Drive tip depth (shift end)	31.0' bgs
Casing stick up (shift end)	3.3'
Drive String Length	34.3' bgs.

SAMPLE SUMMARY
#C6404—Sample #'s B1YTB0, B1YTB1, and B1YT99.

OPERATOR: Walkup
License #3005
Ehrgott, Villareal, Templeton, Clark, Snook, Clayton, Rosane, Rust, Weakley.

TIME		*WORK SUMMARY*
0600	0635	Paperwork, timecard and safety meeting at office. Topic: Correct load securing practices.
0635	0700	Traveled to "C" Farm.
0700	0825	ESFS crew on standby, waiting for RCT's.
0825	0855	Dress and enter "C" Tank Farm. Inspect and warm rig. No problems noted. Straightened up sight after previous days
-----	-----	high winds. Pulled inner string and dummy tip. No contamination detected.
0855	0928	Ran inner string and sampler in sample boring #C6404. Drove sample from 19.5' bgs to 21.5' bgs at 0911 Hrs. and
-----	-----	retrieved. ~70% recovery. Sample #'s B1YTB0, B1YTB1 and B1YT99.
0928	1030	Drove dual wall with dummy tip from 21.5' bgs to next sample interval at 31.0' bgs. Did not pull inner string and dummy
-----	-----	tip. Secured site and exited "C" Tank Farm.
1030	1200	ESFS crew on standby, all WRPS support crews went to the Safety Expo at TRAC.
1200	1230	Lunch
1230	1530	ESFS crew on standby, all WRPS support crews went to the Safety Expo at TRAC. Traveled to office and completed
-----	-----	paperwork.
		N/A

REPORT BY: TITLE : ES SITE TECHNICAL AND SAFETY REPRESENTATIVE DATE: 05-13-09 PRINT: MIKEL W. WALKUP SIGNATURE:	***REVIEWED BY:*** TITLE: ES TECHNICAL REVIEWER DATE: 5-14-09 PRINT: RZ Steffly SIGNATURE:

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: #C6404	**WELL NUMBER:** N/A	**REPORT NUMBER:** 57	**DATE:** 05/14/09

CONTRACT NUMBER: 36472-02	**START CARD NO:** S27644/A118507 **EXCAVATION PERMIT:** DAN3363	**RIG MODEL/NO:** Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: Continue sampling activities at #C6404	**REFERENCE:** FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 004	**LOCATION:** C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: ~~1.5~~ 0.00 RZS 6-22-09

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.635"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH
(include sampling depth)
#C6404—31.0' bgs

START TIME: 0600 Hrs.
END TIME: 1530 Hrs.
CONTRACTOR TIME: ½ Hr.
TOTAL TIME: 9 Hrs.

DOCUMENTED DOWNTIME:
9 Hrs.—Wind, AOP-008 in effect.

WEATHER CONDITIONS (373-2716)
Temperature: 69 degrees, winds 20-30 mph

CASING SUMMARY

Drive tip depth (shift start)	~~19.5~~ 31.0' RZS 6-22-09
Drive tip depth (shift end)	31.0' bgs
Casing stick up (shift end)	3.3'
Drive String Length	34.3' bgs.

SAMPLE SUMMARY
N/A

OPERATOR: Walkup
License #3005
Ehrgott, Villareal, Templeton, Clark, Snook, Clayton, Rosane, Kaner,

TIME		*WORK SUMMARY*
0600	0645	Paperwork, timecard and safety meeting at office. Topic: Fire extinguisher inspections.
0645	0720	Traveled to "C" Farm.
0720	1100	ESFS crew on standby, unable to access "C" Tank Farm. AOP-008 is in effect. Traveled to office.
1100	1130	Lunch
1130	1530	ESFS crew on standby, unable to access "C" Tank Farm. AOP-008 is in effect. Completed paperwork at office.

N/A

REPORT BY:
TITLE : ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 05-14-09
PRINT: MIKE LO
SIGNATURE: Mike Lo

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 6-22-09
PRINT: RZ Steffler
SIGNATURE: R.Z. Steffler

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 2

WELL I.D.: #C6404	**WELL NUMBER:** N/A	**REPORT NUMBER:** 58	**DATE:** 05/18/09

CONTRACT NUMBER: 36472-02	**START CARD NO:** S27644/A118507 **EXCAVATION PERMIT:** DAN3363	**RIG MODEL/NO:** Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: Continue sampling activities at #C6404	**REFERENCE:** FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 004	**LOCATION:** C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: 26.0'

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.635"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH
(include sampling depth)
#C6404—57.0' bgs

START TIME: 0600 Hrs.
END TIME: 1530 Hrs.
CONTRACTOR TIME: ½ Hr.
TOTAL TIME: 9 Hrs.

DOCUMENTED DOWNTIME:
1 ½ Hrs.—No RCT coverage.

WEATHER CONDITIONS (373-2716)
Temperature: 89 degrees, winds 10-15 mph

CASING SUMMARY

Drive tip depth (shift start)	31.0'
Drive tip depth (shift end)	57.0' bgs
Casing stick up (shift end)	1.3'
Drive String Length	58.3' bgs.

SAMPLE SUMMARY
#C6404—Sample #'s B1YTB2, B1YTB3, B1YTB4, B1YTB5, B1YTB6 and B1YTB7

OPERATOR: Walkup
License #3005
Ehrgott, Weakely, Templeton, Clark, Snook, Clayton, White, Kauer,

TIME		*WORK SUMMARY*
0600	0645	Paperwork, timecard and safety meeting at office. Topic: Working in warm weather for the first time this year.
0645	0725	Traveled to "C" Farm and ACED at Smurf Building.
0725	0830	ESFS crew on standby, waiting on RCT coverage.
0830	0905	Dressed and entered "C" Tank Farm. Inspected and warmed rig. No problems noted. Pulled inner rod and dummy tip.
0905	0941	Ran sampler in sample boring #C6404, drove sample from 31.0' bgs to 33.0' bgs at 0920 Hrs. and retrieved. 100%
----	----	recovery. Sample #'s B1YTB2, B1YTB3 and B1YTB4.
0941	1030	Drove dual wall with dummy tip from 33.0' bgs to next sample interval at 42.0' bgs. Exited "C" Farm for water break.
1030	1050	Water break out of "C" Farm.
1050	1125	Dressed and entered "C" Tank Farm. Pulled inner string and dummy tip
1125	1215	Ran sampler in sample boring #C6404, drove sample from 42.0' bgs to 44.0' bgs at 1140 Hrs. and retrieved. 100%
----	----	recovery. Sample #'s B1YTB5, B1YTB6 and B1YTB7. Exited "C" Tank Farm.
1215	1245	Lunch
1245	1440	Dressed and entered "C" Tank Farm. Drove dual wall with dummy tip from 44.0' bgs to next sample interval at 57.0' bgs.
----	----	Did not back-pull inner string and dummy tip. Secured site and exited "C" Tank Farm.

REPORT BY:
TITLE : ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 05-18-09
PRINT: MIKEL W. WOLTER
SIGNATURE:

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 6-22-09
PRINT: RZ Steffler
SIGNATURE:

ENERGYSOLUTIONS

DRILLING AND SAMPLING (PERCUSSION)
DAILY WORK RECORD

Page 2 of 2

Date	Well No.	Continuation of Report No.
05/18/09	#C6404	58

DESCRIPTION OF OPERATIONS/REMARKS

1440-1530	Traveled to office and completed paperwork.

N/A

Report By	Mikel W. Walkup	Reviewed By	RZ Steffler		
Title	ES TECHNICAL/SAFETY REP	Title	ES. Technical Reviewer	Date	6-22-09
Signature		Signature	R.Z. Steffler		

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: #C6404 and #C6400	**WELL NUMBER:** N/A	**REPORT NUMBER:** 59	**DATE:** 05/19/09

CONTRACT NUMBER: 36472-02	**START CARD NO:** S27644/A118507 **EXCAVATION PERMIT:** DAN3363	**RIG MODEL/NO:** Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: Complete sampling activities at #C6404 and begin sampling activities at #C6400	**REFERENCE:** FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 004	**LOCATION:** C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: 7.0'

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.635"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH
(include sampling depth)
#C6404—59.0' bgs
#C6400---5.0' bgs

START TIME: 0600 Hrs.
END TIME: 1530 Hrs.
CONTRACTOR TIME: ½ Hr.
TOTAL TIME: 9 Hrs.

DOCUMENTED DOWNTIME:
20 minutes---RCT's, 2 Hrs. & 45 minutes—wind, and 1 Hr. & 20 minutes---Construction crane in way.

WEATHER CONDITIONS (373-2716)
Temperature: 76 degrees, winds 15-25 mph

CASING SUMMARY

Drive tip depth (shift start)	#C6404—57.0'	#C6400—G.S.
Drive tip depth (shift end)	#C6404---59.0'	#C6400---5.0'
Casing stick up (shift end)	#C6404--2.3'	#C6400---3.3'
Drive String Length	#C6404---61.3'	#C6400---8.3'

SAMPLE SUMMARY
#C6404—Sample #'s B1YTB8, B1YTB9, B1YTC0

OPERATOR: Walkup
License #3005
Ehrgott, Weakely, Templeton, Clark, Snook, Clayton, Rust, Rosane

TIME		*WORK SUMMARY*
0600	0640	Paperwork, timecard and safety meeting at office. Topic: Vehicle tire expiration dates.
0640	0710	Traveled to "C" Farm.
0710	0730	ESFS crew on standby, waiting on RCT coverage.
0730	0800	Pre-job briefing at MO 524.
0800	0846	Dressed and entered "C" Tank Farm. Inspected and warmed rig. No problems noted. Pulled inner string and dummy tip.
0846	0945	Ran sampler in sample boring #C6404, drove sample from 57.0' bgs to 59.0' bgs at 0908 Hrs. and retrieved. 100%
------	------	recovery. Sample #'s B1YTB8, B1YTB9 and B1YTC0. Unable to mobilize CASE HHU and support equipment to
------	------	#C6406 and set-up. A construction crane will need to exit "C" Tank Farm. Exited "C" Tank Farm.
0945	1100	Standby for direction to proceed with the construction crane in the way.
1100	1130	Lunch
1130	1215	Dressed and entered "C" Tank Farm. Mobilized CASE HHU and support equipment to sample boring #C6400 and set-up.
1215	1245	Drove dual wall with dummy tip from G.S. to first sample interval at 5.0' bgs. Did not pull inner string and dummy tip due
------	------	to windy conditions. Secured site and exited "C" Tank Farm.
1245	1530	Standby because of high winds. Traveled to office and completed paperwork.

REPORT BY: TITLE : ES SITE TECHNICAL AND SAFETY REPRESENTATIVE DATE: 05-19-09 PRINT: MIKEL W. WALKUP SIGNATURE:	***REVIEWED BY:*** TITLE: ES TECHNICAL REVIEWER DATE: 6-22-09 PRINT: RZ Steffler SIGNATURE:

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: #C6400	**WELL NUMBER:** N/A	**REPORT NUMBER:** 60	**DATE:** 05/20/09

CONTRACT NUMBER: 36472-02	**START CARD NO:** S27644/A118507 **EXCAVATION PERMIT:** DAN3363	**RIG MODEL/NO:** Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: Continue sampling activities at #C6400	**REFERENCE:** FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 004	**LOCATION:** C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: -0-'

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.635"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH
(include sampling depth)
#C6400—5.0' bgs

START TIME: 0600 Hrs.
END TIME: 1530 Hrs.
CONTRACTOR TIME: ½ Hr.
TOTAL TIME: 9 Hrs.

DOCUMENTED DOWNTIME:
9 Hrs.—No support from the sampling group. Their paperwork is not ready yet.

WEATHER CONDITIONS (373-2716)
Temperature: 72 degrees, winds 10-20 mph

CASING SUMMARY

Drive tip depth (shift start)	#C6400—5.0' bgs
Drive tip depth (shift end)	#C6400—5.0'
Casing stick up (shift end)	#C6400—3.3'
Drive String Length	#C6400—8.3'

SAMPLE SUMMARY
N/A

OPERATOR: Walkup
License #3005
Elingott, Templeton, Clark, Snook, Clayton

TIME		*WORK SUMMARY*
0600	0620	Paperwork, timecard and safety meeting at office. Topic: Using the correct tool for the task being performed.
0620	0700	Traveled to "C" Farm.
0700	1130	ESFS crew on standby. No support from the sampling group. Their paperwork is not in place yet.
1130	1200	Lunch
1200	1530	ESFS crew on standby. No support from the sampling group. Their paperwork is not in place yet. ESFS crew traveled
------	------	to "SX" Farm and mobilized HHUXL #3 and support equipment into "SX" Farm and set-up on exploratory boring
------	------	#C7187. Unable to begin driving 2.5" pipe. There are no air samplers available yet.
		N/A

REPORT BY:
TITLE : ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 05-20-09
PRINT: MIKE WALKUP
SIGNATURE: [signature]

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 6-22-09
PRINT: RZ Steffler
SIGNATURE: [signature]

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 2

WELL I.D.: #C6400	**WELL NUMBER:** N/A	**REPORT NUMBER:** 61	**DATE:** 05/21/09

CONTRACT NUMBER: 36472-02	**START CARD NO:** S27644/A118507 **EXCAVATION PERMIT:** DAN3363	**RIG MODEL/NO:** Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: Continue sampling activities at #C6400	**REFERENCE:** FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 004	**LOCATION:** C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: 55.0'

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.635"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH
(include sampling depth)
#C6400—60.0' bgs

START TIME: 0600 Hrs.
END TIME: 1530 Hrs.
CONTRACTOR TIME: ½ Hr.
TOTAL TIME: 9 Hrs.

DOCUMENTED DOWNTIME:
30 Minutes—Electricians and 55 Minutes Samplers.

WEATHER CONDITIONS (373-2716)
Temperature: 80 degrees, winds 5-15 mph

CASING SUMMARY

Drive tip depth (shift start)	#C6400—5.0' bgs
Drive tip depth (shift end)	#C6400—60.0' bgs
Casing stick up (shift end)	#C6400—2.3'
Drive String Length	#C6400—62.3'

SAMPLE SUMMARY
#C6400—Sample #'s B1YTF9, B1YTH0, B1YTH1, B1YTF8, B1YTH2 and B1YTH3

OPERATOR: Walkup
License #3005
Burgott, Templeton, Clark, Snook, Clayton , Villareal, Rosane, Rust

TIME		*WORK SUMMARY*
0600	0640	Paperwork, timecard and safety meeting at office. Topic: Landing plates, samplers and dummy tips.
0640	0710	Traveled to "C" Farm.
0710	0805	ESFS crew on standby. Equipment blank is the first sample interval. Preparation has not yet been made for it. Decision
-----	-----	was made by WRPS to make the equipment blank the third sample interval.
0805	0835	ESFS crew on standby. Electricians have not started generator yet.
0835	0900	Dressed and entered "C" Tank Farm. Inspected and warmed equipment. No problems noted. Pulled inner string and
-----	-----	dummy tip.
0900	0931	Drove sample from 5.0' bgs to 7.0' bgs at 0911 Hrs. and retrieved. 50% recovery. Sample #'s B1YTF9, B1YTH0 and
-----	-----	B1YTH1. Sample boring #C6400.
0931	0956	Drove dual wall with dummy tip from 7.0' bgs to next sample interval at 10.0' bgs. Pulled inner string and dummy tip.
0956	1028	Drove sample from 10.0' bgs to 12.0' bgs at 1007 Hrs. and retrieved. 67% recovery. Sample #'s B1YTF8, B1YTH2 and
-----	-----	B1YTH3. Sample boring #C6400.
1028	1130	Drove dual wall with dummy tip from 12.0' bgs to 32.0' bgs. Exited "C" Tank Farm.
1130	1200	Lunch

REPORT BY:
TITLE : ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 05-21-09
PRINT: MIKEL W. BARKER
SIGNATURE:

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 6-22-09
PRINT: RZ Steffler
SIGNATURE: R.Z. Steffler

ENERGYSOLUTIONS

DRILLING AND SAMPLING (PERCUSSION)
DAILY WORK RECORD

Page 2 of 2

Date	Well No.	Continuation of Report No.
05/21/09	#C6400	61

DESCRIPTION OF OPERATIONS/REMARKS

1200-1430	Dressed and entered "C" Tank Farm. Drove dual wall with dummy tip from 32.0' bgs to 60.0' bgs. Stopped one
----------	time for ~20 minutes to let crossover sub. and drive head cool. Secured site and exited "C" Tank Farm.
1430-1530	Traveled to Energy Northwest and then to office. Completed paperwork at office.

N/A

Report By	Mikel W. Walkup	Reviewed By	RZ Steffler		
Title	ES TECHNICAL/SAFETY REP	Title	E.S. Tech. Reviewer	Date	6-22-09
Signature		Signature			

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: #C6400	**WELL NUMBER:** N/A	**REPORT NUMBER:** 62	**DATE:** 05/22/09

CONTRACT NUMBER: 36472-02	**START CARD NO:** S27644/A118507 **EXCAVATION PERMIT:** DAN3363	**RIG MODEL/NO:** Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: Continue sampling activities at #C6400	**REFERENCE:** FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 004	**LOCATION:** C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: -0-'

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.635"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH
(include sampling depth)
#C6400—60.0' bgs

START TIME: 0600 Hrs.
END TIME: 1430 Hrs.
CONTRACTOR TIME: ½ Hr.
TOTAL TIME: 8 Hrs.

DOCUMENTED DOWNTIME:
8 Hrs.—Scheduled housekeeping and BBQ day by WRPS. No support available.

WEATHER CONDITIONS (373-2716)
Temperature: 83 degrees, winds 5-10 mph

CASING SUMMARY

Drive tip depth (shift start)	#C6400—60.0' bgs
Drive tip depth (shift end)	#C6400—60.0' bgs
Casing stick up (shift end)	#C6400—2.3'
Drive String Length	#C6400—62.3'

SAMPLE SUMMARY
N/A

OPERATOR: Walkup
License #3005
Repko, Templeton, Clark, Snook, Clayton, Villareal Steffler

TIME		*WORK SUMMARY*
0600	0630	Paperwork, timecard and safety meeting at office. Topic: Better designs for pipe stands and work platforms.
0630	0715	Traveled to "SX" Farm.
0715	0800	ESFS crew on standby. No RCT's
0800	0815	Pre-job conducted by W. Clark.
0815	0835	ESFS crew traveled to "C" Tank Farm.
0835	0920	Dressed and entered "C" Tank Farm. Moved 20 joints of 2 5/8" casing and inner rods into farm, staged and cleaned for
------	------	use on Tuesday morning, May 26th. Exited "C" Tank Farm.
0920	1100	ESFS crew on standby. WRPS scheduled housekeeping day and BBQ. No support available.
1100	1130	Lunch
1130	1430	ESFS crew on standby. WRPS scheduled housekeeping day and BBQ. No support available. Traveled to office.
		N/A

REPORT BY:
TITLE : ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 05-22-09
PRINT: MICHAEL D. WALKUP
SIGNATURE: Mike Walkup

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 6-22-09
PRINT: RZ Steffler
SIGNATURE: R.Z. Steffler

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD Page 1 of 2

WELL I.D.: C6400 | WELL NUMBER: N/A | REPORT NUMBER: 63 | DATE: 5/26/09

CONTRACT NUMBER: 36472-02

START CARD NO: S27644/A118507

EXCAVATION PERMIT: DAN3363

RIG MODEL/NO: Hydraulic Hammer Unit

CASE HHU #1

AHA: AHA-08-001 Rev. 0

PURPOSE: C6400 : Sampling

REFERENCE: FSWO-DOW-025 Rev.1

RWP: CO-460 Rev. 003

LOCATION: C Tank Farm

SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: 41' bgs

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.635"	1.875"	CS	2.875	2.3'	DWSS

BORING DEPTH (Include sampling depth): C6400 - 101' bgs

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: .5 hr
TOTAL TIME: 9.0 hrs

DOCUMENTED DOWNTIME: 55 min. waiting on electricians
2 hr. Brake control box & repair

WEATHER CONDITIONS (373-2716)
Temperature: 75° to 80°
Partly Cloudy

CASING SUMMARY

Drive tip depth (shift start)	60' bgs
Drive tip depth (shift end)	101' bgs
Casing stick up (shift end)	~ 1.0'
Drive String Length	102'

SAMPLE SUMMARY: N/A

OPERATOR: Ehrbott, Repko, Izzy, S. Snook, P. Templeton, J. Clayton
License #

TIME		WORK SUMMARY
0600	0645	Paperwork, time card, safety topic: "Safe Driving Tips."
0645	0720	Travel to C-Farm.
0720	–	NCO's on site and left to pickup "work package".
0810	–	NCO's and RCT's on site with work package & key.
0905	–	Electricians on site to start generator.
0910	–	ESFS employees dress & enter "C-Farm". Inspected and warm
–	–	up HHU. Set up canopy for shade
0945	–	Start driving 2 5/8" dual wall @ C6400 from 60.0' bgs. ~~He~~
0955		Hammer on HHU quit working. Checked control box on
–	–	mast and hammer works. Must be in external control
–	–	box or wire harness
1030		Exit C-Farm, walkup bringing over wire harness from
		SX-Farm
11:00	11:30	Entered farm with wire harness. Tried it, did not work.

REPORT BY:
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE:
PRINT: MIKE EHRBOTT
SIGNATURE: Mike Ehrbott

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 6-22-09
PRINT: RZ Steffler
SIGNATURE: RZ Steffler

ENERGYSOLUTIONS

DRILLING AND SAMPLING (PERCUSSION)
DAILY WORK RECORD

Page 2 of 2

Date	Well No.	Continuation of Report No.
5/26/09	C6400	~~MC04~~ 63

DESCRIPTION OF OPERATIONS/REMARKS

1130	EXIT FARM AND TAKE LUNCH.
1215	R. STEFFLER ON SITE WITH NEW CONTROL BOX
1225	ENTER C-FARM AND INSTALL NEW CONTROL BOX.
—	CONTROLS ARE STIFF ON NEW BOX MAY NEED TO
—	MAKE ADJUSTMENTS. ALL CONTROLS WORK.
1250	RESUME DRIVING 2 5/8" DUAL WALL FROM 64' bgs
1345	BROKE DRIVE HEAD, REPLACED WITH NEW. RESUME DRIVING
1430	DROVE TO 101' bgs. SECURE SITE.
1445	EXIT C-FARM.
1505	LEAVING C-FARM FOR OFFICE.
1530	END OF SHIFT

NOT USED ME 5/26/09

Report By	MIKE ELRGOTT	Reviewed By	RZ Steffler		
Title	ES TECHNICAL/SAFETY REP	Title	E.S. Tech. Reviewer	Date	6-22-09
Signature	Mike Elrgott	Signature	R.Z. Steffler		

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD Page 1 of 2

WELL I.D.: C6400	WELL NUMBER: N/A	REPORT NUMBER: ~~65~~ 64	DATE: 5/27/09
CONTRACT NUMBER: 36472-02	START CARD NO: S27644/A118507 EXCAVATION PERMIT: DAN3363	RIG MODEL/NO: Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0	
PURPOSE: C6400 Sampling Activities	REFERENCE: FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 003	LOCATION: C Tank Farm SW NE Section 2 26E 12N	

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: 31'

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.635	1.875	CS	2.875	2.3'	DWSS

BORING DEPTH (include sampling depth): 132' bgs
NEXT Sample 132' to 134' bgs

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: .5 HRS
TOTAL TIME: 9 HR

DOCUMENTED DOWNTIME: ~ 2 HRS HHU Control Box Repair

WEATHER CONDITIONS (373-2716)
Temperature: 75° to 80°
Partly Cloudy

CASING SUMMARY

Drive tip depth (shift start)	~~60' bgs~~ MG 101' bgs
Drive tip depth (shift end)	132' bgs
Casing stick up (shift end)	~ 2'
Drive String Length	134'

SAMPLE SUMMARY
N/A

OPERATOR: EHRGOTT
3005 License # PASSEY
WALKUP
TEMPLTON
CLAYTON
SWOOK
VILLAREAL

TIME		WORK SUMMARY
0600	0700	PAPERWORK, TIMECARD, SAFETY MEETING AT OFFICE
—	—	SAFETY TOPIC: DRIVING SAFETY "ROAD RAGE"
—	—	R. STEFFLER INSTALLED E.S. SIGNS ON TRUCKS
0700	—	TRAVEL TO SX-FARM PICKUP TOOL BOX THEN TO
—	0810	C-FARM. ARE JSA, SIGN IN.
0810	—	TROUBLE SHOOT HHU CONTROL BOXES (M. PASSEY)
—	0930	M. PASSEY REPAIRED OLDER CONTROL BOX. TAKE INTO
—	—	C-FARM AND CHECK OUT WORKS FINE, OTHER
—	—	TWO NEWER CONTROL BOXES WILL BE TAKEN TO
—	—	TOWN FOR INSPECTION AND OR REPAIR.
1015	—	M. WALKUP ON SITE. M. PASSEY LEAVING SITE FOR
—	—	MEETING AT OFFICE.
1030	-	DRESS OUT, ENTER C-FARM, INSPECT EQUIPMENT
1050	1200	DRIVE 2 5/8" DUAL WALL FROM 101.0' TO NEXT SAMPLE INTERVAL 132' bgs.

REPORT BY:	REVIEWED BY:
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE	TITLE: ES TECHNICAL REVIEWER DATE: 6-22-09
DATE:	PRINT: RZ Steffler
PRINT: MIKE EHRGOTT	SIGNATURE: RZ Steffler
SIGNATURE: Mike Ehrgott	

ENERGYSOLUTIONS

DRILLING AND SAMPLING (PERCUSSION)
DAILY WORK RECORD

Page 2 of 2

Date	Well No.	Continuation of Report No.
5/27/09	C6400	~~NE65~~ 64

DESCRIPTION OF OPERATIONS/REMARKS

1205	EXIT FARM, TAKE LUNCH.
1240	RCT'S BACK ON SITE, ENTER FARM
1255	START TRIPPING OUT INNER RODS WITH DUMMY
—	TIP FROM 132'bgs, REMOVED 23 INNER ROD (92'bgs).
—	INNER ROD WAS PARTED @ 92' bgs. 10 RODS -
—	- 40' bgs IN BOTTOM OF BOREHOLE. SECURE SITE.
1330	EXIT FARM, WRPS PERSONNEL HAVE ALL
—	HANDS MEETING DOWN TOWN.
1345	LEAVING C-FARM FOR ENERGY ~~SOLUTIONS~~ NORTWEST INC TO
—	PICKUP TOOLING FOR FISHING OUT INNER ROD.
1415	LEAVE ENW FOR ESES OFFICE.
1530	END OF SHIFT.

NOT USED ME 5/27/09

Report By	MIKE EHRGOTT	Reviewed By	RZ Steffler		
Title	ES TECHNICAL/SAFETY REP	Title	E.S. Tech. Reviewer	Date	6-22-09
Signature	Mike Ehrgott	Signature	R.Z. Steffler		

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: #C6400	**WELL NUMBER:** N/A	**REPORT NUMBER:** 65	**DATE:** 05/28/09

CONTRACT NUMBER: 36472-02	**START CARD NO:** S27644/A118507 **EXCAVATION PERMIT:** DAN3363	**RIG MODEL/NO:** Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: Fish inner string. If unable to retrieve, back-pull 2 5/8" casing.	**REFERENCE:** FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 004	**LOCATION:** C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: ~~20~~ 24 RES 6-22-09

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.635"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH
(include sampling depth)
#C6400—108.0' bgs

START TIME: 0600 Hrs.
END TIME: 1530 Hrs.
CONTRACTOR TIME: ½ Hr.
TOTAL TIME: 9 Hrs.

DOCUMENTED DOWNTIME:

6 Hrs. Access restricted to Farm due to activities being completed by construction.

WEATHER CONDITIONS (373-2716)

Temperature: 89 degrees, sunny

CASING SUMMARY

Drive tip depth (shift start)	#C6400—132.0' bgs
Drive tip depth (shift end)	#C6400—108.0' bgs
Casing stick up (shift end)	#C6400—2.3'
Drive String Length	#C6400—110.3'

SAMPLE SUMMARY

N/A

OPERATOR: Walkup
License #3005
Ehrgott, Templeton, Snook, Villareal, Weakley, Amos

TIME		*WORK SUMMARY*
0600	0700	Paperwork, timecard and safety meeting at office. Topic: Pipe inspections. Box and pins. Do not hammer on pipe.
0700	0740	Traveled to Smurf Building to ACE and then to "C" Farm.
0740	1200	ESFS crew on standby. Access to "C" Tank Farm is restricted due to construction activities.
1200	1230	Lunch
1230	1410	Dressed and entered "C" Tank Farm. Inspected and warmed equipment. No problems noted. Ran inner string with
-----	-----	fishing tool. Hooked broken inner string. Unable to back-pull it because the dummy tip is stuck in the tip holder.
-----	-----	Back-pulled inner string and fishing tool.
1410	1445	Back-pulled 2 5/8" casing from 132.0' bgs to 108.0' bgs. Secured site and exited "C" Tank Farm.
1445	1530	Traveled to office and completed paperwork.
		N/A

REPORT BY:
TITLE : ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 05-28-09
PRINT: MIKE D. WALKUP
SIGNATURE: Mike D. Walkup

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 6-22-09
PRINT: RZ Steffler
SIGNATURE: R.Z. Steffler

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: #C6400	**WELL NUMBER:** N/A	**REPORT NUMBER:** 66	**DATE:** 05/29/09

CONTRACT NUMBER: 36472-02	**START CARD NO:** S27644/A118507 **EXCAVATION PERMIT:** DAN3363	**RIG MODEL/NO:** Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0

PURPOSE: Re-drive 2 5/8" casing with dummy tip to last sample interval at 132.0' bgs.	**REFERENCE:** FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 004	**LOCATION:** C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: 96.0'

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.635"	1.875"	CS	2.875"	2.3'	DWSS

BORING DEPTH *(include sampling depth)*
#C6400—108.0' bgs

START TIME: 0600 Hrs.
END TIME: 1430 Hrs.
CONTRACTOR TIME: ½ Hr.
TOTAL TIME: 8 Hrs.

DOCUMENTED DOWNTIME:
N/A

WEATHER CONDITIONS (373-2716)
Temperature: 92 degrees, sunny

CASING SUMMARY

Drive tip depth (shift start)	#C6400—108.0' bgs
Drive tip depth (shift end)	#C6400—132.0' bgs
Casing stick up (shift end)	#C6400—2.3'
Drive String Length	#C6400—134.3'

SAMPLE SUMMARY
N/A

OPERATOR: Olson
License #1217
Repko, Youngblood, Snook, Walkup

TIME		*WORK SUMMARY*
0600	0640	Paperwork, timecard and safety meeting at office. Topic: Possibility of thunder storms, keep an eye out.
0640	0740	Traveled to "SX" Tank Farm and picked up equipment. Traveled to "C" Tank Farm.
0740	0805	Pre-job briefing was held at "C" Tank Farm.
0805	1030	Dressed and entered "C" Tank Farm. Inspected and warmed equipment. No problems noted. Back-pulled 2 5/8" casing
——	——	from 108.0' bgs to 36.0' bgs. Pulled remaining separated inner rod and dummy tip. Cleaned dummy tip and replaced
——	——	"O" rings. Re-installed inner string and dummy tip to 36.0' bgs. Exited "C" Tank Farm.
1030	1100	ESFS crew took a cool down break due to the high temperatures.
1100	1300	Dressed and entered "C" Tank Farm. Drove 2 5/8" casing with dummy tip from 36.0' bgs to last sample interval depth of
——	——	132.0' bgs. Inner string and dummy tip were not pulled. Secured site for the weekend and exited "C" Tank Farm.
1300	1330	Lunch.
1330	1430	Traveled to office and completed paperwork.
		N/A

REPORT BY:
TITLE : ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 05-29-09
PRINT: MIKEL W. WALKUP
SIGNATURE: Mikel Walkup

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 6-22-09
PRINT: RZ Steffler
SIGNATURE: RZ Steffler

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD Page 1 of 2

WELL I.D.:	WELL NUMBER:	REPORT NUMBER:	DATE:
C-6400	N/A.	67	6-1-09

CONTRACT NUMBER:	START CARD NO: S27644/A118507	RIG MODEL/NO: Hydraulic Hammer Unit
36472-02	EXCAVATION PERMIT: DAN3363	CASE HHU #1
		AHA: AHA-08-001 Rev. 0

PURPOSE:	REFERENCE:	LOCATION:
Sample #C6400 From 132' bgs - 134' bgs	FSWO-DOW-025 Rev.1	C Tank Farm
	RWP: CO-460 Rev. 003	SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: 2.0'

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2 5/8	1.875	CS	2.875	2.3	DWSS

BORING DEPTH *(include sampling depth)* 134.0' bgs

START TIME: 0600
END TIME: 1630
CONTRACTOR TIME: 1/2
TOTAL TIME: 9 hr.

DOCUMENTED DOWNTIME: 1 hr. downtime ~~0 min~~

WEATHER CONDITIONS (373-2716)
Temperature: 85°F Breezy Partly Cloudy

CASING SUMMARY	C6400	
Drive tip depth (shift start)	132' bgs	134'
Drive tip depth (shift end)	134' bgs	52'
Casing stick up (shift end)		
Drive String Length		

SAMPLE SUMMARY
C6400 : 132.0' TO 134.0' bgs

OPERATOR: Mark Repko
License # 3012
Mike Ehrgott
Olin Amos
Scott Swock
P. Templeton

TIME		WORK SUMMARY
0600	0645	Safety Meeting, Timecard, Plan of day, Safety Topic: Parts Inspection
0645	0715	Drive to C-farm, (ACES) for weekly access.
0715	0810	Waiting for support, Generator to be started.
0810	1010	Go in Farm pull inner tip, trip sampler in.
1010	--	EXIT FARM, RCT OFF SITE.
1020	--	NCO - SAMPLERS ON SITE. RCT ON SITE.
1035	-	DRESS OUT AND ENTER FARM
1050	-	DRIVE SAMPLE C6400 FROM 132.0' bgs TO 134.0' bgs @ 1135
-	1150	-TRIP INNER Rod & SAMPLER OUT.
1150	12:00	EXIT FARM
1200	1245	LUNCH, NCO SAMPLERS & RCT OFF SITE
—	—	C6400 132.0' TO 134.0' bgs Sample #'s BIYTH4, BIYTH5, BIYTH6
—	—	100% RECOVERY.
1245	1:40	Decommissioned from 134' bgs to 52' bgs. 5 bags bentonite

REPORT BY:
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 6-1-09
PRINT: Mark A. Repko
SIGNATURE: Mark A. Repko

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 7-13-09
PRINT: RZ Steffler
SIGNATURE: RZ Steffler

ENERGYSOLUTIONS

DRILLING AND SAMPLING (PERCUSSION)
DAILY WORK RECORD

Page 2 of 2
2 m.e.

Date	Well No	Continuation of Report No.
6-1-09	C6400	67

DESCRIPTION OF OPERATIONS/REMARKS

1440-1500	Secure site, Lock horse trailer, put fuel cans away.
1500-1530	mode to office.

N/A

Report By	Mark A. Repko	Reviewed By			
Title	ES TECHNICAL/SAFETY REP	Title	E.S. Tech. Reviewer	Date	7-13-09
Signature	Mark A. Repko	Signature	R.J. Stuffl		

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD Page 1 of 1

WELL I.D.: C6400 | WELL NUMBER: N/A | REPORT NUMBER: 68 | DATE: 6/2/09

CONTRACT NUMBER: 36472-02

START CARD NO: S27644/A118507
EXCAVATION PERMIT: DAN3363

RIG MODEL/NO: Hydraulic Hammer Unit
CASE HHU #1
AHA: AHA-08-001 Rev. 0

PURPOSE: Decommission #C6400 From 52.0' to G.S. Move and Setup on Sample Boring C6406

REFERENCE: PSWO-DOW-025 Rev.1
RWP: CO-460 Rev. 003

LOCATION: C Tank Farm
SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: 0.0'

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.635"	1.875	CS	2.875"	2.3'	DWSS

BORING DEPTH (include sampling depth): 52.0' bgs-C6400

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: 1.5 HRS
TOTAL TIME: 9 HRS

DOCUMENTED DOWNTIME: 9 HRS - WIND

WEATHER CONDITIONS (373-2716)
Temperature: 87°F "WINDY"

CASING SUMMARY

Drive tip depth (shift start)	52.0' bgs
Drive tip depth (shift end)	52.0
Casing stick up (shift end)	-2.0'
Drive String Length	54.0'

SAMPLE SUMMARY: N/A

OPERATOR: REPKO
License # 3012
EHRGOTT
AMOS
P. TEMPLETON
E. VILLAREAL

TIME		WORK SUMMARY
0600	0700	PAPERWORK, TIMECARD, SAFETY TOPIC: PROPER PPE USE -
—	—	-FOR SKIN PROTECTION.
0700	0745	TRAVEL TO C-FARM, STOPPED TO HELP HANFORD WORKER
—	1200	WITH FLAT TIRE ALONG RT 4.
0745	0940	WAITING FOR WORK PACKAGE. "WINDY CONDITIONS"
—	—	WAITING FOR WIND TO DIE DOWN. BEFOR ENTRIES
—	—	ARE MADE INTO C-FARM TO CONTINUE BACK-FILLING.
12:00	1230	LUNCH.
1230	1445	PICKUP 12 BAGS OF BENTONITE FROM SX-FARM
—	—	NO ENTRIES MADE INTO C-FARM DUE TO HIGH
—	—	& GUSTY WINDS.
1445	1500	SECURE SITE.
1500	1530	TRAVEL TO OFFICE.
1530	—	END OF SHIFT

REPORT BY:
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE:
PRINT: MIKE EHRGOTT
SIGNATURE: Mike Ehrgott

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 6-23-09
PRINT: RZ Stoffle
SIGNATURE: R.Z. Stoffle

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD Page 1 of 2

WELL I.D.: C6406 C6400 | WELL NUMBER: N/A | REPORT NUMBER: 69 | DATE: 6/3/09

CONTRACT NUMBER: 36472-02 | START CARD NO: S27644/A118507 | EXCAVATION PERMIT: DAN3363 | RIG MODEL/NO: Hydraulic Hammer Unit | CASE HHU #1 | AHA: AHA-08-001 Rev. 0

PURPOSE: DECOMMISSION #C6400 FROM 52.0' TO G.S. MOVE AND SET UP ON SAMPLE BORING C6406 | REFERENCE: FSWO-DOW-025 Rev.1 | RWP: CO-460 Rev. 003 | LOCATION: C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level | TOTAL SHIFT FOOTAGE: C6406 - 14' bgs

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.635"	1.875"	CS	2.875"	2.3'	DW33

BORING DEPTH (include sampling depth): 52.0' bgs

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: .5 hr
TOTAL TIME: 9 hr

DOCUMENTED DOWNTIME: .45-MIN: WAITING FOR RCT'S TO RETURN FROM LUNCH.

WEATHER CONDITIONS (373-2716)
Temperature: 70° @ 0745
CLEAR. SLIGHT WIND

C6400 CASING SUMMARY		C6406
Drive tip depth (shift start)	52.0' bgs	0.0'
Drive tip depth (shift end)		14.0' bgs
Casing stick up (shift end)	~~MLS 2.0'~~	-2.0'
Drive String Length	~~MLS 54.0'~~	16'
SAMPLE SUMMARY		
C6406 - 5 to 7' bgs, 10' to 12' bgs		

OPERATOR: REDKO
License # 3012
D. AMOS
M. EHRGOTT
S. SNOOK
P. TEMPLETON
~~F. VILLARREAL~~ ME

TIME		WORK SUMMARY
0600	0645	OFFICE PAPER WORK, TIMECARD, SAFETY TOPIC: RAD II
—	—	PROPER DRESS & UNDRESS.
0645	0720	TRAVEL TO C-FARM,
0720	—	NCO ON SITE WITH WORK PACKAGE
0745	—	RCT'S ON SITE.
0800	0815	DRESS AND ENTER C-FARM
0815	0940	COMPLETED DECOMMISSIONING OF C6400 FROM 52.0'-
—	—	bgs TO G.S. TOTAL BAGS OF BENTONITE = 11.
0940	1030	MOVE RIG #1 HHU AND SUPPORT EQUIPMENT TO
—	—	SAMPLE BORING C6406 AND SET UP TO DRIVE
—	—	2 5/8" DUAL WALL WITH DUMMY TIP.
1030	1040	DRIVE DUMMY TIP FROM G.S. TO FIRST SAMPLE
—	—	INTERVAL OF 6.0' bgs
1040	1110	TRIP OUT DUMMY TIP AND TRIP IN SAMPLER

REPORT BY:
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE:
PRINT: MIKE EHRGOTT
SIGNATURE: Mike Ehrgott

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 6-23-09
PRINT: RZ Steffler
SIGNATURE: R.Z. Steffler

ENERGYSOLUTIONS

DRILLING AND SAMPLING (PERCUSSION)
DAILY WORK RECORD

Page 2 of 2

Date	Well No.	Continuation of Report No.
6/3/09	C6406	69

DESCRIPTION OF OPERATIONS/REMARKS

1110	DRIVE SAMPLE ~~BACKING~~ ME C6406 FROM 5' TO 7' bgs.
—	SAMPLE #'S BIYTC7, BIYTC8, BIYTC9, ~20% RECOVERY,
1120	TRIP IN DUMMY TIP AND DRIVE TO NEXT
	SAMPLE INTERVAL AT 10.0' bgs.
1150	EXIT FARM.
12:00	TAKE LUNCH.
-	*NOTE: SAMPLER USED AT 5' TO 7' HAD PIN IN
—	SHOE, AND FINGERS IN FIRST LINER TO HELP RETAIN
—	LOOSE SOIL IN SAMPLER.
1300	SAMPLERS ON SITE
1315	RCT'S ON SITE
1330	ENTER C-FARM TRIP OUT DUMMY TIP, TRIP ~~OUT~~ IN THE
—	SAMPLER.
1408	DRIVE SAMPLE FROM 10' TO 12' bgs ~50% RECOVERY.
—	SAMPLE #'S BIYTD0, BIYTD1, BIYTD2. Sample time - 1425
1415	TRIP IN DUMMY TIP AND DRIVE 2 5/8" DUAL WALL W/ DUMMY
—	TIP TO NEXT SAMPLE INTERVAL OF 14' bgs.
1435	SECURE SITE AND EXIT FARM.
1500	LEAVING SITE FOR OFFICE.
1530	END OF SHIFT.
—	*NOTE: SAMPLER USED 10' TO 12' bgs HAD PIN IN SHOE, AND
—	FINGERS IN FIRST LINER TO HELP RETAIN LOOSE SOIL IN SAMPLER.

NOT USED 6/3/09 ME

Report By	MIKE EHRGOTT	Reviewed By	RZ Steffler		
Title	ES TECHNICAL/SAFETY REP	Title	E.S. Tech. Reviewer	Date	6-23-09
Signature	Mike Ehrgott	Signature	R.Z. Steffler		

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD Page 1 of 2

WELL I.D.: #C6406 | WELL NUMBER: N/A | REPORT NUMBER: 70 | DATE: 6-4-09

CONTRACT NUMBER: 36472-02 | START CARD NO: S27644/A118507 | EXCAVATION PERMIT: DAN3363 | RIG MODEL/NO: Hydraulic Hammer Unit | CASE HHU #1 | AHA: AHA-08-001 Rev. 0

PURPOSE: Collect soil samples:
BIYT04, BIYT05 @ 0934 14'-16'-Collected 100%
BIYT06, BIYT07, BIYT08 @ 10:20 18-20'-Collected 100%
BIYT09, BIYT10, TFI @ 1328 26-28'-Collected 100% + RES

REFERENCE: FSWO-DOW-025 Rev.1 | RWP: CO-460 Rev. 003 | LOCATION: C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level | TOTAL SHIFT FOOTAGE: 23'

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.635	1.875	CS	2.875	2.3'	DWSS

BORING DEPTH (include sampling depth)
14-16' bgs Spade in Liner
18-20' bgs Spade in Liner and laid down pin.
26'-28' - Regular

START TIME: 0600
END TIME: 1630
CONTRACTOR TIME: 1/2
TOTAL TIME: 9

DOCUMENTED DOWNTIME: -0-

WEATHER CONDITIONS (373-2716)
Temperature: 90°

CASING SUMMARY
Drive tip depth (shift start) 14'
Drive tip depth (shift end) 37'
Casing stick up (shift end) 1'
Drive String Length 38'

SAMPLE SUMMARY

OPERATOR:
License # 3012
Jim Franz
Mark Repko
Olin Amos
Scott Spoole
Izzy Villareal
Paul Templeton

TIME		WORK SUMMARY
0600	0730	Discussion inner string issues, Safety meeting.
0730	0800	Drive to C-Tank farm to start sampling.
0800	0830	Prejob. Pre-inspect samplers to determine the different style.
0830	0914	Dressup, Rig inspection, pull inner string, install sampler
0915	0930	Drove sample interval 14'bgs-16'bgs. Full Recovery 100%
0930	1010	Installed inner string continued to next interval 18'bgs-20'bgs
1010	1015	Removed inner tip, installed sampler.
1015	1030	Drove sample 18'bgs-20'bgs. Full recovery 100%
1030	1100	Installed inner string and tip drove to next interval 26'bgs-38'bgs
1100	1130	Gathered materials (gas can) etc., got tools ready for next sample.
1130	1200	Lunch.
1200	1215	Dress out for 3rd sample.
1215	1315	pull inner tip, install sampler to depth
1315	1325	Drove sample 26'bgs-28'bgs. Full recovery 100%

REPORT BY: Mark A. Repko
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 6-4-09
PRINT: Mark A. Repko
SIGNATURE: Mark A. Repko

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 6-23-09
PRINT: RZ Steffler
SIGNATURE: R.Z. Steffler

ENERGYSOLUTIONS

DRILLING AND SAMPLING (PERCUSSION)
DAILY WORK RECORD

Page 2 of 2

Date	Well No.	Continuation of Report No.
6-4-09	PC6406	70

DESCRIPTION OF OPERATIONS/REMARKS

1325-1530	Drove rods to 37' bgs, cleanup drilling area for next days work and drove into town.

N/A

Report By		Reviewed By	RZ Steffler		
Title	ES TECHNICAL/SAFETY REP	Title	E.S. Tech. Reviewer	Date	6-23-09
Signature		Signature	R.Z. Steffler		

ENERGY SOLUTIONS
HYDRAULIC HAMMER MAINTENANCE/INSPECTION CHECKLIST

Date: 6-4-09 HHU#: Rig #1 Hour Meter: 2997 Operator Blin Amos Mark Replea

Daily Maintenance Inspection	Good	Correction Needed
1. Clean & inspect feed rails.	✓	
2. Inspect welds, pins and subs for cracks and/or failure points.	✓	
3. Remove rocks and debris from inside the feed structure.	✓	
4. Grease the drive head.	✓	
5. Wipe down the cylinder rod.	✓	
6. Check drive chain tension.	✓	
7. Grease front and rear sprockets.	✓	
8. Check hydraulic hoses for damage and leaks.	✓	
9. Inspect rotary head to ensure it's secure and operating correctly.	✓	
10. Inspect belts and safety guards.	✓	
11. All safety labels are legible.	✓	
12. Emergency STOP and switches are in good operating condition.	✓	
13. Inspect fluid levels.	✓	
14. Fire extinguishers are operational and current on inspection.	✓	
15. Break out wrench and heel and jaws are in good working order.	✓	
16. Visually check hoist. Spool out and inspect rope on hoist.	✓	
17. Check winch for leaks. Clean and grease brake assembly if needed.	✓	
18. Check brakes and back up alarm.	—	Rig stationary
19. Check tracks, rollers, tires etc.	✓	

COMMENTS:

Sealon Rig has some grease seeping (The one replaced.

NO UNAUTHORIZED PERSON(S) IN HHU AREA !!!!!

HYDRAULIC HAMMER UNIT SPECIFICATION INFORMATION

A rod fed hydraulic cylinder provides the force to retract and extend the drill head. Retracting the cylinder moves the drill head forward on the feed. Extending the cylinder retracts the drill.

The drilling feed force is 320 IBF (147 kilogram force) per 100 psig (6.8 bar) up to a maximum of 8100 IBF (3580 kg-f) at 2500 psig (170 bar) Retraction force out of the hole is 480 IBF (218 kg-f) per 100 psig (6.8 bar) up to a maximum 12,000 IBF (5466 kg-f) at 2500 psig (170 bar). NOTE: Do not exceed 2500 psig (170bar) during retraction of the drill head or bowing of the drill head may occur.

HCFH feeds are designated by length and application. HBM5012 designates a feed having 5 feet (1.524 m) of total drill head travel. This allows the use of 4 foot (1.219 m) drill pipe.

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD Page 1 of 1

WELL I.D.:	WELL NUMBER:	REPORT NUMBER:	DATE:
C6406	N/A	71	6-5-09

CONTRACT NUMBER:	START CARD NO: S27644/A118507	RIG MODEL/NO: Hydruulic Hammer Unit
36472-02	EXCAVATION PERMIT: DAN3363	CASE HHU #1
		AHA: AHA-08-001 Rev. 0

PURPOSE:	REFERENCE:	LOCATION:
Drive to sample interval 54.5. Collect soil sample	FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 003	C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: 17.5'

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2 5/8	1.875	CS	2.875	2.3'	Dress

BORING DEPTH (include sampling depth): 37' bgs to 54.5' bgs.

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: 1/2
TOTAL TIME: 9hrs.

DOCUMENTED DOWNTIME: 5hrs.

WEATHER CONDITIONS (373-2716)
Temperature: 87°

CASING SUMMARY

Drive tip depth (shift start)	37'
Drive tip depth (shift end)	54.5'
Casing stick up (shift end)	1.8'
Drive String Length	56.3'

SAMPLE SUMMARY

OPERATOR: Mark Repko, Olin Amos
License # 3012
Paul Templeton, Jim Franz, Izzy Villareal, Scott Snook

TIME		WORK SUMMARY
0600	0730	Safety meeting, Discussed upcoming probe installation
0730	0800	Drive to C Tank Farm.
0800	0830	Pre-Job, Safety Topic: Heat Stress, Dress up for work
0830	0845	Rig inspection, Diesel Fill.
0845	1000	Drove Dual wall system from 37' bgs to 54.5' bgs.
1000	1330	Samplers only have 1 person to sample, (no sampling).
		N/A

REPORT BY:
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 6-5-09
PRINT: Mark A. Repko
SIGNATURE: Mark A. Repko

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 7-13-09
PRINT: RZ Steffler
SIGNATURE: R.Z. Steffler

ENERGY SOLUTIONS
HYDRAULIC HAMMER MAINTENANCE/INSPECTION CHECKLIST

Date: 6-5-09 HHU#: Rig #1 Hour Meter: 3003 Operator Olin Amos Mark Repko

Daily Maintenance Inspection	Good	Correction Needed
1. Clean & inspect feed rails.	✓	
2. Inspect welds, pins and subs for cracks and/or failure points.	✓	
3. Remove rocks and debris from inside the feed structure.	✓	
4. Grease the drive head.	✓	
5. Wipe down the cylinder rod.	✓	
6. Check drive chain tension.	✓	
7. Grease front and rear sprockets.	✓	
8. Check hydraulic hoses for damage and leaks.	✓	
9. Inspect rotary head to ensure it's secure and operating correctly.	✓	
10. Inspect belts and safety guards.	✓	
11. All safety labels are legible.	✓	
12. Emergency STOP and switches are in good operating condition.	✓	
13. Inspect fluid levels.	✓	
14. Fire extinguishers are operational and current on inspection.	✓	
15. Break out wrench and heel and jaws are in good working order.	✓	
16. Visually check hoist. Spool out and inspect rope on hoist.	N/A	
17. Check winch for leaks. Clean and grease brake assembly if needed.	N/A	
18. Check brakes and back up alarm.	—	Rig stationary
19. Check tracks, rollers, tires etc.	✓	

COMMENTS:

Seal on Rig has some grease seeping (The one That was replaced)

NO UNAUTHORIZED PERSON(S) IN HHU AREA !!!!!

HYDRAULIC HAMMER UNIT SPECIFICATION INFORMATION

A rod fed hydraulic cylinder provides the force to retract and extend the drill head. Retracting the cylinder moves the drill head forward on the feed. Extending the cylinder retracts the drill.

The drilling feed force is 320 IBF (147 kilogram force) per 100 psig (6.8 bar) up to a maximum of 8100 IBF (3580 kg-f) at 2500 psig (170 bar) Retraction force out of the hole is 480 IBF (218 kg-f) per 100 psig (6.8 bar) up to a maximum 12,000 IBF (5466 kg-f) at 2500 psig (170 bar). NOTE: Do not exceed 2500 psig (170bar) during retraction of the drill head or bowing of the drill head may occur.

HCFH feeds are designated by length and application. HBM5012 designates a feed having 5 feet (1.524 m) of total drill head travel. This allows the use of 4 foot (1.219 m) drill pipe.

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD Page 1 of 2

WELL I.D.: #C6392 | WELL NUMBER: N/A | REPORT NUMBER: 72 | DATE: 6-8-09

CONTRACT NUMBER: 36472-02

START CARD NO: S27644/A118507

EXCAVATION PERMIT: DAN3363

RIG MODEL/NO: Hydraulic Hammer Unit

CASE HHU #1

AHA: AHA-08-001 Rev. 0

PURPOSE: Decommision hole #C6392

REFERENCE: FSWO-DOW-025 Rev.1

RWP: CO-460 Rev. 003

LOCATION: C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE: -0-

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2 5/8	1.875	CS	2.875	2.3'	OWSS

BORING DEPTH (include sampling depth): -0-

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: 1/2
TOTAL TIME: 9hr.

DOCUMENTED DOWNTIME: 3hrs.

WEATHER CONDITIONS (373-2716)
Temperature: 83°

CASING SUMMARY
Drive tip depth (shift start) 58'
Drive tip depth (shift end) 58'
Casing stick up (shift end) -0-
Drive String Length 50'

SAMPLE SUMMARY

OPERATOR: Mark A. Repko, Olin Amos
License # 3012
Paul Templeton, Scott Snook, Izzy Villareal

TIME		WORK SUMMARY
0600	0700	Safety Meeting: (Topic Confined space). Pre-job for field work
0700	0800	Gathered equipment for hole #C6392.
0830	0945	moved off hole #C6406 to hole #C6392.
0945	1015	Pulled 2 joints pipe was contaminated (54' bgs)
1015	1130	Came out discussed with Harold to drive into ground.
1130	1200	Decommision hole #C6392, moved back to sample location #C6406.
1200	1230	Lunch
1230	1530	Standby, No Sampling support
—	—	Continued pg 2

REPORT BY:
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 6-8-09
PRINT: Mark A. Repko
SIGNATURE: Mark A. Repko

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 6-23-09
PRINT: RZ Steffler
SIGNATURE: R.Z. Steffler

ENERGYSOLUTIONS

DRILLING AND SAMPLING (PERCUSSION)
DAILY WORK RECORD

Page 2 of 2

Date	Well No.	Continuation of Report No.
6-8-09	C6392	72

DESCRIPTION OF OPERATIONS/REMARKS

2 bags bentonite in hole #6392. Hole was contaminated
16 - 2 5/8 Rods out of service. (14) contaminated (2) for grinding threads
1 - 2' - 2 5/8 Female to female.
1 - 2 5/8 drive shoe, 2 - 2 1/2 Rod
#C6392 Hole was at 58' pipe pulled back 2 joints hole was Hot.
lost 2 joints, (2 5/8), used (2) joints of 2 1/2 to drive string
to bottom of hole. Decommised hole, granular bentonite to
surface.

Report By	Mark Repko	Reviewed By	RZ Steffler		
Title	ES TECHNICAL/SAFETY REP	Title	E.S. Tech. Reviewer	Date	6-23-09
Signature	Mark A. Repko	Signature	R.Z. Steffler		

ENERGY SOLUTIONS
HYDRAULIC HAMMER MAINTENANCE/INSPECTION CHECKLIST

Date: 10-8-09 HHU#: Rig #1 Hour Meter: 3004 Operator Mark Repko / Olin Amos

Daily Maintenance Inspection	Good	Correction Needed
1. Clean & inspect feed rails.	✓	
2. Inspect welds, pins and subs for cracks and/or failure points.	✓	
3. Remove rocks and debris from inside the feed structure.	✓	
4. Grease the drive head.	✓	
5. Wipe down the cylinder rod.	✓	
6. Check drive chain tension.	✓	
7. Grease front and rear sprockets.	✓	
8. Check hydraulic hoses for damage and leaks.	✓	
9. Inspect rotary head to ensure it's secure and operating correctly.	✓	
10. Inspect belts and safety guards.	✓	
11. All safety labels are legible.	✓	
12. Emergency STOP and switches are in good operating condition.	✓	
13. Inspect fluid levels.	✓	
14. Fire extinguishers are operational and current on inspection.	✓	
15. Break out wrench and heel and jaws are in good working order.	✓	
16. Visually check hoist. Spool out and inspect rope on hoist.	✓	
17. Check winch for leaks. Clean and grease brake assembly if needed.	✓	
18. Check brakes and back up alarm.	✓	
19. Check tracks, rollers, tires etc.	✓	

COMMENTS:

Some grease seepage on seal that was replaced before.

NO UNAUTHORIZED PERSON(S) IN HHU AREA !!!!!

HYDRAULIC HAMMER UNIT SPECIFICATION INFORMATION

A rod fed hydraulic cylinder provides the force to retract and extend the drill head. Retracting the cylinder moves the drill head forward on the feed. Extending the cylinder retracts the drill.

The drilling feed force is 320 IBF (147 kilogram force) per 100 psig (6.8 bar) up to a maximum of 8100 IBF (3580 kg-f) at 2500 psig (170 bar) Retraction force out of the hole is 480 IBF (218 kg-f) per 100 psig (6.8 bar) up to a maximum 12,000 IBF (5466 kg-f) at 2500 psig (170 bar). NOTE: Do not exceed 2500 psig (170bar) during retraction of the drill head or bowing of the drill head may occur.

HCFH feeds are designated by length and application. HBM5012 designates a feed having 5 feet (1.524 m) of total drill head travel. This allows the use of 4 foot (1.219 m) drill pipe.

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD Page 1 of 2

WELL I.D.: #C6406 | WELL NUMBER: N/A | REPORT NUMBER: 73 | DATE: 6-9-09

CONTRACT NUMBER: 36472-02 | START CARD NO: S27644/A118507 | EXCAVATION PERMIT: DAN3363 | RIG MODEL/NO: Hydraulic Hammer Unit | CASE HHU #1 | AHA: AHA-08-001 Rev. 0

PURPOSE: Sample #C6406 - At 54.5' to 56.5 At 59' to 61' Decommission hole - #C6406 Complete | REFERENCE: FSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 003 | LOCATION: C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level | TOTAL SHIFT FOOTAGE: ~~N/A~~ 67.5'

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2 5/8	1.875	CS	2.875	2.3'	DWSS

BORING DEPTH (include sampling depth): N/A

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: 1/2
TOTAL TIME: 9 hrs.

DOCUMENTED DOWNTIME:

WEATHER CONDITIONS (373-2716)
Temperature: 84°

CASING SUMMARY
Drive tip depth (shift start): 54.5 bgs
Drive tip depth (shift end): ~~0~~
Casing stick up (shift end): ~~0~~
Drive String Length: N/A

SAMPLE SUMMARY
See narrative.

OPERATOR: Mark Repko, Mike Wilkerson, Mike Chigott, Larry Ralston, Steve, Scott Salem, Bill Clark, Paul Templeton, Jim Franz
License # 3012 (willy)

TIME		WORK SUMMARY
0600	0700	Safety Meeting Topic (Westnile virus), Plan of day.
0700	0730	Drive to C-Tank Farm
0730	0750	Went to talk to Harold at Smurf, Got pics. of XXL HU.
0750	0800	Pre-job w/Clark on Plan of day with everyone
0800	0815	Dress up for work SWP
0815	0845	Got sampling equipment ready, Rig inspection.
0845	0945	Got first sample at 54.5 bgs. to 56.5 bgs. (8:53) 100%
0945	1030	Trip inner string, pull dummy tip for 2nd sample 59' bgs to 61' bgs
10:30	1045	Sample at 59' bgs to 61' bgs - recovered 100% (10:32)
10:45	12:00	Started decommissioning Hole #C6406.
1200	1230	Lunch
1230	1530	Finished hole at #C6406 hole decommissioned to surface
—	—	-Continued-

REPORT BY:
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 6-9-09
PRINT: Mark A. Repko
SIGNATURE: Mark A. Repko

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 6-23-09
PRINT: RZ Steffler
SIGNATURE: RZ Steffler

ENERGYSOLUTIONS

DRILLING AND SAMPLING (PERCUSSION)
DAILY WORK RECORD

Page 2 of 2

Date	Well No.	Continuation of Report No.
6-9-09	C-6406	73

DESCRIPTION OF OPERATIONS/REMARKS

Hole was sitting at 54.5 bgs with .2 above bgs within 2'
we drove sample to 56.5' bgs with 100% recovery
Voa's (B1YTF2), (B1YTF3), (B1YTF4) - all liners 100%.

Last sample was sitting at 59.0' bgs with .7 (15) rods
we drove sample to 61.0 bgs with 100% recovery.
Voa's (B1YTF5), (B1YTF6), (B1YTF7) - all liners 100%

Report By	Mark A. Repko	Reviewed By	RZ Steffler		
Title	ES TECHNICAL/SAFETY REP	Title	E.S. Tech. Reviewer	Date	6-23-09
Signature	R.J. Steffler for M. Repko	Signature	R.J. Steffler		

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: #C6404 #C6403 | WELL NUMBER: N/A | REPORT NUMBER: 78 | DATE: 6-10-09

CONTRACT NUMBER: 36472-02 | START CARD NO: S27644/A118507 | EXCAVATION PERMIT: DAN3363 | RIG MODEL/NO: Hydraulic Hammer Unit | CASE HHU #1 | AHA: AHA-08-001 Rev. 0

PURPOSE: Decommission holes; #C6404 #C6403 | REFERENCE: FSWO-DOW-025 Rev.1 | RWP: CO-460 Rev. 003 | LOCATION: C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level | TOTAL SHIFT FOOTAGE: -0-

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2 5/8	1.875	CS	2.875	2.3'	DWSS
2.5	1.75		2.875	2.3'	SWS

BORING DEPTH (include sampling depth): N/A

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: 1/2
TOTAL TIME: 9 hr.

DOCUMENTED DOWNTIME: -0-

WEATHER CONDITIONS (373-2716)
Temperature: 87°

CASING SUMMARY

Drive tip depth (shift start)	#C6404-58', C6403	50'
Drive tip depth (shift end)	G.S	50'
Casing stick up (shift end)	N/A	2.3'
Drive String Length	N/A	52.3'

SAMPLE SUMMARY

OPERATOR: Mark Repko Olin Ames
License # 3012
Paul Templeton
Scott Snook
Izzy Vilhardi
Bill Clark

TIME		WORK SUMMARY
0600	0700	Safety Meeting Energy Solutions, Topic (Heat Stress), Daily Report, Timecard
0700	0745	Drive to C Tank Farm.
0745	0815	P.O.D meeting at C Tank Farm
0815	0830	Entering Farm.
0830	0930	Moved setup on hole #C6404 pulled (14 Rods) clean pipe no contam.
0930	1050	Decommissioned hole #C6404 to G.S w/ Granular Bentonite.
1050	1145	Moved and Setup on #C6403.
1145	1200	Doffed SWP's For Lunch.
1200	1230	Lunch
1230	1300	Gathered materials for job, push rod etc.
1300	1430	on Hole #C6403 hit contamination, pulled 12, 10' casing (3) rods added
—	—	granular Bentonite and drove 2 1/2" rod back to 50 bgs and Left it in hole.
1430	1530	Pick up work area, Drive to E.S.
	N/A	

REPORT BY:
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 6-10-09
PRINT: Mark A. Repko
SIGNATURE: Mark A. Repko

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 7-13-09
PRINT: RZ Steffler
SIGNATURE: R.Z. Steffler

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD Page 1 of 1

WELL I.D.: #C6402 | WELL NUMBER: N/A | REPORT NUMBER: 75 | DATE: 6-11-09

CONTRACT NUMBER: 36472-02

START CARD NO: S27644/A118507
EXCAVATION PERMIT: DAN3363

RIG MODEL/NO: Hydraulic Hammer Unit
CASE HHU #1
AHA: AHA-08-001 Rev. 0

PURPOSE: ~~Decommission: #C6403~~ m.e. Drive Dual wall for shallow #C6402 sampling

REFERENCE: FSWO-DOW-025 Rev.1
RWP: CO-460 Rev. 003

LOCATION: C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE:

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2.5"	1.75	CS	2.875	2.3'	DWSS
2 5/8	1.875				

BORING DEPTH (include sampling depth): 6 bgs
Ready to sample.

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: 1/2
TOTAL TIME: 9 hr.

DOCUMENTED DOWNTIME: 3.5 hrs.

WEATHER CONDITIONS (373-2716)
Temperature: 85°

CASING SUMMARY

Drive tip depth (shift start)	0
Drive tip depth (shift end)	6' bgs, Hole #C6402
Casing stick up (shift end)	2.3'
Drive String Length	8.3'

SAMPLE SUMMARY

OPERATOR: Mark Repko, Olin Amos, Bill Clark, Jizzy Villarral, Scott Spivak
License # 3012

TIME		WORK SUMMARY
0600	0700	Prejob, Safety Meeting P.S.F.S.
0700	0730	Drive to C-Tank Farm.
0730	0815 m.e.	P.O.D with Tank Farms Safety Topic: Heat Stress.
0815	0835	Dressed out for work.
0845	1015	moved equipment HHU Rig to #C6402 For driving shallow samples.
—	—	First interval 6' bgs.
1015	1045	Drove Dual wall system to 6' bgs at hole #C6402
1045	11:00	Dressed out for Lunch
11:00	1130	Lunch
1130	12:00	Drive to office
1700	330	standby (no NCO support) paperwork not Ready
—	—	Items Lost 1-2' Female to Female take up joint, 1-2 1/2" drive shoe tip, 15 2 1/2" drill rods.

REPORT BY:
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 6-11-09
PRINT: Mark A. Repko
SIGNATURE: Mark A. Repko

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 7-13-09
PRINT: RZ Steffler
SIGNATURE: R.Z. Steffler

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD Page 1 of 2

WELL I.D.: #C6402 | WELL NUMBER: N/A | REPORT NUMBER: 76 | DATE: 6-15-09

CONTRACT NUMBER: 36472-02 | START CARD NO: S27644/A118507 | EXCAVATION PERMIT: DAN3363 | RIG MODEL/NO: Hydraulic Hammer Unit | CASE HHU #1 | AHA: AHA-08-001 Rev. 0

PURPOSE: Soil sample #C6402 2 3/8 6.0'bgs - 8.0'bgs | REFERENCE: FSWO-DOW-025 Rev.1 | RWP: CO-460 Rev. 003 | LOCATION: C Tank Farm SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level | TOTAL SHIFT FOOTAGE: 10'

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
2 3/8	1.875	CS	2.875	2.3'	DW35

BORING DEPTH (include sampling depth): 6'bgs - 16'bgs.

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: 1/2
TOTAL TIME: 9hr.

DOCUMENTED DOWNTIME:

WEATHER CONDITIONS (373-2716)
Temperature: 87°

CASING SUMMARY			
Drive tip depth (shift start)	~~0'~~	6.0'bgs	12'bgs
Drive tip depth (shift end)	6.0'bgs	10.0'bgs	14'bgs
Casing stick up (shift end)	2.3'	2.3'	2.3'
Drive String Length	3.3'	12.3'	16.3'

SAMPLE SUMMARY: See notes 1, 2, 3 (pg 2)

OPERATOR: Mark Repko, Olin Nash
License # 3012
Dave Skonzie, Scott Swank, Izzy Villarreal, Paul Templeton, Jim Franz

TIME		WORK SUMMARY
0600	0700	Safety Meeting at E.S.F.S, Safety Topic - Excavation, Inner red inspection
0700	0730	Drive to C tank farm to (aces).
0730	0800	Gather supplies, PPE for work, Getting ready to soil sample
—	—	First interval 6.0'bgs to 8.0'bgs.
0830	0900	pull dummy tip, Install sampler for first sample 6'bgs to 8'bgs.
0906	0908	Drive first sample at #C6402 6' to 8'bgs. Sample drove easy, no plug in
—	—	sampler. (1 1/3 sample plus shoe recovery)
0908	0937	Set up dual wall with dummy tip and drove to next sample interval
—	—	10'bgs to 12'bgs hole #C6402.
0937	0949	Pull dummy tip and install second sampler in #C6402.
0959	1004	Drive second sample #C6402 at 10'bgs. to 12'bgs. 10:04 started driving.
-	—	(1 1/3 sample plus shoe)
1015	1028	Install dummy tip with dual wall to drive third sample 14'bgs to 16'bgs
1029	1045	pull dummy tip, install sampler. (Continued)

REPORT BY:
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 6-15-09
PRINT: Mark A. Repko
SIGNATURE: Mark A. Repko

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 6-23-09
PRINT: RZ Steffler
SIGNATURE: R.Z. Steffler

Sample #C

ENERGY SOLUTIONS

DRILLING AND SAMPLING (PERCUSSION)
DAILY WORK RECORD

Page 2 of 2

Date	Well No	Continuation of Report No
6-15-09	C6402	75

DESCRIPTION OF OPERATIONS/REMARKS

1045	run sampler #3 in and get ready to drive 14'bgs to 16'bgs
1048-1055	Drive #3 sample in C6402, Drove really easy, recovered (1 1/3 liners plus the shoe)
1100	Press out for a break.
	note 1: Sample #C6402 6'bgs-8'bgs. (B20XV6 VOA) 1-100% (B20XV7 VOA) 2-75% (B20XV5 liners) 3 Empty
	note 2: Sample #C6402 10'bgs-12'bgs (B20XW0 VOA) 1-100% (B20XW1 VOA) 2-100% (B20XV9 liners) 3-Empty
	note 3: Sample #C6402 14'bgs-16'bgs. (B20XW4 VOA) 1-100% (B20XW5 VOA) 2-50% (B20XW3 liners) 3-Empty
11:30-12:30	Decommissioned hole #C6402 to G.S. with granular Bennite.
~~11:00-12:30~~ m.r.	Discussed upcoming work, Pre-job meeting (Walkdown) for next scope of work.
1230-1300	Lunch Break
1300-1500	meeting at Smurf for phase two.
1500-1530	Drive to office
	After work deep C6402 25%

Report By	Mark A. Repko	Reviewed By	RZ Steffler		
Title	ES TECHNICAL/SAFETY REP	Title	E.S. Tech. Reviewer	Date	6-23-09
Signature	Mark A. Repko	Signature	R.Z. Steffler		

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD Page 1 of

WELL I.D.: N/A	WELL NUMBER: N/A	REPORT NUMBER: ~~76~~ 77	DATE: 6-16-09
CONTRACT NUMBER: 36472-02	START CARD NO: S27644/A118507 EXCAVATION PERMIT: DAN3363	RIG MODEL/NO: Hydraulic Hammer Unit CASE HHU #1 AHA: AHA-08-001 Rev. 0	
PURPOSE: Pull Rig #1 out for maintance.	REFERENCE: PSWO-DOW-025 Rev.1 RWP: CO-460 Rev. 003	LOCATION: C Tank Farm SW NE Section 2 26E 12N	

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE:

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
N/A		CS			

BORING DEPTH (Include sampling depth): N/A

START TIME: 0600
END TIME: 1530
CONTRACTOR TIME: 1/2
TOTAL TIME: 9hr

DOCUMENTED DOWNTIME:

WEATHER CONDITIONS (373-2716)
Temperature:

CASING SUMMARY

Drive tip depth (shift start)	N/A
Drive tip depth (shift end)	N/A
Casing stick up (shift end)	N/A
Drive String Length	N/A

SAMPLE SUMMARY

N/A

OPERATOR: Mark Repko, Olin Amos
License # 3012
Izzy Villareal, Olin Amos, Paul Templeton, Jim Pruse, Scotts Nook

TIME		WORK SUMMARY
0600	0700	Safety Meeting at E.S. Work Scope.
0700	0730	Drive to C-Tank Farm
0730	0800	Gather supplies,
0800	0830	P.O.D at C-Tank Farm
0830	0900	Dress up for work
0900	1100	Move HHU Rig #1 Case out for maintance, stage equipment by Fence.
1100	1130	Lunch
1130	1300	Maintance on Rig, pull hoses,
1300	1530	Drive to office

N/A

REPORT BY:
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE: 6-16-09
PRINT: Mark A. Repko
SIGNATURE: Mark A. Repko

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE: 7-13-09
PRINT: RZ Steffler
SIGNATURE: R.Z. Steffler

ENERGYSOLUTIONS

Energy Solutions Inc. Western Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD Page 1 of 1

WELL I.D.: WELL NUMBER: REPORT NUMBER: 78 DATE: 6-18-09

CONTRACT NUMBER: 36472-02

START CARD NO: S27644/A118507
EXCAVATION PERMIT: DAN3363

RIG MODEL/NO: Hydraulic Hammer Unit
CASE HHU #1
AHA: AHA-08-001 Rev. 0

PURPOSE: OBTAIN SURFACE SOIL SAMPLES @ C6404, C6402, + C6406

REFERENCE: FSWO-DOW-025 Rev.1
RWP: CO-460 Rev. 003

LOCATION: C Tank Farm
SW NE Section 2 26E 12N

REFERENCE MEASURING POINT: Ground Level

TOTAL SHIFT FOOTAGE:

CONSTRUCTION DESCRIPTION: N/A

TUBING SIZE O.D.	TUBING SIZE I.D.	TYPE TUBING	DRIVE POINT DIMENSION	BOTTOM ASSEMB	TYPE
Ø	Ø	CS	Ø	Ø	Ø

BORING DEPTH (include sampling depth): .8 - 1'

START TIME: 0923
END TIME: 1015
CONTRACTOR TIME:
TOTAL TIME: 1hr.

DOCUMENTED DOWNTIME:

WEATHER CONDITIONS (373-2716)
Temperature: 85°

CASING SUMMARY

Drive tip depth (shift start)	Ø
Drive tip depth (shift end)	Ø
Casing stick up (shift end)	Ø
Drive String Length	6

SAMPLE SUMMARY

OPERATOR:
License # Ø

TIME		WORK SUMMARY
0600		(Safety Meeting) in the office Rig inspection, maintance.
0700		AT C Farm (Pre job) on sampling events
0923		Enter C-Farm
0927		Begin excavation for Surface sample C6404A + get down to .8 to 1 feet. No Samples were Taken
0935		Begin Excavation for Surface Sample C6404 Got down to .8 to 1 feet. No Samples were Taken
0950		Mike Dorsey enters farm to Survey Push location C6402, C6402A (Surface), C6392, C6404, C6400, C6406, + C6406A (Surface)
1015		Survey Complete Exit Farm. Preform Maintance on HHR

REPORT BY:
TITLE: ES SITE TECHNICAL AND SAFETY REPRESENTATIVE
DATE:
PRINT: Olin Amos
SIGNATURE: Olin Amos

REVIEWED BY:
TITLE: ES TECHNICAL REVIEWER DATE:
PRINT:
SIGNATURE:

APPENDIX D

SMALL DIAMETER GEOPHYSICAL LOGGING FOR UPR-200-E-81, PHASE 2

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APPENDIX D
SMALL DIAMETER GEOPHYSICAL LOGGING FOR UPR-200-E-81, PHASE 2

Randall Price
Pacific Northwest Geophysics
4200 West 19th Avenue
Kennewick, Washington 99338

Russel Randall, PhD
Three Rivers Scientific
3740 Grant Court
West Richland, Washington 99353

TERMS

bgs	below ground surface
BGO	Bismuth Germinate
MCNP	Monte Carlo neutron photon
VF	Volume Fraction (percent) of moisture content

D1.0 PROBEHOLE SURVEYS

Pacific Northwest Geophysics and Three Rivers Scientific provided small diameter logging in two probeholes for the phase II study of the UPR-200-E-81 investigation site, near the 241-CR-151 Diversion Box.

Logging surveys were conducted with a Bismuth Germinate (BGO) spectral gamma scintillation detector and a neutron-neutron moisture probe from the bottom of each probehole (maximum survey depth) to the ground surface. Zero depth reference is at the ground surface. The survey results for each probehole are presented as a depth-versus-concentration plot.

A repeat measurement was acquired to verify instrument repeatability. The computed results of the main and repeat intervals were reviewed and the results agree within the uncertainty of the measurement counting statistics. The repeat intervals are presented with the main log plot.

Table D1 summarizes the survey results for each probehole.

Table D1. Probehole Survey Summary.

Hole	Hole Depth (meters)	Hole Depth (feet)	Cs-137 (pCi/g) Max Detection
C6403	15.24	50	1,200,000 pCi/g (eCs-137) at 6 ft
C6405	73.15	240	11 pCi/g (Cs-137) at 4 ft

Detector calibration certificates are presented in Section D2.0, "Spectral Gamma," and Section D3.0, "Neutron Moisture."

The contamination zone in probehole C6405 has a distribution profile that is unusual. The distribution profile of this thin zone is discussed in Section D4.0, "Cs-137 Contamination Zone in Probehole C6405."

Probehole C6403 was installed after the adjacent sampling probehole encountered high levels of contamination. The gamma activity encountered in C6403 exceeded the linear response range of the BGO detector system. The NaI and Green GM detectors were run in this probehole to measure the high levels of cesium-137 (Cs-137) at 1.83 m (6 ft).

The log survey results follow. The log plots show a maximum of 100 ft per page with a 10-ft overlap between page breaks.

UPR-200-E-81 C6403 HEADER INFORMATION

Small Diameter – Spectral Gamma & Moisture Survey

Probehole:	C6403	Log Date:	March 2009
Project:	UPR-81	Depth Ref:	Ground Surface

REPEAT/OVERLAP INTERVALS

Spectral:	25-20	Moisture	4-0
NaI:	12-8		
Green GM	8-4		

ISOTOPES ANALYZED (GAMMA)

Elements:	Energies Used (keV)
K-40	1462
Natural Uranium	1650-2390
Natural Thorium	2614
Cs-137	661
Eq.Cs-137	Gross produced equivalent

OBSERVATIONS

Spectral:

No Co-60 observed above MDL much higher due to high Cs interference
KUT values also skewed in high Cs interference zones.
Cs-137 observed, in some zones count rates exceeded tool specs (3-10 ft)

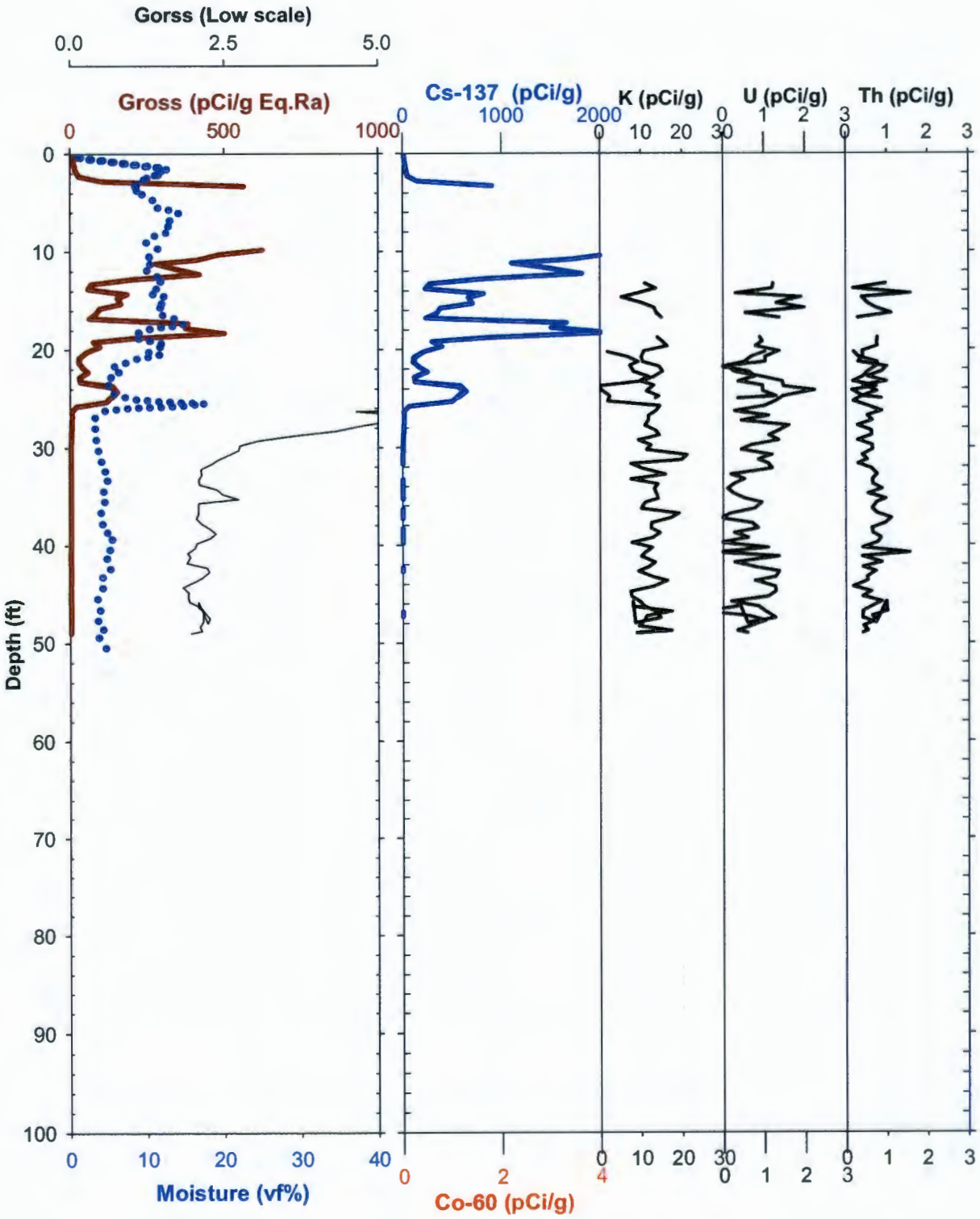
Moisture:

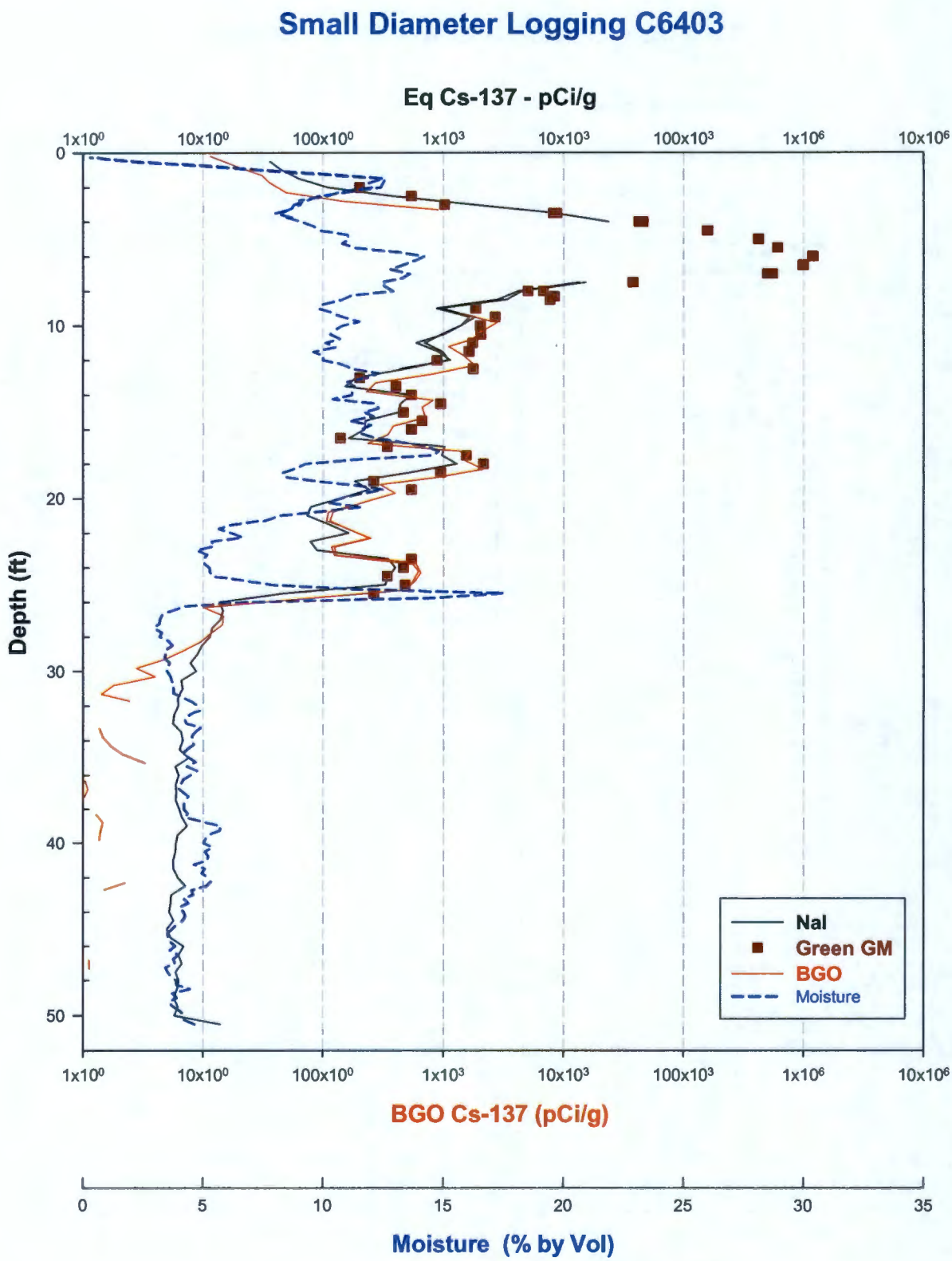
Moisture values range from 3-18%.

CALIBRATION CERTIFICATES

Spectral	
Date:	Aug 30, 2008
Electronic File	Cal_SD-GR-2_2008-v0.zip
NaI and Green GM	
Date:	March 17, 2009
Electronic File	Cal_SDGR-NaI_2009-v0.zip
	Cal_SDGR-GrGM_2009-v0.zip
Moisture	
Date:	Feb 25, 2009
Electronic File:	SD-Moist792_2009.zip

C6403 - Spectra Gamma & Moisture Survey




Small Diameter Logging C6403
Eq Cs-137 - pCi/g
1x10⁰
10x10⁰
100x10⁰
1x10³
10x10³
100x10³
1x10⁶
10x10⁶
Depth (ft)
0
10
20
30
40
50
NaI
Green GM
BGO
Moisture
BGO Cs-137 (pCi/g)
0
5
10
15
20
25
30
35
Moisture (% by Vol)

UPR-200-E-81 C6405 HEADER INFORMATION

Small Diameter – Spectral Gamma & Moisture Survey

Probehole:	C6405	Log Date:	March 2009
Project:	UPR-81	Depth Ref:	Ground Surface

REPEAT/OVERLAP INTERVALS

Spectral:	235-233	Moisture	240-239
	184-181		240-236
	135-133		162-157
	136-132		150-139
	73-69		72-71
	29-26		
	4-3		

ISOTOPES ANALYZED (GAMMA)

Elements:	Energies Used (keV)
K-40	1462
Natural Uranium	1650-2390
Natural Thorium	2614
Cs-137	661

OBSERVATIONS

Spectral:

No Co-60 observed above MDL

Cs-137 observed and 1 abnormal thin zone

Moisture:

Moisture values range from 3-16%.

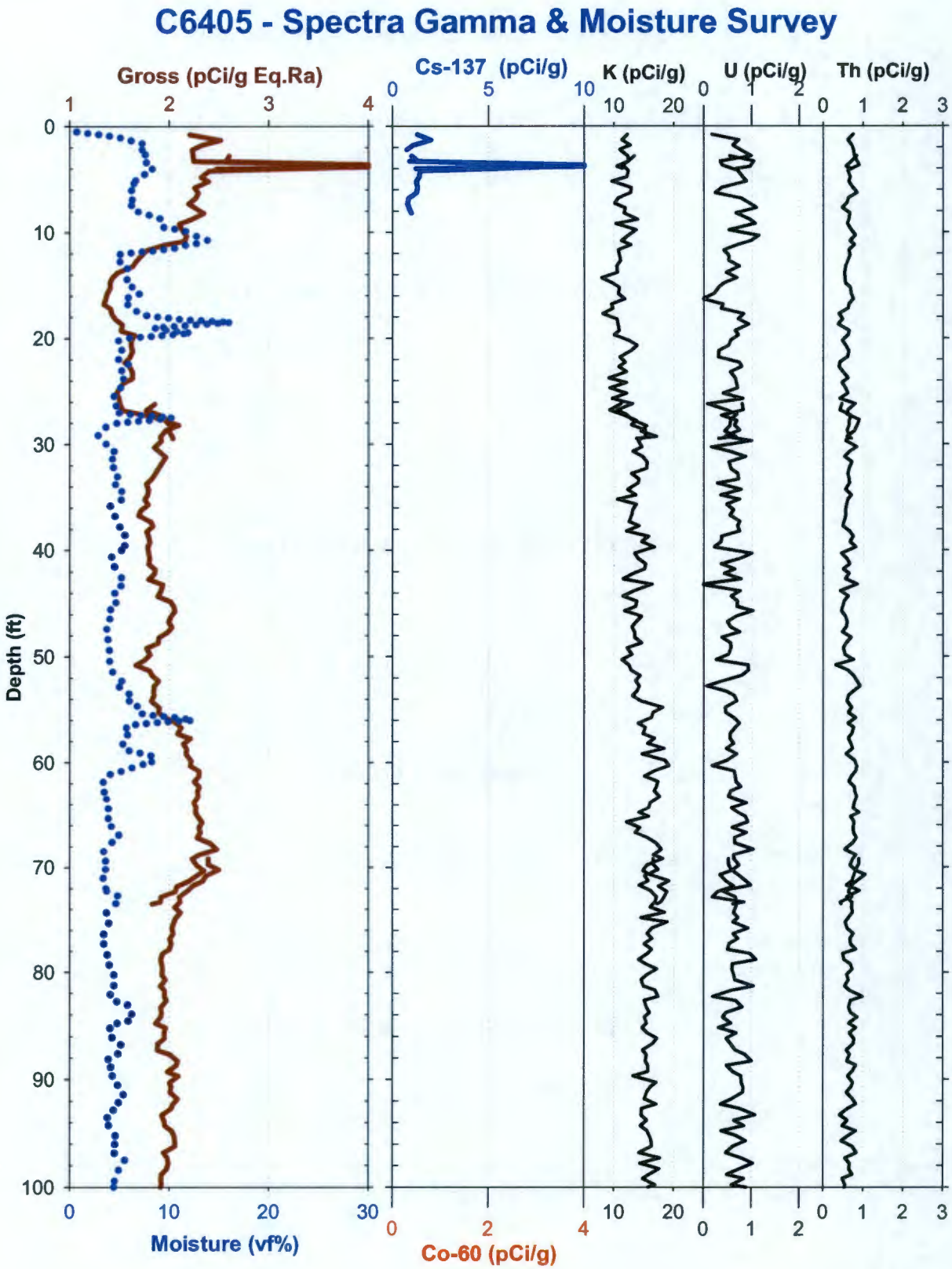
CALIBRATION CERTIFICATES

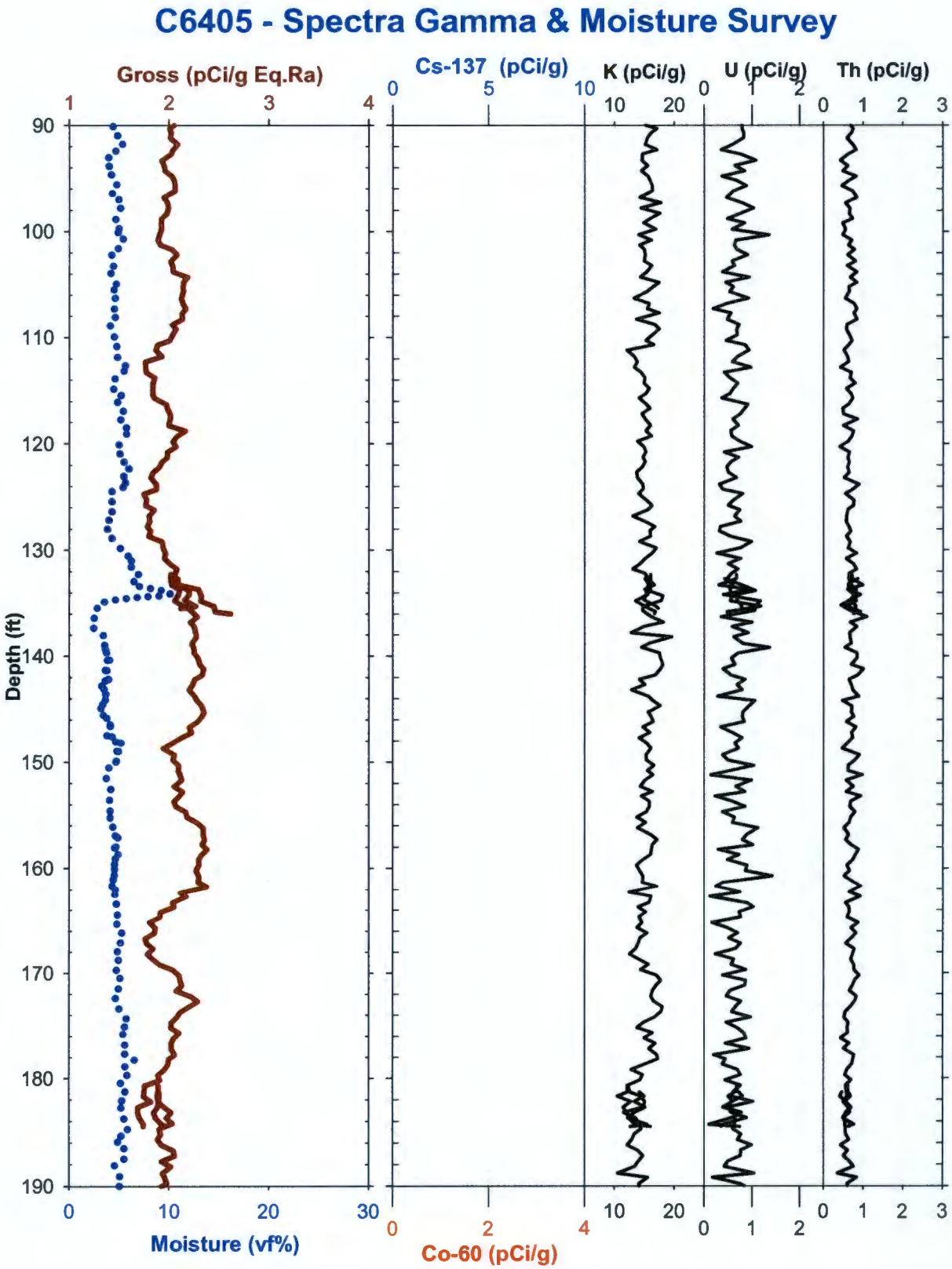
Spectral

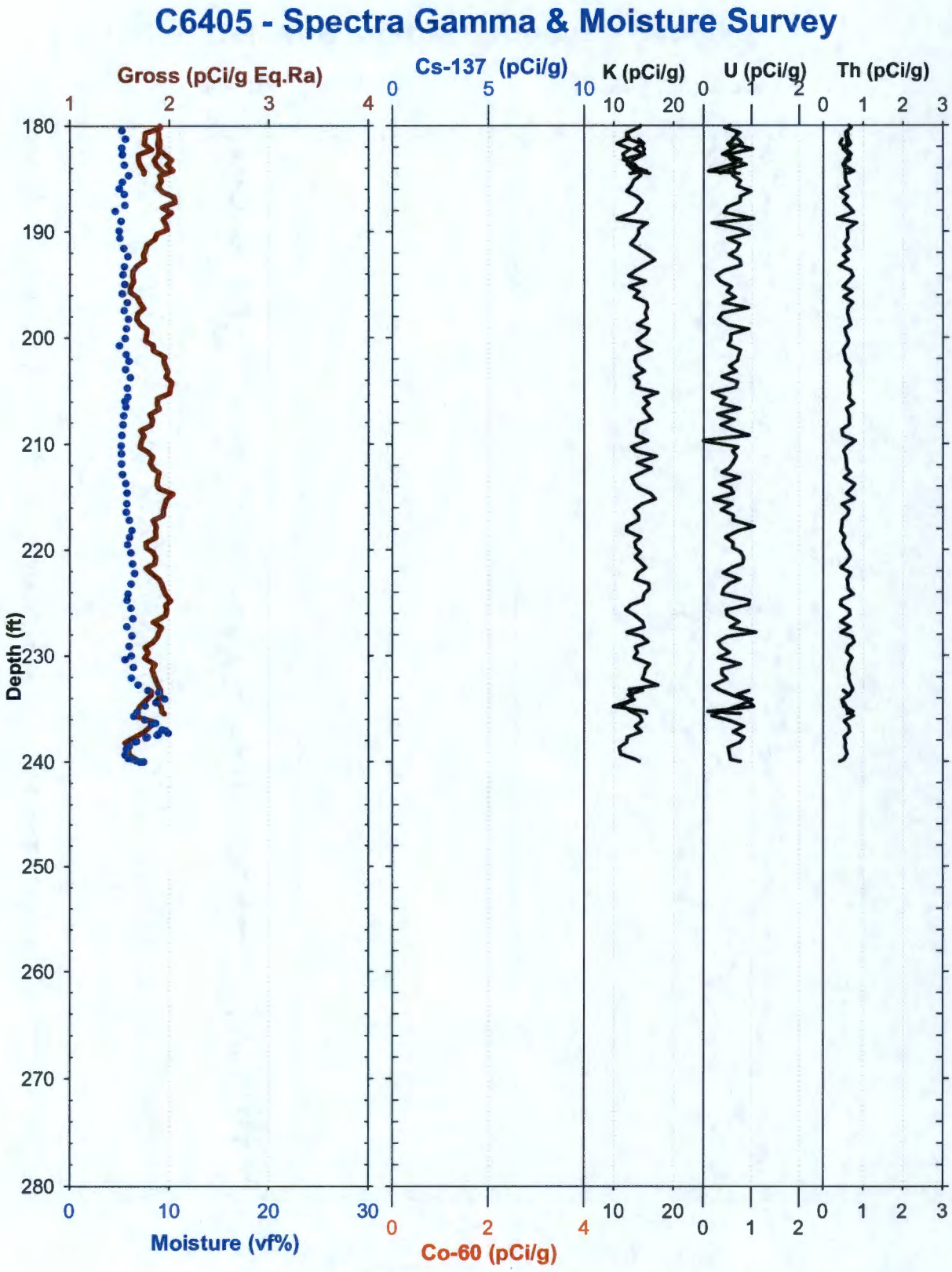
Date:	Aug 30, 2008
Electronic File	Cal_SD-GR-2_2008-v0.zip

Moisture

Date:	Feb 25, 2009
Electronic File:	SD-Moist792_2009.zip


C6405 - Spectra Gamma & Moisture Survey
Gross (pCi/g Eq.Ra)
Cs-137 (pCi/g)
K (pCi/g)
U (pCi/g)
Th (pCi/g)
Depth (ft)
Moisture (vf%)
Co-60 (pCi/g)


C6405 - Spectra Gamma & Moisture Survey
Gross (pCi/g Eq.Ra)
Cs-137 (pCi/g)
K (pCi/g)
U (pCi/g)
Th (pCi/g)
Depth (ft)
Moisture (vf%)
Co-60 (pCi/g)


C6405 - Spectra Gamma & Moisture Survey
Gross (pCi/g Eq.Ra)
Cs-137 (pCi/g)
K (pCi/g)
U (pCi/g)
Th (pCi/g)
Depth (ft)
Moisture (vf%)
Co-60 (pCi/g)

D2.0 SPECTRAL GAMMA CALIBRATION

The objective of the gamma survey logs was to identify depth intervals with elevated gamma activity (i.e., Cs-137 at concentrations greater than 2 pCi/g). The BGO spectral survey (100 seconds per 0.5 ft) has a minimum detection level (MDL) of 1 pCi/g for Cs-137.

The spectral gamma scintillation detector uses a BGO crystal that is 2.54 cm (1 in.) in diameter by 10.1 cm [4 in.] long. The gamma ray spectra with a measurement time of 100 seconds were collected each 0.15 m (0.5 ft) from the bottom of the probehole to the surface. The spectra records gamma ray energies between 200 and 2800 keV in a 256 channel spectra. Spectra were processed to quantify the concentration of the naturally occurring radionuclides (K, U, & Th) and to quantify Cs-137 when present above the minimum detection threshold. The calibration certificate is shown in Figure D1.

D3.0 NEUTRON MOISTURE CALIBRATION

The moisture detector measures the density of hydrogen (moisture) in subsurface soils. The units of measure are percent volume fraction moisture. Calibration was performed in six borehole calibration models (Meisner and Randall 1995). Three of these models had a 15.24 cm (6-in.) hole size and three models had a 20.32 cm (8-in.) hole size. The calibration certificate for these two hole sizes is presented in Figure D2.

The probehole size for this project was 6.35 cm (2.5 in.) outside diameter. Therefore, the moisture calibration was extrapolated to the correct hole size. Figure D3 shows the moisture calibration certificate for the 6.35 cm (2.5-in.) hole size.

The probehole moisture survey was collected at 0.61 m/min (2 ft/min) or slower. Processing of the survey data requires that the detector raw survey data be normalized to the thickness of the steel casing present in the calibration models (0.826 cm [0.325 in.]) Given that the probehole casing thickness is 0.94 cm (0.37 in.), a correction factor of 1.055 is required to increase (normalize) the observed neutron detector count rate to the conditions of the calibration model (Meisner et al. 1996).

Figure D1. BGO Calibration Certificate.

Certificate of Calibration
SDGR.2
August 30, 2008

Data were taken at the Hanford KUT models on Aug 30, 2008. SDGR.2 is the designated Scintillator tool. Four models were used for Spectral KUT calibration. Ten spectra were recorded for each model in order to perform statistical analysis. The observed statistical deviations were seen to be within the theoretically predicted variation, refer to the files compressed: AveOut2.XLS for this analysis. The instrument was covered with 0.37 inch wall thickness probe tubing.

The algorithm described in the document WHC-SD-EN-TI-293, Rev. 0, determines the coefficient analysis. Three energy windows are used for each potassium, uranium and thorium (K U & T), and these are:

K: 1320-1575 keV **U: 1650-2390 keV** **T: 2475-2765 keV**

The concentration for each of the three elements is a linear combination of the count rates in the three windows. The resulting coefficients for each of the three elements are:

Concentration-K =	**4.404*K**	**-3.84*U**	**3.478*T**
Concentration-U =	**0.0*K**	**1.343*U**	**-2.625*T**
Concentration-T =	**0.0*K**	**-0.040*U**	**1.859*T**

Where K U & T are the count rates (c/s) in the listed energy windows and the resulting concentration values are in pCi/g.

Digital files condensed as Cal_SD-GR-2_2008-v0.zip. This compressed file contains:

- Calibration raw data
- MathCad data analysis files
- Spreadsheet data formatting

The undersigned certifies that the data archived in the file "Cal_SD-GR-2_2008-v0.zip" were collected and evaluated in accordance with procedures WHC-SD-EN-TI-293, "Procedures for Calibrating Scintillation Gamma-Ray Well Logging Tools Using Hanford Formation Models" and that the above stated calibration coefficients are correct and applicable for the tool SDGR.2 effective August 30, 2008.

Signature: Date:

/s/ Russel Randall, PhD September 2, 2008
Three Rivers Scientific

Figure D2. Moisture Calibration Certificate, 15.24 cm (6-in.) and 20.32 cm (8-in.) Hole.

Certificate of Calibration for
Instrument SD-Moist792

February 25, 2009

Data were taken in the Moisture models on February 25, 2009 for SD-Moist792 neutron-neutron moisture tool. The neutron source from DOE moisture tool # H370608792 was used with the passive neutron detector probe from Pacific Northwest Geophysics.

Six models were used for moisture calibration, 3 for 6"casing and 3 for 8" casing. Repeated spectra were recorded for each model in order to perform statistical analysis. The observed statistical variation agreed with the theoretically predicted variation, refer to the file MoistCal.xls for this analysis.

The coefficient generation is determined by the algorithm described in the document WHC-SD-EN-TI-306, Rev. 0. The regression function used is a power law form and defined by:

$$V = a \cdot CR^{\alpha}$$

Where V is the formation moisture content in volume fraction water in vf units. One vf unit is 1% by volume water. The coefficients a and α are fit coefficients, and CR is the deadtime corrected observed total count rate, (c/s).

6" casing	**8" casing**
a = .0001586	**a = .00008287**
α = 2.229	**α = 2.504**

The undersigned certifies that the data archived in data file "SD-Moist792_2009.zip" were collected and evaluated in accordance with procedures WHC-SD-EN-TI-306, "Radionuclide Logging System In Situ Vadose Zone Moisture Measurement Calibration" and that the above stated calibration coefficients are correct and applicable for tool SD-Moist792, effective February 25, 2009.

Signature: Date:

/s/ Russel Randall, PhD February 28, 2009
Three Rivers Scientific

Figure D3. Moisture Calibration Certificate, 6.35 cm (2.5-in.) Hole.

Moisture Calibration Extrapolation to 2.5 Inch Borehole
Instrument SD-Moist792

February 25, 2009

Moisture calibration was performed in the Hanford physical models. These standards have 6 and 8 inch ID casings. The Tank Farm Direct Push borehole is cased with a 2.5 inch outside diameter iron casing. The calibration for the moisture response is a function of borehole diameter.

The coefficient generation is determined by the algorithm described in the document WHC-SD-EN-TI-306, Rev. 0. The regression function used is a power law form and defined by:

$$V = a \cdot CR^{\alpha}$$

Where V is the formation moisture content in volume fraction water in vf units. One vf unit is 1% by volume water. The coefficients a and α are fit coefficients, and CR is the deadtime corrected observed total count rate, (c/s). A linear extrapolation was applied to determine the 2.5 inch borehole diameter.

2.51" borehole
a = .0002123
α = 2.010

The undersigned certifies that the analysis files are archived in the file "SD-Moist792_2009.zip" was evaluated in accordance with Energy Solutions procedures and that the above stated calibration coefficients are correct and applicable for tool SD-Moist792, effective February 25, 2009.

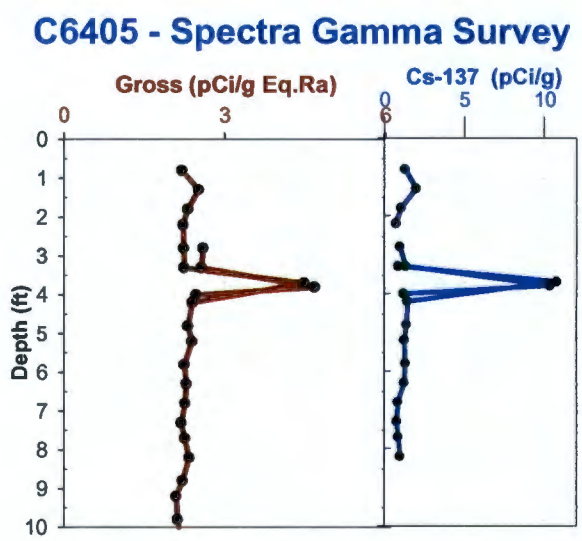
Signature: Date:

/s/ Russel Randall, PhD February 28, 2009
Three Rivers Scientific

D4.0 CS-137 CONTAMINATION ZONE IN PROBEHOLE C6405

At a quick glance, the contamination at 1.07 m (3.5 ft) for probehole C6405 looks like a thin zone. However, the distribution profile is not consistent with the normal profile for a thin zone. The observed depth profile is too thin for a uniformly distributed contamination zone.

Figure D4. Spectral Gamma Survey of C6405.

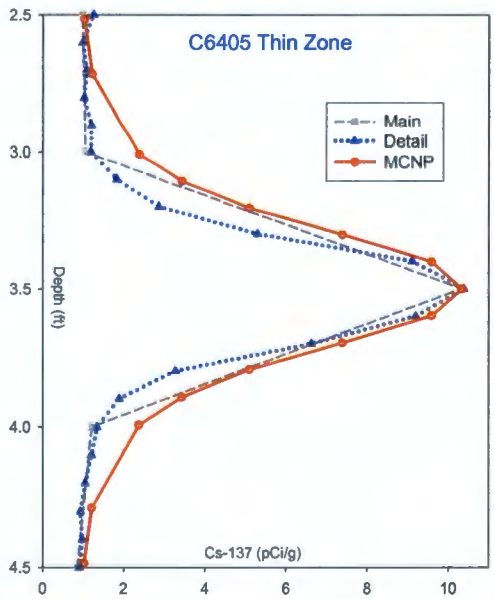


A short section of the BGO Spectral Gamma Survey for C6405 is shown in Figure D. The plot shows both the gross gamma count rate and Cs-137 concentration for the main log interval and the repeat section that was taken over the contamination interval.

The depth increment for a gamma survey is 0.15 m (0.5 ft) per depth sample location. The 0.15 m (0.5 ft) depth sample increment is specified to assure that a thin contamination zone would not be missed.

The Cs-137 contamination zone for probehole C6405 is represented by a single half foot depth sample location where the gamma activity is elevated above natural background. Normally a thin contamination zone is represented by at least two, and often three, depth sample locations with gamma count rates above the base line of the natural background radionuclides.

Figure D5. Compare Gamma Survey to MCNP



Given the unusual character of the spectral gamma survey in C6405, a detailed log survey was acquired with 0.03 m (0.1 ft) depth increment for the depth range of 0.76 m to 1.37 m (2.5 ft to 4.5 ft). Additionally, calculations were performed with a computer program to predict what the expected log survey profile would be for a thin contamination zone of Cs-137.

The calculations were performed using the Monte Carlo neutron photon (MCNP) computer modeling program. MCNP is the industry standard for predicting the characteristics of geophysical nuclear logging devices. The parameters supplied to MCNP are as follows.

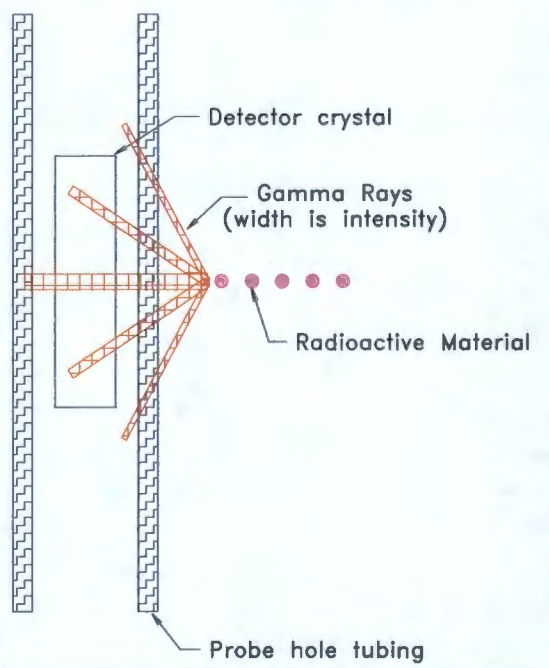
- Thin zone (0.03 m [0.1 ft] thick) of

Cs-137 contamination of infinite horizontal extent.

- Formation material, quartz sand (SiO_2) with the bulk density of 1.8 g/c^2 (0.06 oz/c^2) (which corresponds to vadose formation with 32% porosity).
- Detector (2.54 cm x 10.16 cm [1 in. x 4 in.]) BGO crystal.
- Casing (0.81 cm [0.32 in.] thick and 4.45 cm [1.75 in.] inside diameter).

The detailed gamma survey and MCNP calculation results are compared with the main gamma survey in Figure D5. The measurement location of the main log happened to occur at the location of the maximum gamma activity of the contamination zone. The detailed survey (0.03 m [0.1 ft] increment) confirms that the measured gamma activity has returned to background levels at 0.15 m (0.5 ft) away from the maximum count rate for this contamination zone. While the MCNP calculations show that at 0.15 m (0.5 ft) away from the maximum count rate, the log response would still be one-fifth of the maximum activity.

Figure D6. MCNP Model of Thin Zone.

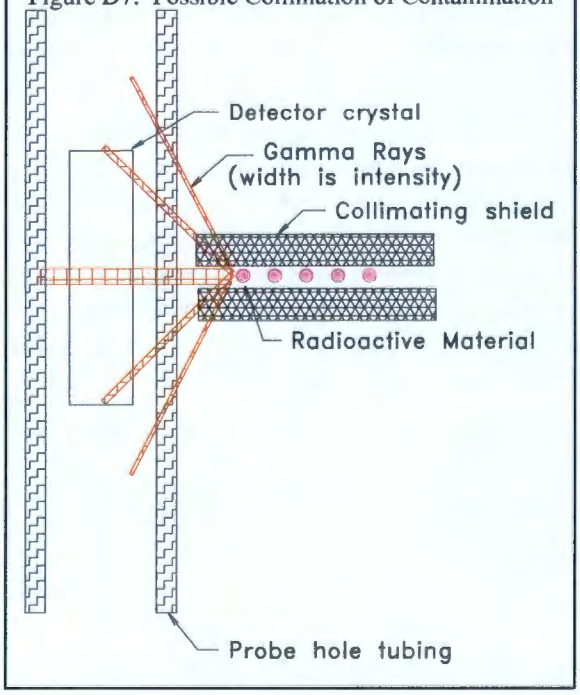


The MCNP calculation results show that the measured profile for this particular contamination zone is thinner than modeled. Measurements of the width of the log response plot at half of the maximum gamma activity show that the contamination zone at C6405 is four-fifths of the width that is characteristic of a thin zone. The only way to measure a thinner zone is for the source to be collimated.

A graphic model of MCNP calculation for thin zone is shown in Figure D6. The thickness (width) of the gamma rays' intensity (red) bars is intended to represent the reduced gamma ray activity that would result from attenuation as the gamma rays travel at higher angles, further through formation soils and steel casing of the probehole tubing to reach the detector crystal.

Figure D7 shows what a collimated source may look like to the gamma detector. A narrowed log profile would be measured when the radioactive material is collimated by higher density material both above and below the source, such as a box with an offset lid or a pipe with a crack.

Figure D7. Possible Collimation of Contamination



D5.0 REFERENCES

Meisner, James and Russel Randall, 1995, *Vadose Zone Moisture Measurement Through Steel Casing Evaluation*, WHC-SD-EN-TI-304, Rev. 0, Westinghouse Hanford Company, Richland, Washington.

Meisner, James, Randall Price, and Russel Randall, 1996, *Radionuclide Logging System In Situ Vadose Zone Moisture Measurement Calibration*, WHC-SD-EN-TI-306, Rev. 0, Westinghouse Hanford Company, Richland, Washington.

APPENDIX E

CHAIN OF CUSTODY FORMS AND FIELD LOGBOOK ENTRIES

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CH2M Hill Group
SAMPLING AUTHORIZATION FORM

SAF NUM V09-002 **SAF TITLE** WMA C Sampling for CMS **REV** 0

PROJECT	WMA C		
PROGRAM/PROJECT TYPE	RCRA Closure CMS		
OPERABLE UNIT	TBD		
REQUESTER	SYDNOR, HA	**CHARGE CODES**	
TASK MANAGER	CONNELLY, MP	CHPRC Field Samplers	301483ES10
PROJECT COORDINATOR	WIDRIG, DL	Sample Management	301483ES30
ESTIMATED START DATE	2/17/2009	**SAMPLE AREA**	200 East
ESTIMATED COMPLETION DATE	1/1/2012	**MATRIX**	SOIL
ESTIMATED NUMBER OF SAMPLES	30		

SAMPLING ORGANIZATIONS

CHPRC Samplers

LABORATORY/PRICE_CODE/PRIORITY TURNAROUND/REQUIRED TURNAROUND/DATA DELIVERABLE

Primary / 222-S Lab Operations / 8P / 75 Days / 75 Days / Summary

SAF COMMENT

Revision 0 = Samples taken from UPR-200-E-81 identified DQO Site P

222-S will transmit copies of all COCs to Mike Connelly.

All secondary analytes listed in RPP-Plan-3877 Tables 4-2 and 4-5 will be reported in the data package and electronically when the value is greater than the detection limit.

Quality Control parameters for constituents are listed in RPP-Plan-3877 Table 5-1.

Final data package should be a Format V.

Required detection limits for Radionuclide are listed in RPP-Plan-3877 Table 5-2.

Required detection limits for Non-Radionuclide are listed in RPP-Plan-3877 Table 5-3.

Target detection limits for Primary Radionuclides are listed in RPP-Plan-3877 Table 5-4.

Target detection limits for Primary Chemicals are listed in RPP-Plan-3877 Table 5-5.

SAF REVISION COMMENT

Revision 0 = Samples taken from UPR-200-E-81 identified DQO Site P

COC COMMENT

** All VOA samples will be collected using EPA Method 5035A.
** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis, and 1 methanol process control sample.
** The laboratory is to use one of the low level VOA bottles for moisture content determination.
** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.

CH2M Hill Group
SAMPLING AUTHORIZATION FORM

SAF NUM V09-002 **SAF TITLE** WMA C Sampling for CMS **REV** 0

Field Sampling Requirements

Laboratory: 222-S Lab Operations **Matrix: SOIL**

Parameter / Analysis	Reference Method	Container / Volume	VolReq	Preservation	Holding Times
VOA - 5035/8260 (LOW LEVEL) (TF)	8260_VOA_GCMS	aGs* 5X40 mL	Lo-Full QC	Cool <-7C and >-20C	14 Days
1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methanol, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene					
VOA - 5035/8260 (HIGH LEVEL) (TF)	8260_VOA_GCMS	aGs* 3X40 mL	Hi-Full QC	MEOH/Cool-6C	14 Days
1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methanol, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene					
VOA - 5035/8260 (TCL) (TF)	8260_VOA_GCMS	aGs* 40 mL	Full QC	Cool-6C	14 Days
1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methanol, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene					
Semi-VOA - 8270 Complete (TF)	8270_SVOA_GCMS	Liner 3X160 g	Full QC	Cool-6C	14/40 Days
1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 2,4-Dinitrotoluene, 2,6-bis(1,1-dimethylethyl)-4-methyl phenol, 2-Chlorophenol, 2-Methylphenol (cresol, o-), 2-Nitrophenol, 3-Methylphenol (cresol, m-), 4-Chloro-3-methylphenol, 4-Methylphenol (cresol, p-), Acenaphthene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Bis(2-ethylhexyl) phthalate, Butylbenzylphthalate, Cellosolve Solvent, Chrysene, Cyclohexanone, Di-n-butylphthalate, Di-n-octylphthalate, Dibutylphosphate, Ethylene glycol, Fluoranthene, Hexachlorobutadiene, Hexachloroethane, Indeno(1,2,3-cd)pyrene, Monobutyl phosphate, Naphthalene, Nitrobenzene, Pyrene, Pyridine, Total cresols, Tributyl phosphate, n-Nitrosodi-n-dipropylamine, n-Nitrosomorpholine					
ICP Metals - 6010 (SW-846) (TF)	6010_METALS_ICP		Full QC		6 Months
Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Uranium, Vanadium, Zinc					
Mercury - 7471 - (CV) (TF)	7471_HG_CVAA		Full QC		28 Days
Mercury					
Mercury - 7470 - (CV) (TF)	7470_HG_CVAA		Full QC		28 Days
Mercury					
PCBs - 8082	8082_PCB_GC		Full QC		14/40 Days
Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260					
PESTICIDES - 8081	8081_PEST_GC		Full QC		14/40 Days
2,4'-DDD (Dichlorodiphenyldichloroethane), 2,4'-DDE (Dichlorodiphenyldichloroethylene), 2,4'-DDT (Dichlorodiphenyltrichloroethane), 4,4'-DDD (Dichlorodiphenyldichloroethane), 4,4'-DDE (Dichlorodiphenyldichloroethylene), 4,4'-DDT (Dichlorodiphenyltrichloroethane), Aldrin, Chlordane, Dieldrin, Endrin, Heptachlor epoxide, Hexachlorobenzene					
IC Anions - 9056	9056_ANIONS_IC		Full QC		28 Days/48 Hours
2-Hydroxyacetate, Acetate, Bromide, Chloride, Fluoride, Formate, Nitrate, Nitrite, Oxalate, Phosphate, Sulfate					
300.7_AMMONIUM (TF)	300.7_CATIONS_IC		Full QC		28 Days
Nitrogen in ammonium					
Sulfide - 9215	9215_SULFIDE		Full QC		7 Days
Sulfide					
Total Cyanide - 9014 (TF)	9014_CYANIDE		Full QC		14 Days
Cyanide					
pH (Soil) - 9045	9045_PH		Full QC		ASAP
pH Measurement					

DATE OF PRINT 02/26/2009 SAF STATUS Issued STATUS DATE 2/25/2009 12:35:00 PAGE 2 of 3

CH2M Hill Group
SAMPLING AUTHORIZATION FORM

SAF NUM V09-002 **SAF TITLE** WMA C Sampling for CMS **REV** 0

Field Sampling Requirements

Laboratory: 222-S Lab Operations **Matrix: SOIL**

Parameter / Analysis	Reference Method	Container / Volume	VolReq	Preservation	Holding Times
GAMMA ENERGY ANALYSIS (TF)	GAMMA_GS		Full QC		6 Months
Antimony-125, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155					
I129_SEP_GEA (TF)	I129_SEP_GEA		Full QC		6 Months
Iodine-129					
Actinides ICPMS	RADISOTOPES_ICPMS		Full QC		6 Months
Americium-241, Neptunium-237, Technetium-99, Thorium-230, Thorium-232, Uranium-233, Uranium-234, Uranium-235, Uranium-236, Uranium-238					
C-14	C14_LSC		Full QC		6 Months
Carbon-14					
CURIUM	AMCMISO_EIE_PLT_AEA		Full QC		6 Months
Curium-242, Curium-243, Curium-244					
H3 - TRITIUM	TRITIUM_DIST_LSC		Full QC		6 Months
Tritium					
Isotopic Plutonium	PUISO_PLATE_AEA		Full QC		6 Months
Plutonium-238, Plutonium-239/240					
Nickel-63 (TF)	NI63_LSC		Full QC		6 Months
Nickel-63					
Selenium-79 (TF)	SE79_SEP_IE_LSC		Full QC		6 Months
Selenium-79					
Strontium-89,90 -- Sr-90	SRISO_SEP_PRECIP_GPC		Full QC		6 Months
Strontium-90					

Key to Container Types

G = Glass
Gs = Glass w/ septum cap
Gs* = Glass w/ septum cap- no head space in container
P = Plastic (Polyethylene)
aG = Amber Glass
aGs = Amber Glass w/ septum cap
aGs* = Amber Glass w/ septum cap- no head space in container
aG/T = Amber Glass w/ Teflon Lined Lid

DATE OF PRINT 02/26/2009 SAF STATUS Issued STATUS DATE 2/25/2009 12:35:00 PAGE 3 of 3

CH2M Hill Group
SAMPLING AUTHORIZATION FORM

SAF NUM V09-003 **SAF TITLE** WMA C Sampling for CMS - QC Sampling **REV** 0

PROJECT	WMA C		
PROGRAM/PROJECT TYPE	RCRA Closure CMS		
OPERABLE UNIT	TBD		
REQUESTER	SYDNOR, HA	**CHARGE CODES**	
TASK MANAGER	CONNELLY, MP	CHPRC Field Samplers	301483ES10
PROJECT COORDINATOR	WIDRIG, DL	Sample Management	301483ES30
ESTIMATED START DATE	2/17/2009	**SAMPLE AREA**	200 East
ESTIMATED COMPLETION DATE	1/1/2012	**MATRIX**	WATER
ESTIMATED NUMBER OF SAMPLES	10		

SAMPLING ORGANIZATIONS

CHPRC Samplers

LABORATORY/PRICE_CODE/PRIORITY TURNAROUND/REQUIRED TURNAROUND/DATA DELIVERABLE

Primary / 222-S Lab Operations / 7P / 75 Days / 75 Days / Summary

SAF COMMENT

Revision 0 = Samples taken from UPR-200-E-81 identified DQO Site P

222-S will transmit copies of all COCs to Mike Connelly.

All secondary analytes listed in RPP-Plan-3877 Tables 4-2 and 4-5 will be reported in the data package and electronically when the value is greater than the detection limit.

Quality Control parameters for constituents are listed in RPP-Plan-3877 Table 5-1.

Final data package should be a Format V.

Required detection limits for Radionuclide are listed in RPP-Plan-3877 Table 5-2.

Required detection limits for Non-Radionuclide are listed in RPP-Plan-3877 Table 5-3.

Target detection limits for Primary Radionuclides are listed in RPP-Plan-3877 Table 5-4.

Target detection limits for Primary Chemicals are listed in RPP-Plan-3877 Table 5-5.

SAF REVISION COMMENT

Revision 0 = Samples taken from UPR-200-E-81 identified DQO Site P

COC COMMENT

CH2M Hill Group
SAMPLING AUTHORIZATION FORM

SAF NUM V09-003 **SAF TITLE** WMA C Sampling for CMS - QC Sampling **REV** 0

Field Sampling Requirements

Laboratory: 222-S Lab Operations **Matrix: WATER**

Parameter / Analysis	Reference Method	Container / Volume	VolReq	Preservation	Holding Times
VOA - 8260 (TCL) (TF)	8260_VOA_GCMS	aGs* 3X40 mL	Full QC	HCl or H2SO4 to pH <2/Cool~4C	14 Days
1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Isobutyl alcohol, Methanol, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene					
Semi-VOA - 8270 Complete (TF)	8270_SVOA_GCMS	aG 4X1000 mL	Full QC	Cool~4C	7/40 Days
1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 2,4-Dinitrotoluene, 2,6-bis(1,1-dimethylethyl)-4-methyl phenol, 2-Chlorophenol, 2-Methylphenol (cresol, o-), 2-Nitrophenol, 3-Methylphenol (cresol, m-), 4-Chloro-3-methylphenol, 4-Methylphenol (cresol, p-), Acenaphthene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Bis(2-ethylhexyl) phthalate, Butylbenzylphthalate, Cellosolve Solvent, Chrysene, Cyclohexanone, Di-n-butylphthalate, Di-n-octylphthalate, Dibenz[a,h]anthracene, Dibutylphosphate, Ethylene glycol, Fluoranthene, Hexachlorobutadiene, Hexachloroethane, Indeno(1,2,3-cd)pyrene, Isobutyl alcohol, Monobutyl phosphate, Naphthalene, Nitrobenzene, Pyrene, Pyridine, Total cresols, Tributyl phosphate, n-Nitrosodi-n-dipropylamine, n-Nitrosomorpholine					
ICP Metals - 6010 (SW-846) (TF)	6010_METALS_ICP	G/P 500 mL	Full QC	HNO3 to pH <2	6 Months
Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Cerium, Chromium, Cobalt, Copper, Iron, Lanthanum, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Rhodium, Samarium, Selenium, Silicon, Silver, Sodium, Strontium, Sulfur, Tantalum, Thallium, Tin, Tungsten, Uranium, Vanadium, Yttrium, Zinc, Zirconium					
Mercury - 7470 - (CV) (TF)	7470_HG_CVAA	G 500 mL	Full QC	HNO3 to pH <2	28 Days
Mercury					
PCBs - 8082	8082_PCB_GC	aG 3X1000 mL	Full QC	Cool~4C	7/40 Days
Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260					
Pesticides - 8081 (TF)	8081_PEST_GC	aG 2X1000 mL	Full QC	Cool~4C	7/40 Days
2,4'-DDD (Dichlorodiphenyldichloroethane), 2,4'-DDE (Dichlorodiphenyldichloroethylene), 2,4'-DDT (Dichlorodiphenyltrichloroethane), 4,4'-DDD (Dichlorodiphenyldichloroethane), 4,4'-DDE (Dichlorodiphenyldichloroethylene), 4,4'-DDT (Dichlorodiphenyltrichloroethane), Aldrin, Chlordane, Dieldrin, Endrin, Heptachlor, Heptachlor epoxide, Hexachlorobenzene					
IC Anions - 9056	9056_ANIONS_IC	G/P 250 mL	Full QC	Cool~4C	28 Days/48 Hours
2-Hydroxyacetate, Acetate, Bromide, Chloride, Fluoride, Formate, Nitrate, Nitrite, Oxalate, Phosphate, Sulfate					
Sulfide - 9215	9215_SULFIDE	G/P 500 mL	Full QC	ZnAc+NaOH to pH > 9/Cool~6C	7 Days
Sulfide					
Total Cyanide - 9014 (TF)	9014_CYANIDE	G/P 60 mL	Full QC	NaOH to pH >= 12/Cool~4C	14 Days
Cyanide					
300.7_AMMONIUM (TF)	300.7_CATIONS_IC	G/P 250 mL	Full QC	H2SO4 to pH <2	28 Days
Nitrogen in ammonium					
pH (Water) - 9040 (TF)	9040_PH	P 125 mL	Full QC	None	ASAP
pH Measurement					
GAMMA ENERGY ANALYSIS (TF)	GAMMA_GS	G/P 500 mL	Full QC	HNO3 to pH <2	6 Months
Antimony-125, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155					
I129_SEP_GEA (TF)	I129_SEP_GEA	G/P 4X1000 mL	Full QC	None	6 Months
Iodine-129					
Actinides ICPMS (TF)	RADISOTOPES_ICPMS	Nalgene 500 mL	Full QC	HNO3 to pH <2(ULTREX)	None
Neptunium-237, Technetium-99, Thorium-230, Thorium-232, Uranium-233, Uranium-234, Uranium-235, Uranium-236, Uranium-238					

CH2M Hill Group
SAMPLING AUTHORIZATION FORM

SAF NUM V09-003 **SAF TITLE** WMA C Sampling for CMS - QC Sampling **REV** 0

Field Sampling Requirements

Laboratory: 222-S Lab Operations **Matrix: WATER**

Parameter / Analysis	Reference Method	Container / Volume	VolReq	Preservation	Holding Times
C-14 Carbon-14	C14_LSC	G/P 2X1000 mL	Full QC	None	6 Months
CURIUM Curium-242, Curium-243, Curium-244	AMCMISO_EIE_PLT_AEA	G/P 1000 mL	Full QC	HNO3 to pH <2	6 Months
H3 - TRITIUM Tritium	TRITIUM_DIST_LSC	P 500 mL	Full QC	None	6 Months
Isotopic Plutonium Plutonium-238, Plutonium-239/240	PUISO_PLATE_AEA	G/P 1000 mL	Full QC	HNO3 to pH <2	6 Months
Nickel-63 (TF) Nickel-63	NI63_LSC	G/P 1000 mL	Full QC	HNO3 to pH <2	6 Months
Selenium-79 (TF) Selenium-79	SE79_SEP_IE_LSC	G/P 1000 mL	Full QC	HNO3 to pH <2	6 Months
Strontium-89,90 -- Sr-90 Strontium-90	SRISO_SEP_PRECIP_GPC	G/P 2X1000 mL	Full QC	HNO3 to pH <2	6 Months

Key to Container Types

G = Glass
Gs = Glass w/ septum cap
Gs* = Glass w/ septum cap- no head space in container
P = Plastic (Polyethylene)
aG = Amber Glass
aGs = Amber Glass w/ septum cap
aGs* = Amber Glass w/ septum cap- no head space in container
aG/T = Amber Glass w/ Teflon Lined Lid

HNF-N-576-3 pg 52

-6392 Date: 3-11-09

Weather 43°F Cloudy Wind 0-10 mph

0800- Started on paper work for C-6392 getting all done
Staging all equipment for sampling arranged.
1230- Started getting EB ready making up bottle sets
1420- Completed EB of 27 bottles B14Y16 (V09-003-002)
1535- Delivered samples to 222-S

Last entry this Date Sjl 3-11-09

Larry Rosane 3-11-09

FIELD CHARACTERIZATION WATER/OTHER LIQUID SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS - QC Sampling		PAGE 1 OF 2	
		DATE 3-11-09	
SAF NO.(S) V09-003		Sample time: 1142	
LOCATION C6392, EB	LOGBOOK NO./PAGE HNF-N-576-3 pg 52		
WELL NAME C-6392	WELL ID N/A	ACTUAL DEPTH	☐ft ☐m
BOTTOM OF CASING (bgs) N/A	☐ft ☐m	BOTTOM OF BOREHOLE (bgs) N/A	☐ft ☐m
SAMPLES COLLECTED			
TOTAL NUMBER OF BOTTLES 27	TOTAL NUMBER OF CHAINS 1	COLLECTOR Rosane, Rust	

222-S V09-003-002

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YY16	3 / 40mL / aGs*		HCl or H2SO4 to pH <2/Cool~4C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B1YY16	4 / 1000mL / aG		Cool~4C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B1YY16	1 / 500mL / G/P		HNO3 to pH <2	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B1YY16	1 / 500mL / G		HNO3 to pH <2	Mercury - 7470 - (CV) (TF) {Mercury}
B1YY16	3 / 1000mL / aG		Cool~4C	SEE ITEM (4) IN SPECIAL INSTRUCTIONS
B1YY16	2 / 1000mL / aG		Cool~4C	SEE ITEM (5) IN SPECIAL INSTRUCTIONS
B1YY16	1 / 250mL / G/P		Cool~4C	SEE ITEM (6) IN SPECIAL INSTRUCTIONS
B1YY16	1 / 500mL / G/P		ZnAc+NaOH to pH > 9/Cool~6C	Sulfide - 9215 {Sulfide}
B1YY16	1 / 60mL / G/P		NaOH to pH >= 12/Cool~4C	Total Cyanide - 9014 (TF) {Cyanide}
B1YY16	1 / 125mL / P		None	pH (Water) - 9040 (TF) {pH Measurement}
B1YY16	4 / 1000mL / G/P		None	I129_SEP_GEA (TF) {Iodine-129}
B1YY16	1 / 1000mL / G/P		HNO3 to pH <2	SEE ITEM (7) IN SPECIAL INSTRUCTIONS
B1YY16	1 / 1000mL / G/P		HNO3 to pH <2	Nickel-63 (TF) {Nickel-63}
B1YY16	1 / 1000mL / G/P		HNO3 to pH <2	Selenium-79 (TF) {Selenium-79}
B1YY16	2 / 1000mL / G/P		HNO3 to pH <2	Strontium-89,90 -- Sr-90 {Strontium-90}

ORIGINAL

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FIELD CHARACTERIZATION WATER/OTHER LIQUID SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS - QC Sampling	PAGE 2 OF 2
	DATE 3-11-09
SAF NO.(S) V09-003	
LOCATION C6392, EB	LOGBOOK NO./PAGE MNF-N-576-3 pg 52
WELL NAME C-6392	WELL ID N/A ACTUAL DEPTH N/A ☐ft ☐m
BOTTOM OF CASING (bgs) ☐ft ☐m	BOTTOM OF BOREHOLE (bgs) ☐ft ☐m

SAMPLES COLLECTED

TOTAL NUMBER OF BOTTLES 27 TOTAL NUMBER OF CHAINS 1 COLLECTOR Rosanne, Rust

FIELD INFORMATION

PURGE RATE ☐ gpm ☐ Lpm	TIME ON	TIME WATER	TIME PURGE	TIME SAMP	TIME OFF	
PURGE VOLUME REQUIRED ☐ gal ☐ L						

WHERE ARE SAMPLES LOCATED AT THIS TIME? ☐ WSCF ☐ 222-S ☐ MO-612 ☐ MO-745 ☐ 6269 ☐ OTHER

FIELD MEASUREMENTS

SAMPLE NO.											
TIME											
pH (unitless)											
TEMP ☐°F ☐°C											
COND (µs/cm)											
TURB. (NTU)											
D.O. (mg/L)											
ORP (mV)											

N/A

FIELD OBSERVATIONS

WEATHER

FIELD COMMENTS

Sample time: 1420

SUPPORT PERSONNEL

SAMPLES SURVEYED BY RCT ☐ YES ☐ NO

RECORDED BY PRINT NAME SIGN NAME DATE

CHECKED BY PRINT NAME SIGN NAME DATE

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CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-003-002 | PAGE 1 OF 3

COLLECTOR: Rosane, Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL
SAMPLING LOCATION: C6392, EB	PROJECT DESIGNATION: WMA C Sampling for CMS - QC Sampling		SAF NO.: V09-003
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 pg 52	ACTUAL SAMPLE DEPTH: —	COA: 301483ES10
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.

PRICE CODE: 7P
AIR QUALITY: ☐
DATA TURNAROUND: 75 Days / 75 Days
METHOD OF SHIPMENT: GOVERNMENT VEHICLE

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegitation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	HCl or H2SO4 to pH <2/Cool~4C	Cool~4C	HNO3 to pH <2	HNO3 to pH <2	Cool~4C	Cool~4C	Cool~4C	ZnAc+NaOH to pH > 9/Cool~6C	NaOH to pH >= 12/Cool~4C	None
TYPE OF CONTAINER	aGs*	aG	G/P	G	aG	aG	G/P	G/P	G/P	P
NO. OF CONTAINER(S)	3	4	1	1	3	2	1	1	1	1
VOLUME	40mL	1000mL	500mL	500mL	1000mL	1000mL	250mL	500mL	60mL	125mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS ✓	SEE ITEM (2) IN SPECIAL INSTRUCTIONS ✓	SEE ITEM (3) IN SPECIAL INSTRUCTIONS ✓	Mercury - 7470 - (CV) (TF) (Mercury) ✓	SEE ITEM (4) IN SPECIAL INSTRUCTIONS ✓	SEE ITEM (5) IN SPECIAL INSTRUCTIONS ✓	SEE ITEM (6) IN SPECIAL INSTRUCTIONS ✓	Sulfide - 9215 (Sulfide) ✓	Total Cyanide - 9014 (TF) (Cyanide) ✓	pH (Water) - 9040 (TF) (pH Measurement) ✓

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME										
B1YY16	WATER	3-11-09	1420	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	LOT#			820302	030447	029918	029918	030447	031974	035453	029918	024870	027006

CHAIN OF POSSESSION — SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
L. J. Rosane Larry Rosane	3-11-09/1535	Tim Collard	3-11-09/1535
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/06)

CH2M Hill Group	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-003-002	PAGE 2 OF 3
COLLECTOR Rosane. Rust	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 7P	DATA TURNAROUND
SAMPLING LOCATION C6392, EB	PROJECT DESIGNATION WMA C Sampling for CMS - QC Sampling		SAF NO. V09-003	AIR QUALITY ☐	75 Days / 75 Days
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-576-3 pg 52	ACTUAL SAMPLE DEPTH —	COA 301483ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

(1)VOA - 8260 (TCL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}
(2)Semi-VOA - 8270 Complete (TF) {1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 2,4-Dinitrotoluene, 2,6-bis(1,1-dimethylethyl)-4-methyl phenol, 2-Chlorophenol, 2-Methylphenol-(cresol, o-), 2-Nitrophenol, 3-Methylphenol (cresol, m-), 4-Chloro-3-methylphenol, 4-Methylphenol (cresol, p-), Acenaphthene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Bis(2-ethylhexyl) phthalate, Butylbenzylphthalate, Cellosolve Solvent, Chrysene, Cyclohexanone, Di-n-butylphthalate, Di-n-octylphthalate, Dibenz[a,h]anthracene, Dibutylphosphate, Ethylene glycol, Fluoranthene, Hexachlorobutadiene, Hexachloroethane, Indeno(1,2,3-cd)pyrene, Isobutyl alcohol, Monobutyl phosphate, Naphthalene, Nitrobenzene, Pentachlorophenol, Pyrene, Pyridine, Total cresols, Tributyl phosphate, n-Nitrosodi-n-dipropylamine, n-Nitrosomorpholine}
(3)ICP Metals - 6010 (SW-846) (TF) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Uranium, Vanadium, Zinc}
(4)PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}
(6)IC Anions - 9056 {2-Hydroxyacetate, Acetate, Chloride, Fluoride, Formate, Nitrate, Nitrite, Oxalate, Sulfate}

A-6003-618(01/06)

COLLECTOR: Rosanne Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 7P	DATA TURNAROUND: 75 Days / 75 Days
SAMPLING LOCATION: C6392, EB	PROJECT DESIGNATION: WMA C Sampling for CMS - QC Sampling		SAF NO.: V09-003	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 pg 52	ACTUAL SAMPLE DEPTH: N/A	COA: 301483ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegitation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2
TYPE OF CONTAINER	G/P	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)	4	1	1	1	2
VOLUME	1000mL	1000mL	1000mL	1000mL	1000mL
SAMPLE ANALYSIS	1129_SEP_GEA (TF) (Iodine-129) ✓	SEE ITEM (7) IN SPECIAL INSTRUCTIONS ✓	Nickel-63 (TF) (Nickel-63) ✓	Selenium-79 (TF) (Selenium-79) ✓	Strontium-89,90 -- Sr-90 (Strontium-90) ✓

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B1YY16	WATER	3-11-09	1420	✓	✓	✓	✓	✓
	LAT #			032283				

CHAIN OF POSSESSION — SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
L. J. Rosane Larry Rosane	3-11-09/1535	T M Colbert Jr Colbert	3-11-09/1535

SPECIAL INSTRUCTIONS: (7)Isotopic Plutonium (Plutonium-238, Plutonium-239/240)

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/08)

C-6392 C-Farms HNF-N-576-3 pg 56

Date: 4-14-09

Weather 45°F Cloudy Wind 10-15 mph

NCO's: Rosante, Rost

FSW.: Bill Clark

Drillers: Energy Solutions RWP. CO-460 Rev 4

0700- Started pre: job went over job working in glovebag limits, shipment of samples (attachment in package)

1215- Completed TB I-003 B1Y422 V09-003-008 (222-S)

1300- Completed I-003 @ 14'-15' B1YT69, V09-002-013 B1YT70, V09-002-014 B1YT71, V09-002-015 (222-S)

1515- Samples were delivered to 222-S labs per Blue card #4 Field readings on all samples on I-003 were not above background.

Last entry this Date. JAR

FIELD CHARACTERIZATION WATER/OTHER LIQUID SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS - QC Sampling	PAGE 1 OF 1
	DATE/TIME 4-14-09/1215
SAF NO.(S) V09-003	
LOCATION C6392, I-003TB	LOGBOOK NO./PAGE HNF-N-572-3 pg 56
WELL NAME C-6392	WELL ID N/A ACTUAL DEPTH ☐ft ☐m
BOTTOM OF CASING (bgs) N/A ☐ft ☐m	BOTTOM OF BOREHOLE (bgs) N/A ☐ft ☐m

SAMPLES COLLECTED

TOTAL NUMBER OF BOTTLES 3 TOTAL NUMBER OF CHAINS 1 COLLECTOR Rosane, Rust

222-S V09-003-008

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YY22	3 / 40mL / aGs*		HCl or H2SO4 to pH <2/Cool~4C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

FIELD INFORMATION

PURGE RATE N/A	☐ gpm ☐ Lpm	TIME ON	TIME WATER	TIME PURGE	TIME SAMP	TIME OFF
PURGE VOLUME REQUIRED N/A	☐ gal ☐ L		N/A	4-14-09		

WHERE ARE SAMPLES LOCATED AT THIS TIME? ☐ WSCF ☑ 222-S ☐ MO-612 ☐ MO-745 ☐ 6269 ☐ OTHER

FIELD MEASUREMENTS

SAMPLE NO.											
TIME											
pH (unitless)											
TEMP ☐°F ☐°C											
COND (µs/cm)											
TURB. (NTU)											
D.O. (mg/L)											
ORP (mV)											

N/A SJR 4-14-09

FIELD OBSERVATIONS

WEATHER 45°F Cloudy Wind 10-15 mph

FIELD COMMENTS

N/A

SUPPORT PERSONNEL Drillers RCT, FWS

SAMPLES SURVEYED BY RCT ☑ YES ☐ NO

	PRINT NAME	SIGN NAME	DATE
RECORDED BY	Larry Rosane	Larry Rosane	4-14-09
CHECKED BY	Ed Kaylor	[signature]	4-14-09

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ORIGINAL

FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS			PAGE 1 OF 2
			DATE/TIME 4-14-09/1300
SAF NO.(S) V09-002			
LOCATION C6392, I-003		LOGBOOK NO./PAGE HNF-W-576-5 pg 56	
WELL NAME C6392		WELL ID C6392	ACTUAL DEPTH 14'-15' ☒ft ☐m
BOTTOM OF CASING (bgs) N/A	☐ft ☐m	BOTTOM OF BOREHOLE (bgs) N/A	☐ft ☐m
SAMPLES COLLECTED			
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR Roxanne, Rust	

222-S V09-002-013

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YT69	5 / 40mL / aGs*	8140110	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B1YT69	3 / 40mL / aGs*	B9075OVB	MEOH/Cool~6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

222-S V09-002-014

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YT70	1 / 40mL / aGs*	B9075OVB	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

222-S V09-002-015

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YT71	3 / 160g / Liner	N/A	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

☐ ORIGINAL

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A-6004-701 (REV.0)

FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS	PAGE 2 OF 2
	DATE/TIME 4-14-09/1360
SAF NO.(S) V09-002	
LOCATION C6392, I-003	LOGBOOK NO./PAGE HNF-N-576-3 pg 56
WELL NAME C6392	WELL ID C6392 ACTUAL DEPTH 14-15' ☑ft ☐m
BOTTOM OF CASING (bgs) N/A ☐ft ☐m	BOTTOM OF BOREHOLE (bgs) N/A ☐ft ☐m
SAMPLES COLLECTED	
TOTAL NUMBER OF BOTTLES 12 TOTAL NUMBER OF CHAINS 3	COLLECTOR Rosane, Rust

FIELD INFORMATION	
WHERE ARE SAMPLES LOCATED AT THIS TIME?	☐ WSCF ☑ 222-S ☐ MO-612 ☐ MO-745 ☐ 6269 ☐ OTHER
CONTAINER/DRUM/TOTE/BOX	
SAMPLE MATRIX DESCRIPTION	☑ SOIL ☐ SLUDGE ☐ RESIN ☐ GAC ☐ FILTER PAPER ☐ OTHER
FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]	
N/A	
FIELD OBSERVATIONS	
WEATHER	45°F Cloudy Wind 10-15 mph
FIELD COMMENTS	
SUPPORT PERSONNEL	RCT, Driller FWS
SAMPLES SURVEYED BY RCT	☑ YES ☐ NO
IS A BLUE CARD REQUIRED	☑ YES ☐ NO BLUE CARD NO 4
IS SRS PROVIDED AND COMPLETE	☑ YES ☐ NO
RECORDED BY	PRINT NAME Larry Rosane SIGN NAME Larry Rosane DATE 4-14-09
CHECKED BY	PRINT NAME Ed Kawa SIGN NAME [signature] DATE 4-14-09

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ORIGINAL

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-003-008 | PAGE 1 OF 1

COLLECTOR: Rosane, Rust

SAMPLING LOCATION: C6392, I-003TB

ICE CHEST NO.:

COMPANY CONTACT: SYDNOR, HA

TELEPHONE NO.: 373-3967

PROJECT COORDINATOR: WIDRIG, DL

PRICE CODE: 7P

DATA TURNAROUND: 75 Days / 75 Days

AIR QUALITY: ☐

PROJECT DESIGNATION: WMA C Sampling for CMS - QC Sampling

SAP NO.: V09-003

FIELD LOGBOOK NO.: HNF-N-576-3 pg 56

ACTUAL SAMPLE DEPTH: N/A

COA: 301483E510

METHOD OF SHIPMENT: GOVERNMENT VEHICLE

SHIPPED TO: 222-S Lab Operations

OFFSITE PROPERTY NO.:

BILL OF LADING/AIR BILL NO.:

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Ventilation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE:

PRESERVATION	HCl or H2SO4 to pH <2/Cool-4C
TYPE OF CONTAINER	aGS*
NO. OF CONTAINER(S)	3
VOLUME	40ml
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME									
B1YY22	WATER	4-14-09	1215	✓		Lab Sample ID 509V000347		Trip Blank				

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rosane Larry Rosane	4-14-09/1515	Tim Gilloth	4-14-09/1515

SPECIAL INSTRUCTIONS

(1)VOA - 8260 (TCL) (TF) (1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene)

ORIGINAL

LABORATORY SECTION: RECEIVED BY | TITLE | DATE/TIME

FINAL SAMPLE DISPOSITION: DISPOSAL METHOD | DISPOSED BY | DATE/TIME

Washington River Protection Solutions | **CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST** | V09-002-013 | PAGE 1 OF 2

COLLECTOR: Ronnie Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL
SAMPLING LOCATION: C6392, 1-003	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002
ICE CHEST NO.:	FIELD LOGBOOK NO.: HNF-N-376-3 pg 56	ACTUAL SAMPLE DEPTH: 14-15'	COA: 301483ES10
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.:		BILL OF LADING/AIR BILL NO.:

PRICE CODE: 8P | AIR QUALITY: ☐ | DATA TURNAROUND: 75 Days / 75 Days | METHOD OF SHIPMENT: GOVERNMENT VEHICLE

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Trap, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE:

PRESERVATION	Cool <-7C and >-20C	MEOH/Cool<-6 C
TYPE OF CONTAINER	nGs*	nGs*
NO. OF CONTAINER(S)	5	3
VOLUME	40mL	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			Lab Sample ID
B1YT69	SOIL	4-14-09	1300	✓	✓	S09V000123 VOA Lo Level
						S09V000131 VOA Hi Level

CHAIN OF POSSESSION	DATE/TIME	SIGN/ PRINT NAMES: RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM: Larry Rosanes, Jerry Lacone	4-14-09/1515	Tim Collock Tim Collock	4-14-09 1515
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS: SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

☐ ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-013	PAGE 2 OF 2
COLLECTOR Roshne, Rust	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8P	DATA TURNAROUND
SAMPLING LOCATION C6392, 1-003	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V09-002	AIR QUALITY [ ]	75 Days / 75 Days
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-576-3 p.56	ACTUAL SAMPLE DEPTH 14-15'	COA 301483ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis.
** The laboratory is to use one of the low level VOA bottles for moisture content determination.
** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)VOA - 5035/8260 (LOW LEVEL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}
(2)VOA - 5035/8260 (HIGH LEVEL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}

ORIGINAL

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-014	PAGE 1 OF 1
COLLECTOR: Rosane, Rest	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 8P	DATA TURNAROUND
SAMPLING LOCATION: C6392, 1-003	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY ☐	75 Days / 75 Days
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 pg 56	ACTUAL SAMPLE DEPTH: 14'-15'	COA: 301483E510	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~6C
TYPE OF CONTAINER	VOAs*
NO. OF CONTAINER(S)	1
VOLUME	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			Lab Sample ID					
B1YT70	SOIL	4-14-09	1300	✓		S09V000139		MeOH	blank		

CHAIN OF POSSESSION — SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rosane Larry Rosane	4-14-09/1515	Tx Gilbert Tx Gilbert	4-14-09/1515

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)VOA - 5035/8260 (TCL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3 Dichloropropene}

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A Data Lightning

Attachment 1 - Sample Record Sheet

SAMPLE RECORD SHEET

Location: C 6392 C Farms

Sampler Initials and Date: SL 4-14-09

Sample Number	Sample Suffix[1]	Tare Weight provided (grams)	Tare Weight prior to sample[2] (grams)	Initial Weight[3] (grams)	Total Weight[4] (grams)	Soil Weight[5] (grams)	Methanol in sample bottle (ml)
B1YT69	K	N/A	31.3	31.7	38.3	6.6	No Methanol
B1YT69	L	N/A	32.9	35.3	39.7	6.4	
B1YT69	M	N/A	32.1	32.5	39.1	6.6	
B1YT69	N	N/A	32.4	32.8	37.0	4.2	
B1YT69	P	N/A	32.6	33.0	37.6	4.6	
B1YT69	W	36.28	36.2	36.7	42.3	5.6	10
B1YT69	X	36.29	36.3	36.7	42.3	5.6	10
B1YT69	Y	36.06	36.0	36.4	43.0	6.6	10
B1YT70	*	36.13	36.1	36.5	36.5	0	10

[1]Sample suffix of K, L, M, N, and P relate to low-level concentration samples and will not have any preservation beyond freezing between -70C and -20°C.

Sample suffix of W, X, and Y relate to methanol preservation for high-level samples.

Sample suffix of "*" relates to methanol blank. Cool these samples to 4°C ± 2°C.

[2]Tare weight prior to sample must be within +/- 0.1 grams of Vendors tare weight or bottle cannot be used. Weigh only the bottle, no labels, stickers or bags.

[3]Initial weight is to include all labels, stickers, bags, methanol (for vendor filled methanol samples with suffix W,X,Y and *) spin bars (for samples with suffix K,L,M,N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

[4]Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

[5]Soil weight is the vial with sample minus Initial Weight.

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-015	PAGE 1 OF 2
COLLECTOR: Rosane Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: BP	DATA TURNAROUND: 75 Days / 75 Days
SAMPLING LOCATION: C6392, 1-003	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 pg 56	ACTUAL SAMPLE DEPTH: 14-15'	COA: 301483E510	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

MATRIX*: A=Air; DL=Drum Liquids; DS=Drum Solids; L=Liquid; O=Oil; S=Soil; SE=Sediment; T=Tissue; V=Vegetation; W=Water; WI=Wipe; X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool-6C
TYPE OF CONTAINER	Liner
NO. OF CONTAINER(S)	1 2
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		Lab Sample ID
B1YT71	SOIL	4-14-09	1300	✓	S09V000148 liner A
					S09V000149 liner B

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: Larry Rosane Larry Rosane	DATE/TIME: 4-14-09/1515	RECEIVED BY/STORED IN: Jim Gillock	DATE/TIME: 4-14-09 1515
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

only two liners were filled due to material

☐ ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-018	PAGE 2 OF 2
COLLECTOR Rosanne Rust	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8P AIR QUALITY ☐	DATA TURNAROUND 75 Days / 75 Days
SAMPLING LOCATION C6392, I-003	PROJECT DESIGNATION WMA C Sampling for OMS		SAF NO. V09-002		
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-576-3 pg 56	ACTUAL SAMPLE DEPTH 14'-15'	COA 301483ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)Semi-VOA - 8270 Complete (TF) {1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 2,4-Dinitrotoluene, 2,6-bis(1,1-dimethylethyl)-4-methyl phenol, 2-Chlorophenol, 2-Methylphenol (cresol, o-), 2-Nitrophenol, 3-Methylphenol (cresol, m-), 4-Chloro-3-methylphenol, 4-Methylphenol (cresol, p-), Acenaphthene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Bis(2-ethylhexyl) phthalate, Butylbenzylphthalate, Cellosolve Solvent, Chrysene, Cyclohexanone, Di-n-butylphthalate, Di-n-octylphthalate, Dibenz[a,h]anthracene, Dibutylphosphate, Ethylene glycol, Fluoranthene, Hexachlorobutadiene, Hexachloroethane, Indeno(1,2,3-cd)pyrene, Isobutyl alcohol, Monobutyl phosphate, Naphthalene, Nitrobenzene, Pentachlorophenol, Pyrene, Pyridine, Total cresols, Tributyl phosphate, n-Nitrosodi-n-dipropylamine, n-Nitrosomorpholine} ICP Metals - 6010 (SW-846) (TF) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Uranium, Vanadium, Zinc} Mercury - 7471 - (CV) (TF) {Mercury} PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260} TPH-Gasoline Range - WTPH-G (Total petroleum hydrocarbons - gasoline range} TPH-Diesel Range - WTPH-D (Total petroleum hydrocarbons - diesel range} Pesticides - 8081 (TF) {2,4'-DDD (Dichlorodiphenyldichloroethane), 2,4'-DDE (Dichlorodiphenyldichloroethylene), 2,4'-DDT (Dichlorodiphenyltrichloroethane), 4,4'-DDD (Dichlorodiphenyldichloroethane), 4,4'-DDE (Dichlorodiphenyldichloroethylene), 4,4'-DDT (Dichlorodiphenyltrichloroethane), Aldrin, Chlordane, Dieldrin, Endrin, Gamma-BHC (Lindane), Heptachlor epoxide, Hexachlorobenzene} IC Anions - 9056 {2-Hydroxyacetate, Acetate, Chloride, Fluoride, Formate, Nitrate, Nitrite, Oxalate, Sulfate} 300.7_AMMONIUM (TF) {Nitrogen in ammonium} Sulfide - 9215 {Sulfide} Total Cyanide - 9014 (TF) {Cyanide} pH (Soil) - 9045 {pH Measurement} GAMMA ENERGY ANALYSIS (TF) {Antimony-125, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155} Actinides ICPMS (TF) {Neptunium-237, Technetium-99, Thorium-230, Thorium-232, Tin-126, Uranium-233, Uranium-234, Uranium-235, Uranium-236, Uranium-238} Americium-241 (TF) {Americium-241} I129_SEP_GEA (TF) {Iodine-129} C-14 {Carbon-14} CURIUM {Curium-242, Curium-243, Curium-244} H3 - TRITIUM {Tritium} Isotopic Plutonium {Plutonium-238, Plutonium-239/240} Nickel-63 (TF) {Nickel-63} Selenium-79 (TF) {Selenium-79} Strontium-89,90 -- Sr-90 {Strontium-90}

☐ ORIGINAL

A-6003-618(01/06)

3.

C-6392 C- Farms HNF-N-576-3 pg 58
Date: 4-21-09
Weather: 65° F Sunny Wind 0-5 mph
NSO's: Rosane, Rust
F.W.S. Bill Clark
Driller: Energy Solutions RWP CO-460 Rev. 4
0700- Started pre-job sign in setup up to pound down to sample depth
1041- Completed sample I-004 @ 19.5'-21.5'
B1YT72, V09-002-016
B1YT73, V09-002-017 } 222-S labs
B1YT74, V09-002-018
1330- Samples were delivered to 222-S labs per Blue Card #4
Field reading on all samples for I-004 were 1000 cpm above back ground.

Just entry this Date 4-21-09

FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS		PAGE 1 OF 2	
		DATE/TIME 9-21-09 10:44	
SAF NO.(S) V09-002			
LOCATION C6392, I-004	LOGBOOK NO./PAGE HNF-N-576-3 pg 55		
WELL NAME C6392	WELL ID C6392	ACTUAL DEPTH 19.5-21.5	☑ft ☐m
BOTTOM OF CASING (bgs) N/A	☐ft ☐m	BOTTOM OF BOREHOLE (bgs) N/A	☐ft ☐m
SAMPLES COLLECTED			
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR Rosane, Rust	

222-S V09-002-016

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YT72	5 / 40mL / aGs*	874 110	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B1YT72	3 / 40mL / aGs*	B907501VB	MEOH/Cool~6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

222-S V09-002-017

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YT73	1 / 40mL / aGs*	B907501VB	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

222-S V09-002-018

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YT74	3 / 160g / Liner	N/A	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

ORIGINAL

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A-6004-701 (REV.0)

FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS	PAGE 2 OF 2
	DATE/TIME 4-21-09 (047)
SAF NO.(S) V09-002	
LOCATION C6392, 1-004	LOGBOOK NO./PAGE HNF-N-576-3 pg 58
WELL NAME C6392	WELL ID C6392 ACTUAL DEPTH 19.5-21.5 ☑ft ☐m
BOTTOM OF CASING (bgs) N/A ☐ft ☐m	BOTTOM OF BOREHOLE (bgs) N/A ☐ft ☐m
SAMPLES COLLECTED	
TOTAL NUMBER OF BOTTLES 12 TOTAL NUMBER OF CHAINS 3	COLLECTOR Rosane, Rust

FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME? ☐ WSCF ☑ 222-S ☐ MO-612 ☐ MO-745 ☐ 6269 ☐ OTHER

CONTAINER/DRUM/TOTE/BOX

SAMPLE MATRIX DESCRIPTION ☑ SOIL ☐ SLUDGE ☐ RESIN ☐ GAC ☐ FILTER PAPER ☐ OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

Sand, Dirt, moist

FIELD OBSERVATIONS

WEATHER 65°F Sunny Wind - 0-5 mph

FIELD COMMENTS

SUPPORT PERSONNEL RCT, Drillers, F.W.S.

SAMPLES SURVEYED BY RCT ☑ YES ☐ NO

IS A BLUE CARD REQUIRED ☑ YES ☐ NO BLUE CARD NO 4

IS SRS PROVIDED AND COMPLETE ☑ YES ☐ NO

	PRINT NAME	SIGN NAME	DATE
RECORDED BY	Larry Rosane	Larry Rosane	4-21-09
CHECKED BY			

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☐ ORIGINAL

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-016	PAGE 1 OF 2
COLLECTOR Roanne Rost	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8P AIR QUALITY ☐	DATA TURNAROUND 75 Days / 75 Days
SAMPLING LOCATION C6392, 1-004	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V09-002		
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-576-3 pg 57	ACTUAL SAMPLE DEPTH 19.5' - 21.5'	COA 301483ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool <-7C and >-20C	MEOH/Cool~6 C
TYPE OF CONTAINER	aGs*	aGs*
NO. OF CONTAINER(S)	5	3
VOLUME	40mL	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B1YT72	SOIL	4-21-09	1041	✓	✓

CHAIN OF POSSESSION — SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rowe, Larry Rowe	4-21-09/1330	RA Steel & RJ Steel	4-21-09 1330

SPECIAL INSTRUCTIONS
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-016	PAGE 2 OF 2
COLLECTOR Rosane, Rust	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8P AIR QUALITY ☐	DATA TURNAROUND 75 Days / 75 Days
SAMPLING LOCATION C6392, I-004	PROJECT DESIGNATION WMA C Sampling for CHS		SAF NO. V09-002		
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-576-3 pg 57	ACTUAL SAMPLE DEPTH 19.5, 21.5	COA 301483ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis.
** The laboratory is to use one of the low level VOA bottles for moisture content determination.
** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)VOA - 5035/8260 (LOW LEVEL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}
(2)VOA - 5035/8260 (HIGH LEVEL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}

ORIGINAL

A-6003-613(01/05)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-017	PAGE 1 OF 1
COLLECTOR: Rosane Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 8P	DATA TURNAROUND
SAMPLING LOCATION: C6392, 1-004	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY: [ ]	75 Days / 75 Days
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 pg 57	ACTUAL SAMPLE DEPTH: 19.5' 21.5'	COA: 301483ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~6C
TYPE OF CONTAINER	aGs*
NO. OF CONTAINER(S)	1
VOLUME	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B1YT73	SOIL	4-21-09	10:41	✓

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rosane Larry Rosane	4-21-09/1370	RRSteele RRSteele	4.21.09 1330

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)VOA - 5035/8260 (TCL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/06)

Attachment 1 - Sample Record Sheet

SAMPLE RECORD SHEET

Location: C6392 C-Farms I-004

Sampler Initials and Date: SK 4-21-09

Sample Number	Sample Suffix[1]	Tare Weight provided (grams)	Tare Weight prior to sample[2] (grams)	Initial Weight[3] (grams)	Total Weight[4] (grams)	Soil Weight[5] (grams)	Methanol in sample bottle (ml)
B1YT72	K	N/A	31.5	31.9	36.1	4.2	No Methanol
B1YT72	L	N/A	31.7	32.1	36.3	4.2	
B1YT72	M	N/A	32.7	33.1	37.1	4.0	
B1YT72	N	N/A	32.6	33.0	37.9	4.9	
B1YT72	P	N/A	32.1	32.5	36.0	3.5	
B1YT72	W	36.12	36.2	36.6	40.6	4.0	10
B1YT72	X	35.49	35.4	35.8	39.7	3.9	10
B1YT72	Y	36.30	36.2	36.6	41.3	4.7	10
B1YT73	*	35.28	35.2	35.6	35.6	0.0	10

[1]Sample suffix of K, L, M, N, and P relate to low-level concentration samples and will not have any preservation beyond freezing between -70C and -20°C.

Sample suffix of W, X, and Y relate to methanol preservation for high-level samples.

Sample suffix of "*" relates to methanol blank. Cool these samples to 4°C ± 2°C.

[2]Tare weight prior to sample must be within +/- 0.1 grams of Vendors tare weight or bottle cannot be used. Weigh only the bottle, no labels, stickers or bags.

[3]Initial weight is to include all labels, stickers, bags, methanol (for vendor filled methanol samples with suffix W,X,Y and *) spin bars (for samples with suffix K,L,M,N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

[4]Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

[5]Soil weight is the vial with sample minus Initial Weight.

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	V09-002-018	PAGE 1 OF 2

COLLECTOR: Rosanne Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL
PRICE CODE: 8P	AIR QUALITY: ☐	DATA TURNAROUND: 75 Days / 75 Days	
SAMPLING LOCATION: C6392, I-004	PROJECT DESIGNATION: WMA C Sampling for CMS	SAF NO.: V09-002	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 pg 57	ACTUAL SAMPLE DEPTH: 19.5 - 21.5'	COA: 301483ES10
METHOD OF SHIPMENT: GOVERNMENT VEHICLE			
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.	BILL OF LADING/AIR BILL NO.	

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, Wi=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~6C
TYPE OF CONTAINER	Liner
NO. OF CONTAINER(S)	3
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B1YT74	SOIL	4-21-09	1041	✓

CHAIN OF POSSESSION — SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rosanne, Larry Rosanne	4-21-09 1330	R Steele	4.21.09 1330

SPECIAL INSTRUCTIONS

SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-018	PAGE 2 OF 2
COLLECTOR Rosnue, Rust	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8P	DATA TURNAROUND
SAMPLING LOCATION C6392, I-004	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V09-002	AIR QUALITY ☐	75 Days / 75 Days
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-576-3 pg 57	ACTUAL SAMPLE DEPTH 19.5' - 21.5'	COA 301483ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)Semi-VOA - 8270 Complete (TF) {1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 2,4-Dinitrotoluene, 2,6-bis(1,1-dimethylethyl)-4-methyl phenol, 2-Chlorophenol, 2-Methylphenol (cresol, o-), 2-Nitrophenol, 3-Methylphenol (cresol, m-), 4-Chloro-3-methylphenol, 4-Methylphenol (cresol, p-), Acenaphthene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Bis(2-ethylhexyl) phthalate, Butylbenzylphthalate, Cellosolve Solvent, Chrysene, Cyclohexanone, Di-n-butylphthalate, Di-n-octylphthalate, Dibenz[a,h]anthracene, Dibutylphosphate, Ethylene glycol, Fluoranthene, Hexachlorobutadiene, Hexachloroethane, Indeno(1,2,3-cd)pyrene, Isobutyl alcohol, Monobutyl phosphate, Naphthalene, Nitrobenzene, Pentachlorophenol, Pyrene, Pyridine, Total cresols, Tributyl phosphate, n-Nitrosodi-n-dipropylamine, n-Nitrosomorpholine) ICP Metals - 6010 (SW-846) (TF) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Uranium, Vanadium, Zinc} Mercury - 7471 - (CV) (TF) {Mercury} PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260} TPH-Gasoline Range - WTPH-G {Total petroleum hydrocarbons - gasoline range} TPH-Diesel Range - WTPH-D {Total petroleum hydrocarbons - diesel range} Pesticides - 8081 (TF) {2,4'-DDD (Dichlorodiphenyldichloroethane), 2,4'-DDE (Dichlorodiphenyldichloroethylene), 2,4'-DDT (Dichlorodiphenyltrichloroethane), 4,4'-DDD (Dichlorodiphenyldichloroethane), 4,4'-DDE (Dichlorodiphenyldichloroethylene), 4,4'-DDT (Dichlorodiphenyltrichloroethane), Aldrin, Chlordane, Dieldrin, Endrin, Gamma-BHC (Lindane), Heptachlor epoxide, Hexachlorobenzene} IC Anions - 9056 {2-Hydroxyacetate, Acetate, Chloride, Fluoride, Formate, Nitrate, Nitrite, Oxalate, Sulfate} 300.7_AMMONIUM (TF) {Nitrogen in ammonium} Sulfide - 9215 {Sulfide} Total Cyanide - 9014 (TF) {Cyanide} pH (Soil) - 9045 (pH Measurement) GAMMA ENERGY ANALYSIS (TF) {Antimony-125, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155} Actinides ICPMS (TF) {Neptunium-237, Technetium-99, Thorium-230, Thorium-232, Tin-126, Uranium-233, Uranium-234, Uranium-235, Uranium-236, Uranium-238} Americium-241 (TF) {Americium-241} 1129_SEP_GEA (TF) {Iodine-129} C-14 {Carbon-14} CURIUM {Curium-242, Curium-243, Curium-244} H3 - TRITIUM {Tritium} Isotopic Plutonium {Plutonium-238, Plutonium-239/240} Nickel-63 (TF) {Nickel-63} Selenium-79 (TF) {Selenium-79} Strontium-89,90 -- Sr-90 {Strontium-90}

ORIGINAL

A-6003-618(01/00)

C-6392 C-Jerms HNF-N-576-3 pg 59
Date: 4-22-09
Weather 60°F Cloudy Wind 10-20 mph
NCO'S: Rosanie, Rust
FW.S: Bill Clark
Drillers: Energy Solutions RWP: CO-460, Rev. 4
0700 - Started pre job sign in setup for samples I-005
this will be done with EB equipment that was done
1000 - Completed sample I-005 @ 25'-27'
B1YT75, V09-002-019
B1YT76, V09-002-020 } 222-S labs
B1YT77, V09-002-021
1313 - Samples were delivered to 222-S per Blue Card #4
Field reading on all samples for I-005 were 1000 cpm
above background.

Last entry this Date
JK
4-22-09

FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS	PAGE 1 OF 2
	DATE/TIME 4-22/09/1000
SAF NO.(S) V09-002	
LOCATION C6392, I-005	LOGBOOK NO./PAGE HNF-N-576-3 pg 59
WELL NAME C6392	WELL ID C6392 / ACTUAL DEPTH 25-27' ☐ft ☐m
BOTTOM OF CASING (bgs) N/A ☐ft ☐m	BOTTOM OF BOREHOLE (bgs) N/A ☐ft ☐m
SAMPLES COLLECTED	
TOTAL NUMBER OF BOTTLES 12 TOTAL NUMBER OF CHAINS 3	COLLECTOR Rosmie, Rust

222-S V09-002-019

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YT75	5 / 40mL / aGs*	814 / 1	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B1YT75	3 / 40mL / aGs*	B9D750 1VB	MEOH/Cool~6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

222-S V09-002-020

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YT76	1 / 40mL / aGs*	B9D750 1VB	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

222-S V09-002-021

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YT77	3 / 160g / Liner	N/A	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

ORIGINAL

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A-6004-701 (REV.0)

FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS	PAGE 2 OF 2
	DATE/TIME 4-22-09/1000
SAF NO.(S) V09-002	
LOCATION C6392, I-005	LOGBOOK NO./PAGE HNF-N-576-3 pg 59
WELL NAME C6392	WELL ID C6392 ACTUAL DEPTH 25'-27' ☑ft ☐m
BOTTOM OF CASING (bgs) N/A ☐ft ☐m	BOTTOM OF BOREHOLE (bgs) N/A ☐ft ☐m
SAMPLES COLLECTED	
TOTAL NUMBER OF BOTTLES 12 TOTAL NUMBER OF CHAINS 3	COLLECTOR Rosane, Rust

FIELD INFORMATION	
WHERE ARE SAMPLES LOCATED AT THIS TIME?	☐ WSCF ☑ 222-S ☐ MO-612 ☐ MO-745 ☐ 6269 ☐ OTHER
CONTAINER/DRUM/TOTE/BOX	
SAMPLE MATRIX DESCRIPTION	☑ SOIL ☐ SLUDGE ☐ RESIN ☐ GAC ☐ FILTER PAPER ☐ OTHER
FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]	
Damp Sand some small rock	
FIELD OBSERVATIONS	
WEATHER 60°F Partly Cloudy Wind 10-20 mph	
FIELD COMMENTS	
SUPPORT PERSONNEL BTR, Drillers, RCT	
SAMPLES SURVEYED BY RCT	☑ YES ☐ NO
IS A BLUE CARD REQUIRED	☑ YES ☐ NO BLUE CARD NO 4
IS SRS PROVIDED AND COMPLETE	☑ YES ☐ NO
RECORDED BY	Larry Rosane (PRINT NAME) Larry Rosane (SIGN NAME) 4-22-09 (DATE)
CHECKED BY	PRINT NAME / SIGN NAME / DATE

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ORIGINAL

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-019	PAGE 1 OF 2
COLLECTOR: Rosance, Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 8P	DATA TURNAROUND
SAMPLING LOCATION: C6392, I-005	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY: ☐	75 Days / 75 Days
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-W-576-3 pg 59	ACTUAL SAMPLE DEPTH: 25'-27'	COA: 301483ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegitation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool <-7C and >-20C	MEOH/Cool~6 C
TYPE OF CONTAINER	aGs*	aGs*
NO. OF CONTAINER(S)	5	3
VOLUME	40mL	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B1YT75 GV	SOIL	4-22-09	1000	✓	✓	
SOVT-CC125 (Lo)						
SOVT-CC133 (Hi) GV						
Lot #				B1A110	B9E750	VB

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rosance, Larry Rosance	4-22-09 1313	TM Collock	4-22-09 1313
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

☐ ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-019	PAGE 2 OF 2
COLLECTOR Rosane, Rust	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8P	DATA TURNAROUND
SAMPLING LOCATION C6392, I-005	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V09-002	AIR QUALITY ☐	75 Days / 75 Days
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-576-3 p.59	ACTUAL SAMPLE DEPTH 25'-27'	COA 301483ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** VOA sample bott e sets will include 3 bottles for high level analysis, 5 bottles for low level analysis.
** The laboratory is to use one of the low level VOA bottles for moisture content determination.
** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)VOA - 5035/8260 (LOW LEVEL) (TF) (1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene)
(2)VOA - 5035/8260 (HIGH LEVEL) (TF) (1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene)

ORIGINAL

A-6003-818(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-020	PAGE 1 OF 1
COLLECTOR: Rosanne Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 8P	DATA TURNAROUND
SAMPLING LOCATION: C6392, I-005	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY ☐	75 Days / 75 Days
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 pg 59	ACTUAL SAMPLE DEPTH: 25'-27'	COA: 301483ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~6C
TYPE OF CONTAINER	aGs*
NO. OF CONTAINER(S)	1
VOLUME	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B1YT76	SOIL	4-22-09	1000	✓
S09V000141				
Lot #				B9075Q1VB

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rosanne Larry Rosanne	4-22-09/1313	TM Gilbert	4-22-09 1313
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)VOA - 5035/8260 (TCL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/06)

Attachment 1 - Sample Record Sheet

SAMPLE RECORD SHEET

Location: L 6392 C Farms I-005

Sampler Initials and Date: JK 4-

Sample Number	Sample Suffix[1]	Tare Weight provided (grams)	Tare Weight prior to sample[2] (grams)	Initial Weight[3] (grams)	Total Weight[4] (grams)	Soil Weight[5] (grams)	Methanol in sample bottle (ml)
B1YT75	K	N/A	30.0	31.5	36.1	4.6	No Methanol
B1YT75	L	N/A	31.2	32.8	37.9	5.1	
B1YT75	M	N/A	31.3	32.9	39.5	6.6	
B1YT75	N	N/A	30.9	32.5	38.8	6.3	
B1YT75	P	N/A	31.0	32.6	39.6	7.0	
B1YT75	W	35.23	35.2	35.6	41.2	5.6	10
B1YT75	X	35.45	35.4	35.7	42.8	7.1	10
B1YT75	Y	35.37	35.3	35.7	43.5	7.8	10
B1YT76	*	35.21	35.2	35.6	35.6	0	10

[1]Sample suffix of K, L, M, N, and P relate to low-level concentration samples and will not have any preservation beyond freezing between -70C and -20°C.

Sample suffix of W, X, and Y relate to methanol preservation for high-level samples.

Sample suffix of "*" relates to methanol blank. Cool these samples to 4°C ± 2°C.

[2]Tare weight prior to sample must be within +/- 0.1 grams of Vendors tare weight or bottle cannot be used. Weigh only the bottle, no labels, stickers or bags.

[3]Initial weight is to include all labels, stickers, bags, methanol (for vendor filled methanol samples with suffix W,X,Y and *) spin bars (for samples with suffix K,L,M,N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

[4]Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

[5]Soil weight is the vial with sample minus Initial Weight.

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-021	PAGE 1 OF 2
COLLECTOR: Rosanne Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 8P	DATA TURNAROUND
SAMPLING LOCATION: C6392, 1-005	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY ☐	75 Days / 75 Days
ICE CHEST NO.	FIELD LOGBOOK NO.: HWF-W-576-3 pg 59	ACTUAL SAMPLE DEPTH: 25'-27'	COA: 301483ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegitation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool-6C
TYPE OF CONTAINER	Liner
NO. OF CONTAINER(S)	3
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B1YT77	SOIL	4-22-09	1000	✓
S09V:00156				
S09L:00156				
S09N:00157				
LOT #				

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rosane, Larry Rosane	4-22-09/ 1313	TM Gilliard	4-22-09 1313
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

☐ ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-021	PAGE 2 OF 2
COLLECTOR Rosane, Rust	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8P AIR QUALITY ☐	DATA TURNAROUND 75 Days / 75 Days
SAMPLING LOCATION C6392, I-005	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V09-002		
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-576-3 pg 59	ACTUAL SAMPLE DEPTH 25'-27'	COA 301483ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)Semi-VOA - 8270 Complete (TF) {1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 2,4-Dinitrotoluene, 2,6-bis(1,1-dimethylethyl)-4-methyl phenol, 2-Chlorophenol, 2-Methylphenol (cresol, o-), 2-Nitrophenol, 3-Methylphenol (cresol, m-), 4-Chloro-3-methylphenol, 4-Methylphenol (cresol, p-), Acenaphthene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Bis(2-ethylhexyl) phthalate, Butylbenzylphthalate, Cellosolve Solvent, Chrysene, Cyclohexanone, Di-n-butylphthalate, Di-n-octylphthalate, Dibenz[a,h]anthracene, Dibutylphosphate, Ethylene glycol, Fluoranthene, Hexachlorobutadiene, Hexachloroethane, Indeno(1,2,3-cd)pyrene, Isobutyl alcohol, Monobutyl phosphate, Naphthalene, Nitrobenzene, Pentachlorophenol, Pyrene, Pyridine, Total cresols, Tributyl phosphate, n-Nitrosodi-n-dipropylamine, n-Nitrosomorpholine} ICP Metals - 6010 (SW-846) (TF) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Uranium, Vanadium, Zinc} Mercury - 7471 - (CV) (TF) {Mercury} PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260} TPH-Gasoline Range - WTPH-G {Total petroleum hydrocarbons - gasoline range} TPH-Diesel Range - WTPH-D {Total petroleum hydrocarbons - diesel range} Pesticides - 8081 (TF) {2,4'-DDD (Dichlorodiphenyldichloroethane), 2,4'-DDE (Dichlorodiphenyldichloroethylene), 2,4'-DDT (Dichlorodiphenyltrichloroethane), 4,4'-DDD (Dichlorodiphenyldichloroethane), 4,4'-DDE (Dichlorodiphenyldichloroethylene), 4,4'-DDT (Dichlorodiphenyltrichloroethane), Aldrin, Chlordane, Dieldrin, Endrin, Gamma-BHC (Lindane), Heptachlor epoxide, Hexachlorobenzene} IC Anions - 9056 {2-Hydroxyacetate, Acetate, Chloride, Fluoride, Formate, Nitrate, Nitrite, Oxalate, Sulfate} 300.7_AMMONIUM (TF) {Nitrogen in ammonium} Sulfide - 9215 {Sulfide} Total Cyanide - 9014 (TF) {Cyanide} pH (Soil) - 9045 {pH Measurement} GAMMA ENERGY ANALYSIS (TF) {Antimony-125, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155} Actinides ICPMS (TF) {Neptunium-237, Technetium-99, Thorium-230, Thorium-232, Tin-126, Uranium-233, Uranium-234, Uranium-235, Uranium-236, Uranium-238} Americium-241 (TF) {Americium-241} 1129_SEP_GEA (TF) {Iodine-129} C-14 {Carbon-14} CURIUM {Curium-242, Curium-243, Curium-244} H3 - TRITIUM {Tritium} Isotopic Plutonium {Plutonium-238, Plutonium-239/240} Nickel-63 (TF) {Nickel-63} Selenium-79 (TF) {Selenium-79} Strontium-89,90 -- Sr-90 {Strontium-90}

ORIGINAL

A-6003-618(01/06)

C-6392 C-Farms HNF-N-576-3-~~x~~61

Date: 4-30-09

Weather 60°F Sunny Wind 10-15 mph

NXCO's: Rosnnc, Rust

F.W.S.: Bill Clark

Drillers: Energy Solutions RWP CO-460 Rev. 4

0700- Started pre-job sign in preparing for sample I-006

1015- Completed sample I-006 @ 42'-44'

BIYT78, V09-002-022
BIYT79, V09-002-023 } 222-S labs
BIYT80, V09-002-024

1415: Completed sample I-007 @ 56'-58'

BIYT81, V09-002-025
BIYT82, V09-002-026 } 222-S labs
BIYT83, V09-002-027

1510- Samples were delivered to 222-S labs
Well C-6392 is complete

Last entry this Date 4-30-09 SJC

Larry Rosone 4-30-09

FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS	PAGE 1 OF 2
	DATE/TIME 4-30-09/1015
SAF NO.(S) V09-002	
LOCATION C6392, I-006	LOGBOOK NO./PAGE HNF-N-576-3 pg 61
WELL NAME C6392	WELL ID C6392 ACTUAL DEPTH 42.44' ☐ft ☐m
BOTTOM OF CASING (bgs) N/A ☐ft ☐m	BOTTOM OF BOREHOLE (bgs) N/A ☐ft ☐m
SAMPLES COLLECTED	
TOTAL NUMBER OF BOTTLES 12 TOTAL NUMBER OF CHAINS 3	COLLECTOR Rosane, Rust

222-S V09-002-022

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YT78	5 / 40mL / aGs*	B14110	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B1YT78	3 / 40mL / aGs*	B907501VB	MEOH/Cool~6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

222-S V09-002-023

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YT79	1 / 40mL / aGs*	B907501VB	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

222-S V09-002-024

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YT80	3 / 160g / Liner	N/A	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

ORIGINAL

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A-6004-701 (REV.0)

FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS	PAGE 2 OF 2
	DATE/TIME 4-30-09/1015
SAF NO.(S) V09-002	
LOCATION C6392, I-006	LOGBOOK NO./PAGE HNF-N-576-3 pg 61
WELL NAME C6392	WELL ID C6392 ACTUAL DEPTH 42-44 ☑ft ☐m
BOTTOM OF CASING (bgs) N/A ☐ft ☐m	BOTTOM OF BOREHOLE (bgs) N/A ☐ft ☐m
SAMPLES COLLECTED	
TOTAL NUMBER OF BOTTLES 12 TOTAL NUMBER OF CHAINS 3	COLLECTOR Rosane, Rust

FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME? ☐ WSCF ☑ 222-S ☐ MO-612 ☐ MO-745 ☐ 6269 ☐ OTHER

CONTAINER/DRUM/TOTE/BOX

SAMPLE MATRIX DESCRIPTION ☑ SOIL ☐ SLUDGE ☐ RESIN ☐ GAC ☐ FILTER PAPER ☐ OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

Sand

FIELD OBSERVATIONS

WEATHER 60°F Sunny Wind 10-15 mph

FIELD COMMENTS

N/A

SUPPORT PERSONNEL RCT, Drillers, EWS.

SAMPLES SURVEYED BY RCT ☑ YES ☐ NO

IS A BLUE CARD REQUIRED ☑ YES ☐ NO BLUE CARD NO 4

IS SRS PROVIDED AND COMPLETE ☑ YES ☐ NO

	PRINT NAME	SIGN NAME	DATE
RECORDED BY	Larry Rosane	Larry Rosane	4-30-09
CHECKED BY	Eric Anderson	[signature]	4-30-09

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☐ ORIGINAL

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-022	PAGE 1 OF 2
COLLECTOR: Rosave, Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: BP	DATA TURNAROUND: 75 Days / 75 Days
SAMPLING LOCATION: C6392, T-006	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-2572-3 Pg 61	ACTUAL SAMPLE DEPTH: 42-44 ~~HNF-10-57~~ 3pg 4-30-09	COA: 301483ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

20090160

SPECIAL HANDLING AND/OR STORAGE: 20090160

PRESERVATION	Cool <-7C and >-20C	Cool <-7C and >-20C
TYPE OF CONTAINER	8Gs*	8Gs*
NO. OF CONTAINER(S)	3	3
VOLUME	40mL	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B1YT78	SOIL	4-30-09	1015	✓	✓
S09V000126	(U.)				
S09V000134	(U.)				

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rosave, Larry Rosave	4-30-09 / 1510	Todd McCollock / [illegible]	4/30/09 1510
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS: SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A 6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-022	PAGE 2 OF 2
COLLECTOR Rosane, Rust	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8P	DATA TURNAROUND
SAMPLING LOCATION C6392, I-006	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V09-002	AIR QUALITY	75 Days / 75 Days
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-526-3 p161	ACTUAL SAMPLE DEPTH 42'-44'	COA 101483ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis.
** The laboratory is to use one of the low level VOA bottles for moisture content determination.
** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)VOA - 5035/8260 (LOW LEVEL) (TF) (1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2 Nitropropane 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichlorofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2 Dichloroethylene, trans-1,3-Dichloropropene)
(2)VOA - 5035/8260 (HIGH LEVEL) (TF) (1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2 Dichloroethane, 1-Butanol, 2 Butanone, 2 Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichlorofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3 Dichloropropene)

ORIGINAL

A 6600 618(01/00)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-023	PAGE 1 OF 1
COLLECTOR: Roake, Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 8P	DATA TURNAROUND: 75 Days / 75 Days
SAMPLING LOCATION: C6392, 1-006	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-584-3 p61	ACTUAL SAMPLE DEPTH: 42'-44'	COA: 301483ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE: 20090160

PRESERVATION	Cool-4C
TYPE OF CONTAINER	aGs*
NO. OF CONTAINER(S)	1
VOLUME	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME										
B1YT79	SOIL	4-30-09	1015	✓									
SA2009142													

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rosque Larry Rosque	4-30-09 1510	Tim Gilliland Tim Gilliland	4/30/09 1510

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)VOA - 5035/8260 (TCL) (1F) (1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2 Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichlorofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans 1,3 Dichloropropene)

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-8002-418(01/06)

Attachment 1 - Sample Record Sheet

SAMPLE RECORD SHEET

Location: C6392 C-Farms I-006

Sampler Initials and Date: [illegible] 4-30-09

Sample Number	Sample Suffix[1]	Tare Weight provided (grams)	Tare Weight prior to sample[2] (grams)	Initial Weight[3] (grams)	Total Weight[4] (grams)	Soil Weight[5] (grams)	Methanol in sample bottle (ml)
B1YT78	K	N/A	30.8	32.3	38.7	6.4	No Methanol
B1YT78	L	N/A	30.3	31.9	40.2	8.3	
B1YT78	M	N/A	29.8	31.3	38.6	7.3	
B1YT78	N	N/A	30.9	32.5	40.0	7.5	
B1YT78	P	N/A	30.0	31.6	37.9	6.3	
B1YT78	W	35.34	35.3	35.6	43.8	8.2	10
B1YT78	X	35.27	35.2	35.6	43.1	7.5	10
B1YT78	Y	35.49	35.4	35.8	43.4	7.6	10
B1YT79	*	35.33	35.3	35.6	35.6	0	10

[1]Sample suffix of K, L, M, N, and P relate to low-level concentration samples and will not have any preservation beyond freezing between -70C and -20°C.

Sample suffix of W, X, and Y relate to methanol preservation for high-level samples.

Sample suffix of "*" relates to methanol blank. Cool these samples to 4°C ± 2°C.

[2]Tare weight prior to sample must be within +/- 0.1 grams of Vendors tare weight or bottle cannot be used. Weigh only the bottle, no labels, stickers or bags.

[3]Initial weight is to include all labels, stickers, bags, methanol (for vendor filled methanol samples with suffix W,X,Y and *) spin bars (for samples with suffix K,L,M,N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

[4]Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

[5]Soil weight is the vial with sample minus Initial Weight.

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		V09-002-024	PAGE 1 OF 2
COLLECTOR: Rodney Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 8P; DATA TURNAROUND: 7S Days / 7S Days
SAMPLING LOCATION: C6397, I-006	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY: ☐
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 pg 61	ACTUAL SAMPLE DEPTH: 42-44'	COA: 3014B3E510	METHOD OF SHIPMENT: GOVERNMENT VEHICLE
SHIPPED TO: 222 S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.	

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990; 1993)

SPECIAL HANDLING AND/OR STORAGE: 20090160

PRESERVATION	Cool-4C										
TYPE OF CONTAINER	Liner										
NO. OF CONTAINER(S)	3										
VOLUME	160g										
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS										

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME									
B1YT80	SOIL	4-30-09	~~1015~~ 1013 ~~1015~~ 4-30-09	✓								
S09V00160												
S09V00161												
S09V00162												

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: Larry Rosner, Tony Rosner	DATE/TIME: 4-30-09 / 1510	RECEIVED BY/STORED IN: Tim Rodd, Tim Rodd	DATE/TIME: 4/30/09 1510	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A 6083 610(01/00)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-024	PAGE 2 OF 2
COLLECTOR Rosner, Rust	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8P	DATA TURNAROUND 75 Days / 75 Days
SAMPLING LOCATION C6392, 1 006	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V09 002	AIR QUALITY ☐	
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-576-3 pg 61	ACTUAL SAMPLE DEPTH 42'-44'	COA 301483ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222 S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

** After VOA bottles for the direct pushes are filled, the NCDs will cap remaining liners for shipment to 222 S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)Semi VOA - 8270 Complete (TF) (1,2,4 Trichlorobenzene, 1,2 Dichlorobenzene, 2,4,5 Trichlorophenol, 2,4,6 Trichlorophenol, 2,4-Dinitrotoluene, 2,6 Bis(1,1 dimethylethyl) 4 methyl phenol, 2 Chlorophenol, 2 Methylphenol (cresol, o-), 2 Nitrophenol, 3,4 Methylphenol (cresol, m-), 4 Chloro 3 methylphenol, 4 Methylphenol (cresol, p-), Acenaphthene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Bis(2 ethylhexyl) phthalate, Butylbenzylphthalate, Cellosolve Solvent, Chrysene, Cyclohexanone, Di n butyl phthalate, Di n octyl phthalate, Dibenz[a,h]anthracene, DiEthyl phosphate, Ethylene glycol, Fluoranthene, Hexachlorobutadiene, Hexachloroethane, Indeno(1,2,3 cd) pyrene, Isobutyl alcohol, Monobutyl phosphate, Naphthalene, Nitrobenzene, Pentachlorophenol, Pyrene, Pyridine, Total cresols, Tributyl phosphate, n Nitrosodi n dipropylamine, n Nitrosomorpholine; ICP Metals - 6010 (SW 846) (TF) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Uranium, Vanadium, Zinc) Mercury - 7471 - (CV) (TF) (Mercury) PCBs - 8082 (Aroclor 1016, Aroclor-1221, Aroclor 1232, Aroclor-1242, Aroclor 1248, Aroclor 1254, Aroclor 1260) TPH Gasoline Range - WTPH G (Total petroleum hydrocarbons - gasoline range) TPH Diesel Range - WTPH D (Total petroleum hydrocarbons - diesel range) Pesticides - 8081 (TF) (2,4' DDD (Dichlorodiphenyldichloroethane), 2,4' DDE (Dichlorodiphenyldichloroethylene), 2,4' DDT (Dichlorodiphenyltrichloroethane), 4,4' DDD (Dichlorodiphenyldichloroethane), 4,4' DDE (Dichlorodiphenyldichloroethylene), 4,4' DDT (Dichlorodiphenyltrichloroethane), Aldrin, Chlordane, Dieldrin, Endrin, Gamma BHC (Lindane), Heptachlor epoxide, Hexachlorobenzene) IC Anions - 9056 (2-Hydroxyacetate, Acetate, Chloride, Fluoride, Formate, Nitrate, Nitrite, Oxalate, Sulfate) 300.7 AMMONIUM (TF) (Nitrogen in ammonium) Sulfide - 9215 (Sulfide) Total Cyanide - 9014 (TF) (Cyanide) pH (Soil) - 9045 (pH Measurement) GAMMA ENERGY ANALYSIS (TF) (Antimony 125, Cesium-137, Cobalt 60, Europium 152, Europium 154, Europium 155) Actinides ICPMS (TF) (Neptunium-237, Technetium 99, Thorium 230, Thorium 232, Tin 126, Uranium 233, Uranium 234, Uranium-235, Uranium 236, Uranium 238) Americium 241 (TF) (Americium 241) I129_SLF_GEA (TF) (Iodine-129) C-14 (Carbon-14) CURIUM (Curium 242, Curium 243, Curium 244) H3 - TRITIUM (Tritium) Isotopic Plutonium (Plutonium 238, Plutonium 239/240) Nickel-63 (TF) (Nickel 63) Selenium-79 (TF) (Selenium 79) Sr-89/90 (Strontium 89,90 - Sr-90 (Strontium 90)

ORIGINAL

A 6200 (10/01/00)

FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS	PAGE 1 OF 2
	DATE/TIME 4-30-09/1415
SAF NO.(S) V09-002	
LOCATION C6392, 1-007	LOGBOOK NO./PAGE HNF-N-576-3 pg 61
WELL NAME C6392	WELL ID C6392 ACTUAL DEPTH 56'-58' ☑ft ☐m
BOTTOM OF CASING (bgs) N/A ☐ft ☐m	BOTTOM OF BOREHOLE (bgs) N/A ☐ft ☐m
SAMPLES COLLECTED	
TOTAL NUMBER OF BOTTLES 12 TOTAL NUMBER OF CHAINS 3	COLLECTOR Rosane, Rust

222-S V09-002-025

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YT81	5 / 40mL / aGs*	8140110	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B1YT81	3 / 40mL / aGs*	B907501VB	MEOH/Cool-6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

222-S V09-002-026

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YT82	1 / 40mL / aGs*	B907501VB	Cool-6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

222-S V09-002-027

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YT83	3 / 160g / Liner	N/A	Cool-6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

☐ ORIGINAL

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FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS	PAGE 2 OF 2
	DATE/TIME 4-30-09/1415
SAF NO.(S) V09-002	
LOCATION C6392, I-007	LOGBOOK NO./PAGE HNF-N-576-3 pg 61
WELL NAME C6392	WELL ID C6392 / ACTUAL DEPTH 56-58 ☑ft ☐m
BOTTOM OF CASING (bgs) N/A ☐ft ☐m	BOTTOM OF BOREHOLE (bgs) N/A ☐ft ☐m
SAMPLES COLLECTED	
TOTAL NUMBER OF BOTTLES 12 TOTAL NUMBER OF CHAINS 3	COLLECTOR Rosanne Rust

FIELD INFORMATION	
WHERE ARE SAMPLES LOCATED AT THIS TIME?	☐ WSCF ☑ 222-S ☐ MO-612 ☐ MO-745 ☐ 6269 ☐ OTHER
CONTAINER/DRUM/TOTE/BOX	N/A
SAMPLE MATRIX DESCRIPTION	☑ SOIL ☐ SLUDGE ☐ RESIN ☐ GAC ☐ FILTER PAPER ☐ OTHER
FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]	
N/A	
FIELD OBSERVATIONS	
WEATHER	60°F Sunny Wind 10-15 mph
FIELD COMMENTS	
N/A	
SUPPORT PERSONNEL	RCT Drillers F.W.S.
SAMPLES SURVEYED BY RCT	☑ YES ☐ NO
IS A BLUE CARD REQUIRED	☑ YES ☐ NO BLUE CARD NO 4
IS SRS PROVIDED AND COMPLETE	☑ YES ☐ NO
RECORDED BY	Larry Rosene (PRINT NAME) / Larry Rosene (SIGN NAME) / 4-30-09 (DATE)
CHECKED BY	Ed Kaush (PRINT NAME) / [signature] (SIGN NAME) / 4-30-09 (DATE)

PRINTED BY TMJOHANS ON 3/23/2009 12:31:19 PM A-6004-701 (REV.0)

ORIGINAL

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-025	PAGE 1 OF 2
COLLECTOR: Rosanne, Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 8P	DATA TURNAROUND: 75 Days / 75 Days
SAMPLING LOCATION: C6392, T-007	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 pg 61	ACTUAL SAMPLE DEPTH: 56'-58'	COA: 301483ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE: 20090160

PRESERVATION			Cool < 7C and > -20C	MEOH/Cool -6 C	
TYPE OF CONTAINER			WGs*	WGs*	
NO. OF CONTAINER(S)			5	3	
VOLUME			40mL	40mL	
SAMPLE ANALYSIS			SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B1YT81	SOIL	4-30-09	1415	✓	✓
S09V000127	(L)				
S09V000135	(H)				
Lot #				B4D010	B90750V3

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rosanne, Larry Rosanne	4-30-09 1510	[illegible]	4/30/09 1510

SPECIAL INSTRUCTIONS: SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-025	PAGE 2 OF 2
COLLECTOR Rosanne Rust	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8P AIR QUALITY ☐	DATA TURNAROUND 75 Days / 75 Days
SAMPLING LOCATION C6392, I-007	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V09 002		
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-576-3 p.61	ACTUAL SAMPLE DEPTH 56'-58'	COA 3014R3ES1D	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222 S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis.
** The laboratory is to use one of the low level VOA bottles for moisture content determination.
** VOA bottles will be labeled with an appended suffix of X, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)VOA - 5035/8260 (LOW LEVEL) (TF) (1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2 trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1 Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4 Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene)
(2)VOA - 5035/8260 (HIGH LEVEL) (TF) (1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2 Dichloroethane, 1-Butanol, 2-Butanone, 2 Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene)

ORIGINAL

A 6201 618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-026	PAGE 1 OF 1
COLLECTOR: Rosanne Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 8P	DATA TURNAROUND: 75 Days / 75 Days
SAMPLING LOCATION: C6392, 1 007	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY: ☐	
ICE CHEST NO.:	FIELD LOGBOOK NO.: HNF-N-576-3 pg 61	ACTUAL SAMPLE DEPTH: 56'-58'	COA: 301483ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

MATRIX*: A=Air, DL=Drum Liquid, DS=Drum Solid, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE: 20090160

PRESERVATION	Cool-6C									
TYPE OF CONTAINER	WGS*									
NO. OF CONTAINER(S)	1									
VOLUME	40mL									
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS									

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME									
B1YT82	SOIL	4-30-09	1415	✓								
S09V000143												
Lot #				B9P750108								

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: Larry Rosane, Larry Rosane	DATE/TIME: 4-30-09 1510	RECEIVED BY/STORED IN: Trent Lloyd Fulkerson	DATE/TIME: 4/30/09 1510
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.

(1)VOA - 5035/8260 (TCL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloromethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A 9051 618(04/06)

S&GRP Operating Procedure	GRP-FS-04-G-030 Rev. 0, Chg. C
VOC Soil and Sediment Sampling	Page 10 of 10

Attachment 1 - Sample Record Sheet

SAMPLE RECORD SHEET

Location: C 6392 C. Fowns I-007

Sampler Initials and Date: [illegible] 4-30-09

Sample Number	Sample Suffix[1]	Tare Weight provided (grams)	Tare Weight prior to sample[2] (grams)	Initial Weight[3] (grams)	Total Weight[4] (grams)	Soil Weight[5] (grams)	Methanol in sample bottle (ml)
B1YT81	K	N/A	30.7	32.5	37.7	3.2	No Methanol
B1YT81	L	N/A	31.6	33.4	39.3	5.9	
B1YT81	M	N/A	30.4	32.3	37.4	5.1	
B1YT81	N	N/A	31.2	33.1	37.5	4.4	
B1YT81	P	N/A	30.3	32.2	38.2	6.0	
B1YT81	W	35.61	35.6	36.0	40.5	4.5	10
B1YT81	X	35.27	35.3	35.6	42.5	6.9	10
B1YT81	Y	35.32	35.3	35.6	42.6	7.0	10
B1YT82	*	35.46	35.5	35.8	35.8	0	10

[1]Sample suffix of K, L, M, N, and P relate to low-level concentration samples and will not have any preservation beyond freezing between -70C and -20°C.

Sample suffix of W, X, and Y relate to methanol preservation for high-level samples.

Sample suffix of "*" relates to methanol blank. Cool these samples to 4°C ± 2°C.

[2]Tare weight prior to sample must be within +/- 0.1 grams of Vendors tare weight or bottle cannot be used. Weigh only the bottle, no labels, stickers or bags.

[3]Initial weight is to include all labels, stickers, bags, methanol (for vendor filled methanol samples with suffix W,X,Y and *) spin bars (for samples with suffix K,L,M,N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

[4]Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

[5]Soil weight is the vial with sample minus Initial Weight.

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-027	PAGE 1 OF 7
COLLECTOR: Kenneth Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: BP	DATA TURNAROUND
SAMPLING LOCATION: C6392, 1-007	PROJECT DESIGNATION: WMA C Sampling for CHS		SAF NO.: V09-002	AIR QUALITY: ☐	75 Days / 75 Days
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF N 576-5 pg 61	ACTUAL SAMPLE DEPTH: 56-58'	COA: 301483ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

MATRIX*: A=Air; DL=Drum Liquids; DS=Drum Solids; L=Liquid; O=Oil; S=Soil; SE=Sediment; T=Tissue; V=Vegetation; W=Water; Wi=Wipe; X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE: 20090160

PRESERVATION	Cool-6C												
TYPE OF CONTAINER	Liner												
NO. OF CONTAINER(S)	3												
VOLUME	160g												
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS												

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME										
B1YT83 164	SOIL	4-30-09	1415	✓									
S09V000175													
S09V000165													
S09V000166													

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: Kenny Rust, Kenny Rust	DATE/TIME: 4-30-09/1510	RECEIVED BY/STORED IN: [illegible]	DATE/TIME: 4/30/09 1510
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS: SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A7001 (08/2/08)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-027	PAGE 2 OF 2
COLLECTOR Rosane Rust	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE BP AIR QUALITY [ ]	DATA TURNAROUND 75 Days / 75 Days
SAMPLING LOCATION C6392, I-007	PROJECT DESIGNATION WHA C Sampling for CMS		SAF NO. V09-002		
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-576-3 p61	ACTUAL SAMPLE DEPTH 56'-58'	COA 301483ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 750 mL poly bottles with Teflon lined lids.
(1)Semi-VOA - 8270 Complete (TF) (1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 2,4,5 Trichlorophenol, 2,4,6 Trichlorophenol, 2,4 Dinitrotoluene, 2,6 bis(1,1 dimethylethyl)-4 methyl phenol, 2-Chlorophenol, 2-Methylphenol (cresol, o-), 2 Nitrophenol, 3-Methylphenol (cresol, m-), 4 Chloro-3 methylphenol, 4-Methylphenol (cresol, p-), Acenaphthene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Bis(2 ethylhexyl) phthalate, Butylbenzylphthalate, Cellosolve Solvent, Chrysene, Cyclohexanone, Di-n-butylphthalate, Di-n-octylphthalate, Dibenz(a,h)anthracene, Dibutylphosphate, Ethylene glycol, Fluoranthene, Hexachlorobutadiene, Hexachloroethane, Indeno(1,2,3 cd)pyrene, Isobutyl alcohol, Monobutyl phosphate, Naphthalene, Nitrobenzene, Pentachlorophenol, Pyrene, Pyridine, Total cresols, Tributyl phosphate, n Nitrosodi n dipropylamine, n Nitrosomorpholine) ICP Metals - 6010 (SW 846) (TF) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Uranium, Vanadium, Zinc) Mercury - 7471 - (CV) (TF) (Mercury) PCBs - 8082 (Aroclor-1016, Aroclor-1221, Aroclor 1232, Aroclor-1242, Aroclor 1248, Aroclor 1254, Aroclor 1260) TPH-Gasoline Range WTPH G (Total petroleum hydrocarbons - gasoline range) TPH Diesel Range WTPH D (Total petroleum hydrocarbons diesel range) Pesticides - 8081 (TF) (2,4'-DDD (Dichlorodiphenyldichloroethane), 2,4' DDE (Dichlorodiphenyldichloroethylene), 2,4'-DDT (Dichlorodiphenyltrichloroethane), 4,4' DDD (Dichlorodiphenyldichloroethane), 4,4' DDE (Dichlorodiphenyldichloroethylene), 4,4' DDT (Dichlorodiphenyltrichloroethane), Aldrin, Chlordane, Dieldrin, Endrin, Gamma BHC (Lindane), Heptachlor epoxide, Hexachlorobenzene) IC Anions - 9056 (2-Hydroxyacetate, Acetate, Chloride, Fluoride, Formate, Nitrate, Nitrite, Oxalate, Sulfate) 300.7_AMMONIUM (TF) (Nitrogen in ammonium) Sulfide - 9215 (Sulfide) Total Cyanide - 9014 (TF) (Cyanide) pH (Soil) - 9045 (pH Measurement) GAMMA ENERGY ANALYSIS (TF) (Antimony 125, Cesium-137, Cobalt 60, Europium 152, Europium 154, Europium 155) Actinides ICPMS (TF) (Neptunium 237, Technetium-99, Thorium-230, Thorium 232, Tin-126, Uranium 233, Uranium-234, Uranium 235, Uranium-236, Uranium-238) Americium 241 (TF) (Americium 241) I129_SEP_CEA (TF) (Iodine-129) C 14 (Carbon-14) CURIUM (Curium 242, Curium 243, Curium 244) H3 - TRITIUM (Tritium) Isotopic Plutonium (Plutonium 238, Plutonium 239/240) Nickel 63 (TF) (Nickel 63) Selenium 79 (TF) (Selenium-79) Strontium 89,90 – Sr 90 (Strontium 90)

ORIGINAL

A-6013 618(01/06)

62

C-6404: C-Farms HNF-N-576-3 pg 62

Date: 5-4-09

Weather 55°F Partly cloudy 10-15mph Wind

NCO's - Rosane, Rust

F.W.S. - Bill Clark

Drillers - Energy Solutions RWP. CO-460 Rev. 4

0700- Started pre-job sign in preparing to move boreholes from C-6392 to 6404 for I-001

1020- Completed I-001 @ 6' BIVT90, V09-002-034 } 222-S labs.
BIVT91, V09-002-035
BIVT92, V09-002-036

Due to small amount of soil all VOA's were filled but only one (1) small liner was filled see COC.

1245- Completed I-002 @ 10' BIVT93, V09-002-037 } 222-S labs
BIVT94, V09-002-038
BIVT95, V09-002-039 — NO Samples

Due to smaller amount of soil only the VOA's were filled No soil was present in any of the liners for sampling.

1400- Samples were delivered to 222-S labs per Blue Card #4

Field reading on all samples for I-001 were 300 cpm above background. Samples for I-002 were 400 cpm above background.

Last entry this Date 5-4-09 JAR

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-034

COLLECTOR: Rosanne, Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 8P	DATA TURNAROUND
SAMPLING LOCATION: C6404, 1-001	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY: ☐	75 Days / 75 Days
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 pg 62	ACTUAL SAMPLE DEPTH: 6'	COA: 301483ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

20090325

PRESERVATION	Cool <-7C and >-20C	MEOH/Cool-6 C
TYPE OF CONTAINER	aGs*	aGs*
NO. OF CONTAINER(S)	5	3
VOLUME	40mL	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B1YT90	SOIL	5-4-09	1020	✓	✓
S09V000378	(L.)				
S09V000379	(H.)				

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rosanne, Tony Rosanne	5-4-09/1400	Todd McGlad	5-4-09 1400

SPECIAL INSTRUCTIONS

SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-518(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-034	PAGE 2 OF 2
COLLECTOR: Rosanne Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 8P	DATA TURNAROUND: 75 Days / 75 Days
SAMPLING LOCATION: C6404, I-001	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY: ☐	
ICE CHEST NO.:	FIELD LOGBOOK NO.: HNF-N-576-3 pg 62	ACTUAL SAMPLE DEPTH: 6'	COA: 301483ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: 222 S Lab Operations	OFFSITE PROPERTY NO.:		BILL OF LADING/AIR BILL NO.:		

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis.
** The laboratory is to use one of the low level VOA bottles for moisture content determination.
** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 ml. or 250 ml. poly bottles with Teflon lined lids.
(1)VOA - 5035/8260 (LOW LEVEL) (TF) (1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2 Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2 Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene)
(2)VOA - 5035/8260 (HIGH LEVEL) (TF) (1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2 Dichloroethylene, trans-1,3-Dichloropropene)

ORIGINAL

A-6003-618(01/06)

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-035

PAGE 1 OF 1

COLLECTOR: Lonnie Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 8P	DATA TURNAROUND: 75 Days / 75 Days
SAMPLING LOCATION: C6404, 1-001	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY: ☐	
ICE CHEST NO.:	FIELD LOGBOOK NO.: HAF W-576-3 pg 62	ACTUAL SAMPLE DEPTH: 6'	COA: 301483E510	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.:		BILL OF LADING/AIR BILL NO.:		

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE: 20090325

PRESERVATION	Cool-6C
TYPE OF CONTAINER	aGs*
NO. OF CONTAINER(S)	1
VOLUME	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B1YT91	SOIL	5-4-09	1020	✓
3094000380				

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Lonnie Rust / Lonnie Rust	5-4-09 / 1400	Todd McGilvel	5-4-09 1400

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.

(1)VOA - 5035/8260 (TCL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis 1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/06)

Attachment 1 - Sample Record Sheet

SAMPLE RECORD SHEET

Location: C6404 C Forms I-001

Sampler Initials and Date: [illegible] 5-4-09

Sample Number	Sample Suffix[1]	Tare Weight provided (grams)	Tare Weight prior to sample[2] (grams)	Initial Weight[3] (grams)	Total Weight[4] (grams)	Soil Weight[5] (grams)	Methanol in sample bottle (ml)
B1YT90	K	N/A	30.7	32.6	40.2	7.6	No Methanol
B1YT90	L	N/A	31.2	33.1	41.7	8.6	
B1YT90	M	N/A	31.1	32.9	42.3	9.4	
B1YT90	N	N/A	30.0	31.8	42.8	11.0	
B1YT90	P	N/A	30.3	32.2	41.4	9.2	
B1YT90	W	35.39	35.4	35.7	44.8	9.1	10
B1YT90	X	35.28	35.3	35.6	45.0	9.4	10
B1YT90	Y	35.38	35.4	35.8	45.4	9.6	10
B1YT91	*	35.54	35.5	35.9	35.9	0	10

[1]Sample suffix of K, L, M, N, and P relate to low-level concentration samples and will not have any preservation beyond freezing between -7°C and -20°C.

Sample suffix of W, X, and Y relate to methanol preservation for high-level samples.

Sample suffix of "*" relates to methanol blank. Cool these samples to 4°C ± 2°C.

[2]Tare weight prior to sample must be within +/- 0.1 grams of Vendors tare weight or bottle cannot be used. Weigh only the bottle, no labels, stickers or bags.

[3]Initial weight is to include all labels, stickers, bags, methanol (for vendor filled methanol samples with suffix W,X,Y and *) spin bars (for samples with suffix K,L,M,N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

[4]Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

[5]Soil weight is the vial with sample minus Initial Weight.

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-036 PAGE 1 OF 2

COLLECTOR: Rosario, Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL
SAMPLING LOCATION: C6404, 1-001	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 pg 62	ACTUAL SAMPLE DEPTH: 6'	COA: 301483ES10
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.

PRICE CODE: 8P
AIR QUALITY: ☐
DATA TURNAROUND: 75 Days / 75 Days
METHOD OF SHIPMENT: GOVERNMENT VEHICLE

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

PRESERVATION: Cool-6C
TYPE OF CONTAINER: Liner
NO. OF CONTAINER(S): 1
VOLUME: 160g
SAMPLE ANALYSIS: VOC FTIR (1) SPECIAL INSTRUCTIONS

SPECIAL HANDLING AND/OR STORAGE: 20090325

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B1YT92	SOIL	5-4-09	1020
509V00382			

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: Larry Rosario, Larry Rosario	DATE/TIME: 5-4-09 1400	RECEIVED BY/STORED IN: Todd McWhirk, [signature]	DATE/TIME: 5-4-09 1400
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

Had just enought soil for the VOA'S and 1 (one) liner,

ORIGINAL

2- liners were empty

SJR 5-4-09

LABORATORY SECTION: RECEIVED BY | TITLE | DATE/TIME

FINAL SAMPLE DISPOSITION: DISPOSAL METHOD | DISPOSED BY | DATE/TIME

A-6005-418(01/08)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-036	PAGE 2 OF 2
COLLECTOR Rosine, Rust	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8P	DATA TURNAROUND
SAMPLING LOCATION C8404, I-001	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V09-002	AIR QUALITY ☐	75 Days / 75 Days
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-576-3 pg 62	ACTUAL SAMPLE DEPTH 6'	COA 301483E510	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

** After VOA bottles for the direct pushes are filled, the NCDs will cap remaining liners for shipment to 222 S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)Semi-VOA - 8270 Complete (TF) {1,2,4-Trichlorobenzene, 1,2 Dichlorobenzene, 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 2,4 Dinitrotoluene, 2,6-bis(1,1-dimethylethyl)-4-methyl phenol, 2 Chlorophenol, 2-Methylphenol (cresol, o-), 2-Nitrophenol, 3-Methylphenol (cresol, m-), 4-Chloro-3-methylphenol, 4-Methylphenol (cresol, p-), Acenaphthene, Benzo(a)anthracene, Benzo(a)pyrene Benzo(b)fluoranthene, Benzo(k)fluoranthene, Bis(2-ethylhexyl) phthalate, Butylbenzylphthalate, Cellosolve Solvent, Chrysene, Cyclohexanone, Di-n-butylphthalate, Di-n-octylphthalate, Dibenz[a,h]anthracene, Dibutylphosphate, Ethylene glycol, Fluoranthene, Hexachlorobutadiene, Hexachloroethane, Indeno(1,2,3-cd)pyrene, Isobutyl alcohol, Monobutyl phosphate, Naphthalene, Nitrobenzene, Pentachlorophenol, Pyrene, Pyridine, Total cresols, Tributyl phosphate, n-Nitrosodi-n-dipropylamine, n-Nitrosomorpholine) ICP Metals - 6010 (SW-846) (TF) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Uranium, Vanadium, Zinc) Mercury - 7471 - (CV) (TF) (Mercury) PCBs - 8082 (Aroclor-1016, Aroclor 1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260) TPH-Gasoline Range - WTPH-G (Total petroleum hydrocarbons - gasoline range) TPH-Diesel Range - WTPH-D (Total petroleum hydrocarbons - diesel range) Pesticides - 8081 (TF) (2,4' DDD (Dichlorodiphenyldichloroethane), 2,4'-DDE (Dichlorodiphenyldichloroethylene), 2,4'-DDT (Dichlorodiphenyltrichloroethane), 4,4'-DDD (Dichlorodiphenyldichloroethane), 4,4'-DDE (Dichlorodiphenyldichloroethylene), 4,4' DDT (Dichlorodiphenyltrichloroethane), Aldrin, Chlordane, Dieldrin, Endrin, Gamma-BHC (Lindane), Heptachlor epoxide, Hexachlorobenzene) IC Anions - 9056 (2-Hydroxyacetate, Acetate, Chloride, Fluoride, Formate, Nitrate, Nitrite, Oxalate, Sulfate) 300.7_AMMONIUM (TF) (Nitrogen in ammonium) Sulfide - 9215 (Sulfide) Total Cyanide - 9014 (TF) (Cyanide) pH (Soil) - 9045 (pH Measurement) GAMMA ENERGY ANALYSIS (TF) (Antimony-125, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155) Actinides ICPMS (TF) (Neptunium-237, Technetium-99, Thorium-230, Thorium-232, Tin-126, Uranium 233, Uranium-234, Uranium-235, Uranium-236, Uranium-238) Americium 241 (TF) (Americum-241) I129_SEP_GEA (TF) (Iodine-129) C-14 (Carbon-14) CURIUM (Curium-242, Curium-243, Curium-244) H3 - TRITIUM (Tritium) Isotopic Plutonium (Plutonium-238, Plutonium-239/240) Nickel-63 (TF) (Nickel-63) Selenium 79 (TF) (Selenium-79) Strontium-89,90 -- Sr-90 (Strontium-90)

ORIGINAL

A-6003-518(01/06)

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-037 PAGE 1 OF 2

COLLECTOR: Rosnus, Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL
SAMPLING LOCATION: C6404, 1-002	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 page 62	ACTUAL SAMPLE DEPTH: 10'	COA: 301483ES10
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.

PRICE CODE: 8P

AIR QUALITY: ☐

DATA TURNAROUND: 75 Days / 75 Days

METHOD OF SHIPMENT: GOVERNMENT VEHICLE

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE: 20090325

PRESERVATION	Cool <-7C and >-20C	HEOH/Cool<-6 C
TYPE OF CONTAINER	aGs*	aGs*
NO. OF CONTAINER(S)	5	3
VOLUME	40mL	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B1YT93	SOIL	5-4-09	1245	✓	✓
509V000383	(L.)				
509V000384	(H.)				

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rosnus Larry Rosnus	5-4-09 1400	Todd McPhad	5-4-09 1400

SPECIAL INSTRUCTIONS: SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

☐ ORIGINAL

LABORATORY SECTION: RECEIVED BY | TITLE | DATE/TIME

FINAL SAMPLE DISPOSITION: DISPOSAL METHOD | DISPOSED BY | DATE/TIME

A-6003-618(01/00)

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-037 PAGE 2 OF 2

COLLECTOR Rosane Rust	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** WIDRIG, DL	**PRICE CODE** 8P	**DATA TURNAROUND** 75 Days / 75 Days
SAMPLING LOCATION C6404, 1-002	**PROJECT DESIGNATION** WHA C Sampling for CMS		**SAF NO.** V09-002	**AIR QUALITY** ☐	
ICE CHEST NO.	**FIELD LOGBOOK NO.** HNF-N-526-3 pg 62	**ACTUAL SAMPLE DEPTH** 10'	**COA** 301483ES10	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**		

SPECIAL INSTRUCTIONS

^* All VOA samples will be collected using EPA Method 5035A.
*^ VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis.
** The laboratory is to use one of the low level VOA bottles for moisture content determination.
^* VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)VOA - 5035/8260 (LOW LEVEL) (TF) (1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene)
(2)VOA - 5035/8260 (HIGH LEVEL) (TF) (1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro 1,2,2 trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2 Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene)

ORIGINAL

A-6003 618(01/08)

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-038

PAGE 1 OF 1

COLLECTOR: Rosanne Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL
SAMPLING LOCATION: C6404, I-002	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 pg 62	ACTUAL SAMPLE DEPTH: 10'	COA: 301483ES10
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.

PRICE CODE: 8P

AIR QUALITY: ☐

DATA TURNAROUND: 75 Days / 75 Days

METHOD OF SHIPMENT: GOVERNMENT VEHICLE

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE
20090325

PRESERVATION	Cool-6C
TYPE OF CONTAINER	8Gs*
NO. OF CONTAINER(S)	1
VOLUME	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B1YT94	SOIL	5-4-09	1245 ✓
S09V000385			

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rosanne Larry Rosanne	5-4-09 1400	Todd McCulloch	5-4-09 1400

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)VOA - 5035/8260 (TCL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2 trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6083-618(01/08)

Attachment 1 - Sample Record Sheet

SAMPLE RECORD SHEET

Location: C 6404 C Farms I-002

Sampler Initials and Date: [illegible] 5-4-09

Sample Number	Sample Suffix[1]	Tare Weight provided (grams)	Tare Weight prior to sample[2] (grams)	Initial Weight[3] (grams)	Total Weight[4] (grams)	Soil Weight[5] (grams)	Methanol in sample bottle (ml)
B1YT93	K	N/A	30.2	~~30.6~~ 32.0	36.0	6.0	No Methanol
B1YT93	L	N/A	31.0	32.9	37.2	4.3	
B1YT93	M	N/A	30.3	32.2	37.6	5.4	
B1YT93	N	N/A	30.9	32.8	38.3	5.5	
B1YT93	P	N/A	31.0	32.9	37.6	4.7	
B1YT93	W	35.00	34.9	35.3	41.4	6.1	10
B1YT93	X	35.25	35.2	35.6	40.2	4.6	10
B1YT93	Y	35.25	35.2	35.7	41.0	5.3	10
B1YT94	*	35.05	34.9	35.4	35.4	0	10

[1]Sample suffix of K, L, M, N, and P relate to low-level concentration samples and will not have any preservation beyond freezing between -7°°C and -20°C.

Sample suffix of W, X, and Y relate to methanol preservation for high-level samples.

Sample suffix of "*" relates to methanol blank. Cool these samples to 4°C ± 2°C.

[2]Tare weight prior to sample must be within +/- 0.1 grams of Vendors tare weight or bottle cannot be used. Weigh only the bottle, no labels, stickers or bags.

[3]Initial weight is to include all labels, stickers, bags, methanol (for vendor filled methanol samples with suffix W,X,Y and *) spin bars (for samples with suffix K,L,M,N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

[4]Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

[5]Soil weight is the vial with sample minus Initial Weight.

Rory Z. Steffler

From: Penny Berlin
Sent: Thursday, July 23, 2009 11:20 AM
To: Rory Z. Steffler
Subject: Missing COC for HEIS # B1YT95 - borehole C6404

Rory- This is the answer to the missing COC for C6404 I002, 10- 12'. Recovery was poor at that location and there wasn't enough sample recovery from the liners – just enough to do the VOAs so HEIS # B1YT95 will not have any analysis data associated with it.

From: McKinney, Steve G [mailto:Steve_G_McKinney@RL.gov]
Sent: Wednesday, July 22, 2009 3:12 PM
To: Berlin, Penelope C
Subject: FW: Vadose Soil Sampling projection for 5-4-09

From: McKinney, Steve G
Sent: Monday, May 04, 2009 2:57 PM
To: Cooke, Gary; Frye, Jann M; Schroeder, Robert W; Brown, Kenneth M; Ross, Roxie R; Catlow, Stanley A; Parong, Samuel M; Duchsherer, Mark J; Clauss, Scott A
Cc: Ritenour, Gerald P; Bushaw, Thomas H; Lockrem, Larry L; Neff, Cheryl R; Hansen, Daniel R; Prilucik, John R; Hall, K M (Kathleen) - CHG; Baker, Harold L; Sydnor, Harold A; 'Joe Sears'
Subject: RE: Vadose Soil Sampling projection for 5-4-09

C Farm update: Two samples were received last Thursday (4/30/09). This completes sampling at location 1 (for now).

Received two samples from location 2 this afternoon. Recovery was poor – only VOA samples and 1 liner from the 6' sample and only VOA samples from the 10' level. The customer will provide an analysis priority list. Both off-site sub-sample shipments for these two samples have been cancelled (not enough sample).

Additional C Farm samples are expected tomorrow.

SX Barrier quick turn sample update: No SX samples this week.

Thanks.

64

C-6404 C-Jarmo HNF-N-576-3 pg 64
Date: 5-6-09
Weather 50° Cloudy Wind 15-20 mph
WCOs- Rosine, Rust
FWS- Bill Clark
Driller- Energy Solutions RWP CO-460 Rev 4
0700 - Started pre job sign in preparing to reach depth for I-003
1040- Completed I-003 @ 14' B1YT96, V09-002-040
B1YT97, V09-002-041 } 222-S labs
B1YT98, V09-002-042
Due to small amount of soil recovered from sample only the VOA'S and one (1) liner were filled (see COC)
1310- Samples were delivered to 222-S lab per Blue Card #4
Field reading on all samples for I-003 were @ 100 cpm above background

Last entry this Date 5-6-

FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS		PAGE 1 OF 2	
		DATE/TIME 5-6-09/1040	
SAF NO.(S) V09-002			
LOCATION C6404, I-003	LOGBOOK NO./PAGE HNF-N-576-3 pg 64		
WELL NAME C6404	WELL ID C6404	ACTUAL DEPTH 14'	☐ft ☐m
BOTTOM OF CASING (bgs) N/A	☐ft ☐m	BOTTOM OF BOREHOLE (bgs) N/A	☐ft ☐m
SAMPLES COLLECTED			
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR Roanne, Rust	

222-S V09-002-040

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YT96	5 / 40mL / aGs*	B40110	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B1YT96	3 / 40mL / aGs*	B9075D1V8	MEOH/Cool~6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

222-S V09-002-041

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YT97	1 / 40mL / aGs*	B9075D1V8	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

222-S V09-002-042

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YT98	1 half gallon / 160g / Liner	N/A	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

Only one (1) liner filled all VOA's filled Due to lack of soil

ORIGINAL

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FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS	PAGE 2 OF 2
	DATE/TIME 5-6-09/1040
SAF NO.(S) V09-002	
LOCATION C6404, I-003	LOGBOOK NO./PAGE HNF-N-576-3 pg 63
WELL NAME C6404	WELL ID C6404 ACTUAL DEPTH 14 ☑ft ☐m
BOTTOM OF CASING (bgs) N/A ☐ft ☐m	BOTTOM OF BOREHOLE (bgs) N/A ☐ft ☐m

SAMPLES COLLECTED

TOTAL NUMBER OF BOTTLES 12 TOTAL NUMBER OF CHAINS 3 COLLECTOR Rosane, Rust

FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME? ☐ WSCF ☑ 222-S ☐ MO-612 ☐ MO-745 ☐ 6269 ☐ OTHER

CONTAINER/DRUM/TOTE/BOX

SAMPLE MATRIX DESCRIPTION ☑ SOIL ☐ SLUDGE ☐ RESIN ☐ GAC ☐ FILTER PAPER ☐ OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

Moist Sand

FIELD OBSERVATIONS

WEATHER 50°F Cloudy Wind 15-20 mph

FIELD COMMENTS N/A

SUPPORT PERSONNEL RCT, Drillers F.W.S.

SAMPLES SURVEYED BY RCT ☑ YES ☐ NO

IS A BLUE CARD REQUIRED ☑ YES ☐ NO BLUE CARD NO 4

IS SRS PROVIDED AND COMPLETE ☑ YES ☐ NO

	PRINT NAME	SIGN NAME	DATE
RECORDED BY	Larry Rosane	Larry Rosane	5-6-09
CHECKED BY	[illegible]	[illegible]	5-6-09

PRINTED BY TMJOHANS ON 3/18/2009 12:39:34 PM A-6004-701 (REV.0)

☐ ORIGINAL

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-040 PAGE 1 OF 2

COLLECTOR: Rosane, Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL
SAMPLING LOCATION: C6404, 1-003	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 pg 63	ACTUAL SAMPLE DEPTH: 14'	COA: 30148JES10
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.

PRICE CODE: 8P

AIR QUALITY: ☐

DATA TURNAROUND: 75 Days / 75 Days

METHOD OF SHIPMENT: GOVERNMENT VEHICLE

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegitation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

PRESERVATION	Cool <-7C and > 20C	MEOH/Cool-6 C
TYPE OF CONTAINER	aGs*	aGs*
NO. OF CONTAINER(S)	3	3
VOLUME	40mL	40mL
SAMPLE ANALYSIS	SPE ITEM (1) IN SPECIAL INSTRUCTIONS	SPE ITEM (2) IN SPECIAL INSTRUCTIONS

SPECIAL HANDLING AND/OR STORAGE: 20090325

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B1YT98	SOIL	5-6-09	1040	✓	✓
S09V000386 (LO)					
S09V000387 (HI)					

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rosane Larry Rosane	5-6-09/1310	Tim Gollock Tim Gollock	5-6-09 1310
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

☐ ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A 6083 618(01/06)

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-040

PAGE 2 OF 2

COLLECTOR Robert Rost	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8P AIR QUALITY ☐	DATA TURNAROUND 75 Days / 75 Days
SAMPLING LOCATION C6-104, 1 003	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V09-002		
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-576-3 p965	ACTUAL SAMPLE DEPTH 14'	COA 301483ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis.
** The laboratory is to use one of the low level VOA bottles for moisture content determination.
** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining lines for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)VOA - 5035/8260 (LOW LEVEL) (TF) (1,1,1 Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2 trifluoroethane, 1,1,2 Trichloroethane, 1,1 Dichloroethene, 1,2 Dichloroethane, 1 Butanol, 2-Butanone, 2 Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2 Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene)
(2)VOA - 5035/8260 (HIGH LEVEL) (TF) (1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1 Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2 Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene)

ORIGINAL

A-6003-619(01/06)

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-041

COLLECTOR: Rosane, Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL
SAMPLING LOCATION: C6404, I-003	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002
ICE CHEST NO.	FIELD LOGBOOK NO.: HNP-N-576-3 pg 65	ACTUAL SAMPLE DEPTH: 14'	COA: 301483ES10
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.

PRICE CODE: BP

AIR QUALITY: ☐

DATA TURNAROUND: 75 Days / 75 Days

METHOD OF SHIPMENT: GOVERNMENT VEHICLE

MATRIX*: A=Air; DL=Drum Liquids; DS=Drum Solids; L=Liquid; O=Oil; S=Soil; Sd=Sediment; T=Tissue; V=Vegetation; W=Water; Wi=Wipe; X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE: 20090325

PRESERVATION	Cool-4C
TYPE OF CONTAINER	aGs*
NO. OF CONTAINER(S)	1
VOLUME	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B1YT97	SOIL	5-6-09	1040	✓
509U000388				

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rosane Larry Rosane	5-6-09 1310	TM Gilbert TM Gilbert	5-6-09 1310

LABORATORY SECTION: RECEIVED BY — TITLE — DATE/TIME

FINAL SAMPLE DISPOSITION: DISPOSAL METHOD — DISPOSED BY — DATE/TIME

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.

(1)VOA - 5035/8260 (TCL) (TF) (1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2 Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2 Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene)

☐ ORIGINAL

A-6001-61A(01/06)

RPP-42221, Rev. 0

Attachment 1 - Sample Record Sheet

SAMPLE RECORD SHEET

Location: C 6409 C Farms I-003

Sampler Initials and Date: [illegible] 5-6-09

Sample Number	Sample Suffix[1]	Tare Weight provided (grams)	Tare Weight prior to sample[2] (grams)	Initial Weight[3] (grams)	Total Weight[4] (grams)	Soil Weight[5] (grams)	Methanol in sample bottle (ml)
B1YT96	K	N/A	30.3	32.2	38.9	6.7	No Methanol
B1YT96	L	N/A	30.7	32.5	37.2	4.7	
B1YT96	M	N/A	31.0	32.8	37.8	5.0	
B1YT96	N	N/A	30.7	32.6	36.7	4.1	
B1YT96	P	N/A	30.3	32.1	38.2	6.1	
B1YT96	W	35.28	35.2	35.6	41.0	5.4	10
B1YT96	X	35.33	35.3	35.7	39.4	3.7	10
B1YT96	Y	34.98	34.9	35.3	40.5	5.3	10
B1YT97	*	35.10	35.1	35.5	35.5	0	10

[1]Sample suffix of K, L, M, N, and P relate to low-level concentration samples and will not have any preservation beyond freezing between -7°C and -20°C.

Sample suffix of W, X, and Y relate to methanol preservation for high-level samples.

Sample suffix of "*" relates to methanol blank. Cool these samples to 4°C ± 2°C.

[2]Tare weight prior to sample must be within +/- 0.1 grams of Vendors tare weight or bottle cannot be used. Weigh only the bottle, no labels, stickers or bags.

[3]Initial weight is to include all labels, stickers, bags, methanol (for vendor filled methanol samples with suffix W,X,Y and *) spin bars (for samples with suffix K,L,M,N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

[4]Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

[5]Soil weight is the vial with sample minus Initial Weight.

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-042 PAGE 1 OF 2

COLLECTOR: Rosanne Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL
SAMPLING LOCATION: C6404, I-003	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 pg 63	ACTUAL SAMPLE DEPTH: 14'	COA: 301483E510
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.

PRICE CODE: 8P

AIR QUALITY: ☐

DATA TURNAROUND: 75 Days / 75 Days

METHOD OF SHIPMENT: GOVERNMENT VEHICLE

MATRIX*: A=Air, DI=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

PRESERVATION	Cool-4C
TYPE OF CONTAINER	Liner
NO. OF CONTAINER(S)	1 SJL 5-6-09
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SPECIAL HANDLING AND/OR STORAGE: 2009C325

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B1YT98	SOIL	5-6-09	1040
309V000389			

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rosanne, Larry Rosanne	5-6-09/1310	Tri Gellock	5-6-09 1310
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

VOA's and one (1) liner were filled Due to the lack of soil

☐ ORIGINAL

LABORATORY SECTION: RECEIVED BY | TITLE | DATE/TIME

FINAL SAMPLE DISPOSITION: DISPOSAL METHOD | DISPOSED BY | DATE/TIME

A-6003 618(01/06)

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-042 PAGE 2 OF 2

COLLECTOR Rosanne Rust	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** WIDRIG, DL	**PRICE CODE** BP	**DATA TURNAROUND**
SAMPLING LOCATION C6404, 1 003	**PROJECT DESIGNATION** WMA C Sampling for CMS		**SAF NO.** V09-002	**AIR QUALITY** ☐	75 Days / 75 Days
ICE CHEST NO.	**FIELD LOGBOOK NO.** HNF-N-576-3 p63	**ACTUAL SAMPLE DEPTH** 14'	**COA** 301483ES10	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**		

SPECIAL INSTRUCTIONS

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)Semi-VOA - 8270 Complete (TF) {1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 2,4-Dinitrotoluene, 2,6-bis(1,1-dimethylethyl)-4-methyl phenol, 2-Chlorophenol, 2-Methylphenol (cresol, o-), 2-Nitrophenol, 3-Methylphenol (cresol, m-), 4-Chloro-3-methylphenol, 4-Methylphenol (cresol, p-), Acenaphthene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Bis(2-ethylhexyl) phthalate, Butylbenzylphthalate, Cellosolve Solvent, Chrysene, Cyclohexanone, Di-n-butylphthalate, Di-n-octylphthalate, Dibenz[a,h]anthracene, Dibutylphosphate, Ethylene glycol, Fluoranthene, Hexachlorobutadiene, Hexachloroethane, Indeno(1,2,3-cd)pyrene, Isobutyl alcohol, Monobutyl phosphate, Naphthalene, Nitrobenzene, Pentachlorophenol, Pyrene, Pyridine, Total cresols, Tributyl phosphate, n-Nitrosodi-n-dipropylamine, n-Nitrosomorpholine} ICP Metals - 6010 (SW-846) (TF) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Uranium, Vanadium, Zinc} Mercury - 7471 - (CV) (TF) {Mercury} PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260} TPH-Gasoline Range - WTPH-G {Total petroleum hydrocarbons - gasoline range} TPH-Diesel Range - WTPH-D {Total petroleum hydrocarbons - diesel range} Pesticides - 8081 (TF) {2,4'-DDD (Dichlorodiphenyldichlorethane), 2,4'-DDE (Dichlorodiphenyldichloroethylene), 2,4'-DDT (Dichlorodiphenyltrichloroethane), 4,4' DDD (Dichlorodiphenyldichloroethane), 4,4'-DDE (Dichlorodiphenyldichloroethylene), 4,4'-DDT (Dichlorodiphenyltrichloroethane), Aldrin, Chlordane, Dieldrin, Endrin, Gamma BHC (Lindane), Heptachlor epoxide, Hexachlorobenzene} IC Anions - 9056 {2-Hydroxyacetate, Acetate, Chloride, Fluoride, Formate, Nitrate, Nitrite, Oxalate, Sulfate} 300.7_AMMONIUM (TF) {Nitrogen in ammonium} Sulfide - 9215 {Sulfide} Total Cyanide - 9014 (TF) {Cyanide} pH (Soil) - 9045 {pH Measurement} GAMMA ENERGY ANALYSIS (TF) {Antimony-125, Cesium-137, Cobalt-60, Europium 152, Europium 154, Europium-155} Actinides ICPMS (TF) {Neptunium-237, Technetium-99, Thorium-230, Thorium-232, Tin-126, Uranium-233, Uranium-234, Uranium-235, Uranium-236, Uranium-238} Americium-241 (TF) {Americium-241} I129_SEP_GEA (TF) {Iodine-129} C-14 {Carbon-14} CURIUM {Curium-242, Curium-243, Curium-244} H3 - TRITIUM {Tritium} Isotopic Plutonium {Plutonium 238, Plutonium-239/240} Nickel-63 (TF) {Nickel-63} Selenium-79 (TF) {Selenium-79} Strontium-89,90 -- Sr-90 {Strontium-90}

ORIGINAL

A-6003-618(01/06)

63

C-6404 C- Farms HNF-N-576-3 pg 65
Date: 5-5-09

Weather 60°F Partly Cloudy wind 20-30+ mph
0700: Made up 37 bottles for EB-I-004 B1X418, V09-003-004
0945: Filled EB at 5 Bay and prepped for delivery to 222-S
1320: Delivered all Samples for C-6404 I-004EB to 222-S

Last entry this Date 5-5-09 JAP

FIELD CHARACTERIZATION WATER/OTHER LIQUID SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS - QC Sampling

PAGE 1 OF 2

DATE/TIME 5-5-09/0945

SAF NO.(S) V09-003

LOCATION C8404, I-004EB

LOGBOOK NO./PAGE HNF-N-576-3 pg 63

WELL NAME N/A

WELL ID N/A

ACTUAL DEPTH N/A ☐ft ☐m

BOTTOM OF CASING (bgs) N/A ☐ft ☐m

BOTTOM OF BOREHOLE (bgs) N/A ☐ft ☐m

SAMPLES COLLECTED

TOTAL NUMBER OF BOTTLES 37 TOTAL NUMBER OF CHAINS 1 COLLECTOR Rosane, Rust

222-S V09-003-004

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YY18	1 / 1000mL / aG	028541	HCl to pH <2/Cool~4C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B1YY18	1 / 40mL / aGs*	820302	HCl to pH <2/Cool~4C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B1YY18	3 / 40mL / aGs*	820302	HCl or H2SO4 to pH <2/Cool~4C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B1YY18	4 / 1000mL / aG	028541	Cool~4C	SEE ITEM (4) IN SPECIAL INSTRUCTIONS
B1YY18	1 / 500mL / G/P	031628	HNO3 to pH <2	SEE ITEM (5) IN SPECIAL INSTRUCTIONS
B1YY18	1 / 500mL / G	034199	HNO3 to pH <2	Mercury - 7470 - (CV) (TF) (Mercury)
B1YY18	3 / 1000mL / aG	028541	Cool~4C	SEE ITEM (6) IN SPECIAL INSTRUCTIONS
B1YY18	2 / 1000mL / aG	028541	Cool~4C	SEE ITEM (7) IN SPECIAL INSTRUCTIONS
B1YY18	1 / 250mL / G/P	035273	Cool~4C	SEE ITEM (8) IN SPECIAL INSTRUCTIONS
B1YY18	1 / 500mL / G/P	031628	ZnAc+NaOH to pH > 9/Cool~6C	Sulfide - 9215 (Sulfide)
B1YY18	1 / 60mL / G/P	024870	NaOH to pH >= 12/Cool~4C	Total Cyanide - 9014 (TF) (Cyanide)
B1YY18	1 / 250mL / G/P	035273	H2SO4 to pH <2	300.7_AMMONIUM (TF) (Nitrogen in ammonium)
B1YY18	1 / 125mL / P	030308	None	pH (Water) - 9040 (TF) (pH Measurement)
B1YY18	1 / 500mL / G/P	031628	HNO3 to pH <2	SEE ITEM (9) IN SPECIAL INSTRUCTIONS
B1YY18	1 / 500mL / Nalgene	629981	HNO3 to pH <2(ULTREX)	SEE ITEM (10) IN SPECIAL INSTRUCTIONS
B1YY18	1 / 1000mL / G/P	029409	HNO3 to pH <2	Americium-241 (TF) (Americium-241)
B1YY18	4 / 1000mL / G/P	029409	None	I129_SEP_GEA (TF) (Iodine-129)
B1YY18	2 / 1000mL / G/P	029409	None	C-14 (Carbon-14)
B1YY18	1 / 1000mL / G/P	029409	HNO3 to pH <2	CURIUM (Curium-242, Curium-243, Curium-244)
B1YY18	1 / 500mL / P	031628	None	H3 - TRITIUM (Tritium)

ORIGINAL

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A-6004-708 (REV.0)

FIELD CHARACTERIZATION WATER/OTHER LIQUID SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS - QC Sampling

PAGE 2 OF 2

DATE/TIME 5-5-09/0945

SAF NO.(S) V09-003

LOCATION C6404, I-004EB

LOGBOOK NO./PAGE HNF-N-576-3 pg 63

WELL NAME N/A

WELL ID N/A

ACTUAL DEPTH N/A ☐ft ☐m

BOTTOM OF CASING (bgs) N/A ☐ft ☐m

BOTTOM OF BOREHOLE (bgs) N/A ☐ft ☐m

SAMPLES COLLECTED

TOTAL NUMBER OF BOTTLES 37 TOTAL NUMBER OF CHAINS 1 COLLECTOR Rosene, Rust

B1YY18	1 / 1000mL / G/P	029409	HNO3 to pH <2	SEE ITEM (11) IN SPECIAL INSTRUCTIONS
B1YY18	1 / 1000mL / G/P	029409	HNO3 to pH <2	Nickel-63 (TF) (Nickel-63)
B1YY18	1 / 1000mL / G/P	029409	HNO3 to pH <2	Selenium-79 (TF) (Selenium-79)
B1YY18	2 / 1000mL / G/P	029409	HNO3 to pH <2	Strontium-89,90 -- Sr-90 (Strontium-90)

FIELD INFORMATION

PURGE RATE N/A	☐ gpm ☐ Lpm	TIME ON	TIME WATER	TIME PURGE	TIME SAMP	TIME OFF
PURGE VOLUME REQUIRED N/A	☐ gal ☐ L	N/A	N/A	N/A	0945	N/A

WHERE ARE SAMPLES LOCATED AT THIS TIME? ☐ WSCF ☑ 222-S ☐ MO-612 ☐ MO-745 ☐ 6269 ☐ OTHER

FIELD MEASUREMENTS

SAMPLE NO.	
TIME	
pH (unitless)	
TEMP ☐°F ☐°C	
COND (µs/cm)	
TURB. (NTU)	
D.O. (mg/L)	
ORP (mV)	

LA 5-5-09 N/A

FIELD OBSERVATIONS

WEATHER 60°F Partly cloudy Wind 20-30+ mph

FIELD COMMENTS N/A

SUPPORT PERSONNEL None

SAMPLES SURVEYED BY RCT ☐ YES ☑ NO

RECORDED BY Larry Rosene (PRINT NAME) Larry Rosene (SIGN NAME) 5-5-09 (DATE)

CHECKED BY Ed Klaver (PRINT NAME) (SIGN NAME) 5-5-09 (DATE)

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A-6004-700 (REV.0)

ORIGINAL

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-003-004

COLLECTOR: Rosane, Rust

SAMPLING LOCATION: C6404, I-004EB

ICE CHEST NO.:

SHIPPED TO: 222-S Lab Operations

COMPANY CONTACT: SYDNOR, HA

TELEPHONE NO.: 373-3967

PROJECT COORDINATOR: WIDRIG, DL

PRICE CODE: 7P

DATA TURNAROUND: 75 Days / 75 Days

AIR QUALITY: ☐

PROJECT DESIGNATION: WMA C Sampling for CMS - QC Sampling

SAF NO.: V09-003

FIELD LOGBOOK NO.: HNF-N-576-3 pg 63

ACTUAL SAMPLE DEPTH: N/A

COA: 301483ES10

METHOD OF SHIPMENT: GOVERNMENT VEHICLE

OFFSITE PROPERTY NO.:

BILL OF LADING/AIR BILL NO.:

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE:

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME									
				HCl to pH <2/Cool~4C	HCl to pH <2/Cool~4C	HCl or H2SO4 to pH <2/Cool~4C	Cool~4C	HNO3 to pH <2	HNO3 to pH <2	Cool~4C	Cool~4C	Cool~4C	ZnAc+NaOH to pH > 9/Cool~6C
PRESERVATION													
TYPE OF CONTAINER				aG	aGs*	aGs*	aG	G/P	G	aG	aG	G/P	G/P
NO. OF CONTAINER(S)				1	1	3	4	1	1	3	2	1	1
VOLUME				1000mL	40mL	40mL	1000mL	500mL	500mL	1000mL	1000mL	250mL	500mL
SAMPLE ANALYSIS				SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	SEE ITEM (4) IN SPECIAL INSTRUCTIONS	SEE ITEM (5) IN SPECIAL INSTRUCTIONS	Mercury - 7470 - (CV) (TP) (Mercury)	SEE ITEM (6) IN SPECIAL INSTRUCTIONS	SEE ITEM (7) IN SPECIAL INSTRUCTIONS	SEE ITEM (8) IN SPECIAL INSTRUCTIONS	Sulfide - 9215 (Sulfide)
B1YY18	WATER	5-5-09	0945	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Lonne Larry Lonne	5-5-09 1320	RtStoelo	5-5-09 1320

SPECIAL INSTRUCTIONS

SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

ORIGINAL

LABORATORY SECTION: RECEIVED BY

TITLE: DATE/TIME

FINAL SAMPLE DISPOSITION: DISPOSAL METHOD

DISPOSED BY: DATE/TIME

A-6003-618(01/06)

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-003-004 PAGE 2 OF 4

COLLECTOR Rosaire, Rust	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** WIDRIG, DL
SAMPLING LOCATION C6404, 1-004EB	**PROJECT DESIGNATION** WMA C Sampling for CMS - QC Sampling		**SAF NO.** V09-003
ICE CHEST NO.	**FIELD LOGBOOK NO.** HNF-N-526-3 pg 63	**ACTUAL SAMPLE DEPTH** N/A	**COA** 301483ES10
SHIPPED TO 222-S Lab Operations	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**

PRICE CODE 7P

AIR QUALITY [ ]

DATA TURNAROUND 75 Days / 75 Days

METHOD OF SHIPMENT GOVERNMENT VEHICLE

SPECIAL INSTRUCTIONS

(1)TPH-Diesel Range - WTPH-D {Total petroleum hydrocarbons - diesel range}
(2)TPH-Gasoline Range - WTPH-G {Total petroleum hydrocarbons - gasoline range}
(3)VOA - 8260 (TCL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}
(4)Semi-VOA - 8270 Complete (TF) {1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 2,4-Dinitrotoluene, 2,6-bis(1,1-dimethylethyl)-4-methyl phenol, 2-Chlorophenol, 2-Methylphenol (cresol, o-), 2-Nitrophenol, 3-Methylphenol (cresol, m-), 4-Chloro-3-methylphenol, 4-Methylphenol (cresol, p-), Acenaphthene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Bis(2-ethylhexyl) phthalate, Butylbenzylphthalate, Cellosolve Solvent, Chrysene, Cyclohexanone, Di-n-butylphthalate, Di-n-octylphthalate, Dibenz[a,h]anthracene, Dibutylphosphate, Ethylene glycol, Fluoranthene, Hexachlorobutadiene, Hexachloroethane, Indeno(1,2,3-cd)pyrene, Isobutyl alcohol, Monobutyl phosphate, Naphthalene, Nitrobenzene, Pentachlorophenol, Pyrene, Pyridine, Total cresols, Tributyl phosphate, n-Nitrosodi-n-dipropylamine, n-Nitrosomorpholine}
(5)ICP Metals - 6010 (SW-846) (TF) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Uranium, Vanadium, Zinc}
(6)PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}
(7)Pesticides - 8081 (TF) {2,4'-DDD (Dichlorodiphenyldichloroethane), 2,4'-DDE (Dichlorodiphenyldichloroethylene), 2,4'-DDT (Dichlorodiphenyltrichloroethane), 4,4'-DDD (Dichlorodiphenyldichloroethane), 4,4'-DDE (Dichlorodiphenyldichloroethylene), 4,4'-DDT (Dichlorodiphenyltrichloroethane), Aldrin, Chlordane, Dieldrin, Endrin, Gamma-BHC (Lindane), Heptachlor, Heptachlor epoxide, Hexachlorobenzene}
(8)IC Anions - 9056 {2-Hydroxyacetate, Acetate, Chloride, Fluoride, Formate, Nitrate, Nitrite, Oxalate, Sulfate}

ORIGINAL

A-6003-618(01/06)

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-003-004 PAGE 3 OF 4

COLLECTOR: Rosanne, Rust

SAMPLING LOCATION: C6404, I-004EB

ICE CHEST NO.:

SHIPPED TO: 222-S Lab Operations

COMPANY CONTACT: SYDNOR, HA

TELEPHONE NO.: 373-3967

PROJECT COORDINATOR: WIDRIG, DL

PRICE CODE: 7P

DATA TURNAROUND: 75 Days / 75 Days

PROJECT DESIGNATION: WMA C Sampling for CMS - QC Sampling

SAF NO.: V09-003

AIR QUALITY: ☐

FIELD LOGBOOK NO.: HNF-N-576-3 pg 63

ACTUAL SAMPLE DEPTH: N/A

COA: 301483ES10

METHOD OF SHIPMENT: GOVERNMENT VEHICLE

OFFSITE PROPERTY NO.:

BILL OF LADING/AIR BILL NO.:

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE:

PRESERVATION	NaOH to pH >= 12/Cool-4C	H2SO4 to pH <2	None	HNO3 to pH <2	HNO3 to pH <2(ULTREX)	HNO3 to pH <2	None	None	HNO3 to pH <2	None
TYPE OF CONTAINER	G/P	G/P	P	G/P	Nalgene	G/P	G/P	G/P	G/P	P
NO. OF CONTAINER(S)	1	1	1	1	1	1	4	2	1	1
VOLUME	50mL	250mL	125mL	500mL	500mL	1000mL	1000mL	1000mL	1000mL	500mL
SAMPLE ANALYSIS	Total Cyanide - 9014 (TF) (Cyanide)	300.7_NH4ON03 M (TF) (Nitrogen in ammonium)	pH (Water) - 9040 (TF) (pH Measurement)	SEE ITEM (9) IN SPECIAL INSTRUCTIONS	SEE ITEM (10) IN SPECIAL INSTRUCTIONS	Americium-241 (TF) (Americium-241)	4129_SEP_GEA (TF) (Iodine-129)	C-14 (Carbon-14)	CURIUM (Curium-243, Curium-244)	H3 - TRITIUM (Tritium)

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME										
B1YY18	WATER	5-5-09	0945	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Lemoine, Larry Lemoine	5-5-09/13:20	Richard Rostecke	5-5-09 1320

SPECIAL INSTRUCTIONS

(10)Actinides ICPMS (TF) {Neptunium-237, Technetium-99, Thorium-230, Thorium-232, Tin-126, Uranium-233, Uranium-234, Uranium-235, Uranium-236, Uranium-238}

(9)GAMMA ENERGY ANALYSIS (TF) {Antimony-125, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}

ORIGINAL

LABORATORY SECTION: RECEIVED BY: TITLE: DATE/TIME:

FINAL SAMPLE DISPOSITION: DISPOSAL METHOD: DISPOSED BY: DATE/TIME:

A-6003-618(01/06)

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-003-004

COLLECTOR
Rosane, Rust

SAMPLING LOCATION
C6404, I-004EB

ICE CHEST NO.

SHIPPED TO
222-S Lab Operations

COMPANY CONTACT
SYDNOR, HA

TELEPHONE NO.
373-3967

PROJECT COORDINATOR
WIDRIG, DL

PRICE CODE 7P

DATA TURNAROUND
75 Days / 75 Days

PROJECT DESIGNATION
WMA C Sampling for CMS - QC Sampling

SAF NO.
V09-003

AIR QUALITY ☐

FIELD LOGBOOK NO.
HNF-N-376-3 pg 63

ACTUAL SAMPLE DEPTH
N/A

COA
301483ES10

METHOD OF SHIPMENT
GOVERNMENT VEHICLE

OFFSITE PROPERTY NO.

BILL OF LADING/AIR BILL NO.

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION			HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2						
TYPE OF CONTAINER			G/P	G/P	G/P	G/P						
NO. OF CONTAINER(S)			1	1	1	2						
VOLUME			1000mL	1000mL	1000mL	1000mL						
SAMPLE ANALYSIS			SEE ITEM (11) IN SPECIAL INSTRUCTIONS	Nickel-63 (TF) (Nickel-63)	Selenium-79 (TF) (Selenium-79)	Strontium-89,90 -- Sr-90 (Strontium-90)						
SAMPLE NO.	**MATRIX***	**SAMPLE DATE**	**SAMPLE TIME**									
B1YY18	WATER	5-5-09	0945	✓	✓	✓	✓					

CHAIN OF POSSESSION

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rosane Larry Rosane	5-5-09 / 1320	RRGG RRGG	5-5-09 1320
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SIGN/ PRINT NAMES

SPECIAL INSTRUCTIONS
(11)Isotopic Plutonium {Plutonium-238, Plutonium-239/240}

ORIGINAL

LABORATORY SECTION **RECEIVED BY** **TITLE** **DATE/TIME**

FINAL SAMPLE DISPOSITION **DISPOSAL METHOD** **DISPOSED BY** **DATE/TIME**

A-6003-618(01/06)

[illegible]-6404 [illegible]

Date: 5-13-09

Weather 60° Cloudy Wind 5-10 mph

VEO's- Rosame, Rust

FWS- Bill Clark

Drillers - Energy Solutions RWP CO-460 Rev 4

0700- Started pre-job sign in preparing to reach depth for I-004 (using the EB assemble)

0930- Completed I-004 @ 19.5' BIYT99, V09-002-043
BIYTB0, V09-002-044 } 222-S labs
BIYTB1, V09-002-045

Due to small amount of soil recovered from sample only 2½ liners were filled, and all VOA's filled.

1030- Samples were delivered to 222-S labs per Blue Card #4

Field readings on all samples for I-004 were @ 100 cpm above background

Last entry this Date 5-13-09 SLE

Larry Rosame 5-13-09

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-043 PAGE 1 OF 2

COLLECTOR: Roxane Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL
SAMPLING LOCATION: C6404, I-004	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002
ICE CHEST NO.:	FIELD LOGBOOK NO.: HNF-N-576-3 pg 65	ACTUAL SAMPLE DEPTH: 19.5'	COA: 301483ES10
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.:		BILL OF LADING/AIR BILL NO.:

PRICE CODE: 8P

AIR QUALITY: ☐

DATA TURNAROUND: 75 Days / 75 Days

METHOD OF SHIPMENT: GOVERNMENT VEHICLE

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

20090325

SPECIAL HANDLING AND/OR STORAGE: 21° – 54°

PRESERVATION	Cool <-7A and >-20C	HNO3/Cool<6 C
TYPE OF CONTAINER	aGlr*	aGlr*
NO. OF CONTAINER(S)	3	3
VOLUME	40mL	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B1YT99	SOIL	5-13-09	0930	✓	✓
S09V000 395					
S09V000 396					

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rosane Larry Rosane	5-13-09/ 1030	RFSteele RFSteele	5-13-09 1030
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS: SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/06)

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-043

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE 8P	DATA TURNAROUND
Rosane Rust	SYDNOR, HA	373-3967	WIDRIG, DL	AIR QUALITY ☐	75 Days / 75 Days
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**		
C6404, 1-004	WMA C Sampling for CMS		V09-002		
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**ACTUAL SAMPLE DEPTH**	**COA**	**METHOD OF SHIPMENT**	
	HNF-N-576-3 pg 65	19.5'	301483E510	GOVERNMENT VEHICLE	
SHIPPED TO	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**		
222-S Lab Operations					

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis.
** The laboratory is to use one of the low level VOA bottles for moisture content determination.
** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)VOA - 5035/8260 (LOW LEVEL) (TF) (1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3 Dichloropropene)
(2)VOA - 5035/8260 (HIGH LEVEL) (TF) (1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2 trifluoroethane, 1,1,2 Trichloroethane, 1,1 Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4 Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m Xylene, o-Xylene, p-Xylene, trans-1,2 Dichloroethylene, trans-1,3 Dichloropropene)

ORIGINAL

A-6003-618(01/06)

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-044 PAGE 1 OF 1

COLLECTOR: Roxane Rost	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL
PRICE CODE: 8P	DATA TURNAROUND: 75 Days / 75 Days		
SAMPLING LOCATION: C6404, I-004	PROJECT DESIGNATION: WHA C Sampling for CMS		SAF NO.: V09-002
AIR QUALITY: ☐			
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 0965	ACTUAL SAMPLE DEPTH	COA: 301483ES10
METHOD OF SHIPMENT: GOVERNMENT VEHICLE			
SHIPPED TO: 222 S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

20090325

SPECIAL HANDLING AND/OR STORAGE: 54°

PRESERVATION	Cool-6C
TYPE OF CONTAINER	aGB*
NO. OF CONTAINER(S)	1
VOLUME	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B1YTB0	SOIL	5-13-09	0930	✓
509V000397				

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Roxane Rost Roxane Rost	5-13-09 1030	R Stock R Stock	5-13-09 1030

LABORATORY SECTION: RECEIVED BY | TITLE | DATE/TIME

FINAL SAMPLE DISPOSITION: DISPOSAL METHOD | DISPOSED BY | DATE/TIME

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.

(1)VOA - 5035/8260 (TCL) (TF) (1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene)

ORIGINAL

A-6003-618(01/06)

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-045 PAGE 1 OF 2

COLLECTOR: Rosane, Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL
SAMPLING LOCATION: C6404, 1-004	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-526-3 pg 65	ACTUAL SAMPLE DEPTH: 19.5'	COA: 301483E510
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.

PRICE CODE: 8P

AIR QUALITY: ☐

DATA TURNAROUND: 75 Days / 75 Days

METHOD OF SHIPMENT: GOVERNMENT VEHICLE

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegitation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

2009 0325

SPECIAL HANDLING AND/OR STORAGE: 54°

PRESERVATION	Cool-4C
TYPE OF CONTAINER	Liner
NO. OF CONTAINER(S)	1 2½ SAF 5-13-09
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B1YTB1	SOIL	5-13-09	0930	✓
S09V000 398				
S09V000 399	S09V000401			
S09V000 400				

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rosane Larry Rosane	5-13-09 1030	R Steele R Steele	5-13-09 1030

SPECIAL INSTRUCTIONS

SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

2½ liner filled (lack of soil)

☐ ORIGINAL

LABORATORY SECTION: RECEIVED BY | TITLE | DATE/TIME

FINAL SAMPLE DISPOSITION: DISPOSAL METHOD | DISPOSED BY | DATE/TIME

A 6083 610(01/09)

Washington River Protection Solutions | **CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST** | **V09-002-045** | **PAGE 2 OF 2**

COLLECTOR Rosane Rust	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** WIDRIG, DL	**PRICE CODE** 8P	**DATA TURNAROUND**
SAMPLING LOCATION C6404, I-004	**PROJECT DESIGNATION** WMA C Sampling for CMS		**SAF NO.** V09-002	**AIR QUALITY** ☐	**75 Days / 75 Days**
ICE CHEST NO.	**FIELD LOGBOOK NO.** HNF-N-576-3,p65	**ACTUAL SAMPLE DEPTH** 14.5'	**COA** 301483ES10	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**		

SPECIAL INSTRUCTIONS

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)Semi-VOA - 8270 Complete (TF) {1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 2,4-Dinitrotoluene, 2,6-bis(1,1 dimethylethyl)-4-methyl phenol, 2-Chlorophenol, 2-Methylphenol (cresol, o-), 2-Nitrophenol, 3-Methylphenol (cresol, m-), 4-Chloro-3-methylphenol, 4-Methylphenol (cresol, p-), Acenaphthene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Bis(2-ethylhexyl) phthalate, Butylbenzylphthalate, Cellosolve Solvent, Chrysene, Cyclohexanone, Di-n-butylphthalate, Di-n-octylphthalate, Dibenz[a,h]anthracene, Dibutylphosphate, Ethylene glycol, Fluoranthene, Hexachlorobutadiene, Hexachloroethane, Indeno(1,2,3-cd)pyrene, Isobutyl alcohol, Monobutyl phosphate, Naphthalene, Nitrobenzene, Pentachlorophenol, Pyrene, Pyridine, Total cresols, Tributyl phosphate, n Nitrosodi-n-dipropylamine, n Nitrosomorpholine} ICP Metals - 6010 (SW-846) (TF) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Uranium, Vanadium, Zinc} Mercury - 7471 - (CV) (TF) {Mercury} PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260} TPH-Gasoline Range - WTPH-G {Total petroleum hydrocarbons - gasoline range} TPH-Diesel Range - WTPH-D {Total petroleum hydrocarbons - diesel range} Pesticides - 8081 (TF) {2,4' DDD (Dichlorodiphenyldichloroethane), 2,4'-DDE (Dichlorodiphenyldichloroethylene), 2,4'-DDT (Dichlorodiphenyltrichloroethane), 4,4'-DDD (Dichlorodiphenyldichloroethane), 4,4' DDE (Dichlorodiphenyldichloroethylene), 4,4'-DDT (Dichlorodiphenyltrichloroethane), Aldrin, Chlordane, Dieldrin, Endrin, Gamma-BHC (Lindane), Heptachlor epoxide, Hexachlorobenzene} IC Anions - 9056 {2-Hydroxyacetate, Acetate, Chloride, Fluoride, Formate, Nitrate, Nitrite, Oxalate, Sulfate} 300.7_AMMONIUM (TF) {Nitrogen in ammonium} Sulfide - 9215 {Sulfide} Total Cyanide - 9014 (TF) {Cyanide} pH (Soil) - 9045 {pH Measurement} GAMMA ENERGY ANALYSIS (TF) {Antimony-125, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155} Actinides ICPMS (TF) {Neptunium-237, Technetium-99, Thorium-230, Thorium 232, Tin-126, Uranium-233, Uranium 234, Uranium-235, Uranium 236, Uranium-238} Americium-241 (TF) {Americium-241} I129_SEP_GEA (TF) {Iodine-129} C-14 (Carbon-14) CURIUM {Curium 242, Curium-243, Curium-244} H3 - TRITIUM {Tritium} Isotopic Plutonium {Plutonium-238, Plutonium-239/240} Nickel-63 (TF) {Nickel-63} Selenium-79 (TF) {Selenium-79} Strontium-89,90 -- Sr-90 {Strontium-90}

ORIGINAL

A-6003 618(01/05)

66

C-6404 C-FARMS 1HNF-N-576-3 pg 66
Date: 5-18-09
Weather ~ 70°c clear wind 0-5 mph
NCO's - Kauke, white
FWS - Bill Clark
Drillers - Enviro Solutions RWP - CO-460 Rev 4
0730 Sample Taken I-005-TB V09-003-005 B1Y423
0800 - on site pre-Job Sign-in
0920 - Sample Taken I-005 V09-002-046, B1YTB2
V09-002-047 B1YTB3 V09-002-048 B1YTB4
Depth 31' to 33' 3 full Liners
1140 - Sample Taken I-006 V09-002-049 B1YTB5
V09-002-050 B1YTB6, V09-002-051 B1YTB7
Depth - 42' to 44' 3 full Liners
1455 - Delivered Samples to 222's Labs per Blue card #5
Field readings on Both I-005 and I-006 were
Below Background.
1533 - No Further Entries this Date 5-18-09 [signature]

EK
5-18-09

FIELD CHARACTERIZATION WATER/OTHER LIQUID SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS - QC Sampling			PAGE 1 OF 1
			DATE/TIME 5-18-09
SAF NO.(S) V09-003			
LOCATION C6404, I-005TB		LOGBOOK NO./PAGE HNF-N-576-3 pg 66	
WELL NAME C6404		WELL ID N/A	ACTUAL DEPTH N/A ☐ft ☐m
BOTTOM OF CASING (bgs) N/A ☐ft ☐m		BOTTOM OF BOREHOLE (bgs) N/A	☐ft ☐m

SAMPLES COLLECTED

TOTAL NUMBER OF BOTTLES 3 TOTAL NUMBER OF CHAINS 1 COLLECTOR Kaus, White

222-S V09-003-009

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YY23	3 / 40mL / aGs*	820302	HCl or H2SO4 to pH <2/Cool~4C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

FIELD INFORMATION

PURGE RATE N/A	☐ gpm ☐ Lpm	TIME ON	TIME WATER	TIME PURGE	TIME SAMP	TIME OFF
PURGE VOLUME REQUIRED N/A	☐ gal ☐ L	N/A	N/A	N/A	0730	N/A

WHERE ARE SAMPLES LOCATED AT THIS TIME? ☐ WSCF ☑ 222-S ☐ MO-612 ☐ MO-745 ☐ 6269 ☐ OTHER

FIELD MEASUREMENTS

SAMPLE NO.	B1YY23									
TIME										
pH (unitless)										
TEMP ☐°F ☐°C										
COND (µs/cm)										
TURB. (NTU)										
D.O. (mg/L)										
ORP (mV)										

EK 5-18-09

FIELD OBSERVATIONS

WEATHER Inside 5.04

FIELD COMMENTS N/A

SUPPORT PERSONNEL N/A

SAMPLES SURVEYED BY RCT ☐ YES ☑ NO

	PRINT NAME	SIGN NAME	DATE
RECORDED BY	Ed Kaus	Edward Kaus	5-18-09
CHECKED BY	Larry Rosane	Larry Rosane	5-18-09

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ORIGINAL

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-003-009	PAGE 1 OF 1
COLLECTOR Kavin White	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 7P AIR QUALITY ☐	DATA TURNAROUND 75 Days / 75 Days
SAMPLING LOCATION C6404, I-005TB	PROJECT DESIGNATION WMA C Sampling for CMS - QC Sampling		SAF NO. V09-003		
ICE CHEST NO.	FIELD LOGBOOK NO. 576-3 HNF-N-5[illegible] pg 44	ACTUAL SAMPLE DEPTH N/A	COA 301483ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS		
A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegitation W=Water WI=Wipe X=Other	Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	HCl or H2SO4 to pH <2/Cool--4C
		TYPE OF CONTAINER	aGs*
		NO. OF CONTAINER(S)	3
		VOLUME	40mL
	SPECIAL HANDLING AND/OR STORAGE	SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B1YY23	WATER	5-18-09	07:30	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Ed Kaun/Ed Oakum 5-18-09	1455	TM Gilbert/TM Gilbert 5-18-09	1455
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

(1)VOA - 8260 (TCL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/06)

FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS	PAGE 1 OF 2
	DATE/TIME 5-18-09/0920
SAF NO.(S) V09-002	
LOCATION C6404, 1-005	LOGBOOK NO./PAGE HNF-N-576-3 PG 66
WELL NAME C6404	WELL ID C6404 ACTUAL DEPTH 31-33 ☑ft ☐m
BOTTOM OF CASING (bgs) 31 ☑ft ☐m	BOTTOM OF BOREHOLE (bgs) 33 ☑ft ☐m
SAMPLES COLLECTED	
TOTAL NUMBER OF BOTTLES 12 TOTAL NUMBER OF CHAINS 3	COLLECTOR Kauer, White

222-S V09-002-046 Sample time 0920

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTB2	5 / 40mL / aGs*	8/40/10	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B1YTB2	3 / 40mL / aGs*		MEOH/Cool~6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

222-S V09-002-047

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTB3	1 / 40mL / aGs*	0900751139	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

222-S V09-002-048

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTB4	3 / 160g / Liner	N/A	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

ORIGINAL

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FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS		PAGE 2 OF 2	
		DATE/TIME 5-18-09 0920	
SAF NO.(S) V09-002			
LOCATION C6404, I-005	LOGBOOK NO./PAGE HNF-N-576-3 pg 66		
WELL NAME C6404	WELL ID C6404	ACTUAL DEPTH 31.33	☑ft ☐m
BOTTOM OF CASING (bgs) 31	☑ft ☐m	BOTTOM OF BOREHOLE (bgs) 33	☑ft ☐m

SAMPLES COLLECTED

TOTAL NUMBER OF BOTTLES 12 TOTAL NUMBER OF CHAINS 3 COLLECTOR Kauer, white

FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME? ☐ WSCF ☑ 222-S ☐ MO-612 ☐ MO-745 ☐ 6269 ☐ OTHER

CONTAINER/DRUM/TOTE/BOX

SAMPLE MATRIX DESCRIPTION ☑ SOIL ☐ SLUDGE ☐ RESIN ☐ GAC ☐ FILTER PAPER ☐ OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

Dark Brown, Granular

FIELD OBSERVATIONS

WEATHER 70° 0-5 mph wind, clear

FIELD COMMENTS

N/A

SUPPORT PERSONNEL HPT- Jeff, Paul (Billedeaux FWS)

SAMPLES SURVEYED BY RCT ☑ YES ☐ NO

IS A BLUE CARD REQUIRED ☑ YES ☐ NO BLUE CARD NO Site-03-Excepted #5

IS SRS PROVIDED AND COMPLETE ☑ YES ☐ NO

RECORDED BY Ed Kauer (PRINT NAME) [signature] (SIGN NAME) 5-18-09 (DATE)

CHECKED BY Larry Rosane (PRINT NAME) Larry Rosane (SIGN NAME) 5-18-09 (DATE)

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ORIGINAL

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-046	PAGE 1 OF 2
COLLECTOR: Kavin, White	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: SP	DATA TURNAROUND: 75 Days / 75 Days
SAMPLING LOCATION: C6404, I-005	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY: [ ]	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 pg 66	ACTUAL SAMPLE DEPTH: 31 to 33'	COA: 301483ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool < 7C and > 20C	MEOH/Cool~6 C
TYPE OF CONTAINER	aGa*	aGa*
NO. OF CONTAINER(S)	3 ✓	3 ✓
VOLUME	40ml	40ml
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B1YTB2	SOIL	5-18-09	0920	✓	✓
509V002412	(hi)				
529V002411	(lo)				

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Ed Kavin, Ed Klemm	5-18-09 1455	Tim Gellach	5-18-09 1455

SPECIAL INSTRUCTIONS: SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

Area(s) 618(81/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-046	PAGE 2 OF 2
COLLECTOR Kauzz, White	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8P	DATA TURNAROUND
SAMPLING LOCATION C6404, I-005	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V09-002	AIR QUALITY ☐	75 Days / 75 Days
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-576-3 PB6	ACTUAL SAMPLE DEPTH 31' to 33'	COA 301483ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis.
** The laboratory is to use one of the low level VOA bottles for moisture content determination.
** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)VOA - 5035/8260 (LOW LEVEL) (TF) (1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}
(2)VOA - 5035/8260 (HIGH LEVEL) (TF) (1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2 Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}

ORIGINAL

A-6003 618(01/06)

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-047

PAGE 1 OF 1

COLLECTOR: Knox, White	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL
SAMPLING LOCATION: C6401, 1-005	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002
ICE CHEST NO.	FIELD LOGBOOK NO.: 4466 HNF-N-576-3	ACTUAL SAMPLE DEPTH: 31' to 33'	COA: 301483ES10
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.

PRICE CODE: 8P

AIR QUALITY: ☐

DATA TURNAROUND: 75 Days / 75 Days

METHOD OF SHIPMENT: GOVERNMENT VEHICLE

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool-4C
TYPE OF CONTAINER	8Ge*
NO. OF CONTAINER(S)	1 ✓
VOLUME	500mL
SAMPLE ANALYSIS	[illegible]

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B1YTB3	SOIL	5-18-09	0920	✓
509V000412				

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
[illegible]	5-18-09 1455	TN Gilbert	5-18-09 1455

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.

(1)VOA - 5035/8260 (TCL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1 Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A 6003 618(01/06)

Attachment 1 - Sample Record Sheet

SAMPLE RECORD SHEET

Location: C6404, I-005

Sampler Initials and Date: SK - 5-18-09

Sample Number	Sample Suffix[1]	Tare Weight provided (grams)	Tare Weight prior to sample[2] (grams)	Initial Weight[3] (grams)	Total Weight[4] (grams)	Soil Weight[5] (grams)	Methanol in sample bottle (ml)
B14TB2	K	28.3	n/a	29.9	35.1	5.2	No Methanol
B14TB2	L	29.2	n/a	30.7	37.7	7.0	
B14TB2	M	28.1	n/a	29.6	36.2	6.6	
B14TB2	N	28.4	n/a	29.9	34.5	4.6	
B14TB2	P	28.6	n/a	30.2	35.8	5.6	
B14TB2	W	34.94	34.9	35.3	39.4	4.1	N/A
B14TB2	X	35.03	35.0	35.4	39.7	4.3	
B14TB2	Y	35.16	35.16	35.5	41.2	5.7	
B14TB3	*	35.24	35.1	35.4	35.5	0	

[1]Sample suffix of K, L, M, N, and P relate to low-level concentration samples and will not have any preservation beyond freezing between -7°C and -20°C.

Sample suffix of W, X, and Y relate to methanol preservation for high-level samples.

Sample suffix of "*" relates to methanol blank. Cool these samples to 4°C ± 2°C.

[2]Tare weight prior to sample must be within +/- 0.1 grams of Vendors tare weight or bottle cannot be used. Weigh only the bottle, no labels, stickers or bags.

[3]Initial weight is to include all labels, stickers, bags, methanol (for vendor filled methanol samples with suffix W,X,Y and *) spin bars (for samples with suffix K,L,M,N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

[4]Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

[5]Soil weight is the vial with sample minus Initial Weight.

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-048 | PAGE 1 OF 2

COLLECTOR: Kate White	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373 3967	PROJECT COORDINATOR: WIDRIG, DL
SAMPLING LOCATION: C6404, 1-005	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 Pg 66	ACTUAL SAMPLE DEPTH: 31' to 33'	COA: 301483ES10
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.

PRICE CODE: 8P

AIR QUALITY: ☐

DATA TURNAROUND: 75 Days / 75 Days

METHOD OF SHIPMENT: GOVERNMENT VEHICLE

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, Sd=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

PRESERVATION	Cool-4C
TYPE OF CONTAINER	Liner
NO. OF CONTAINER(S)	3
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SPECIAL HANDLING AND/OR STORAGE

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
11YTB4	SOIL	5-18-09	0920	✓
S09V000413 (a)				
S09V000414 (b)				
S09V000415 (c)				

CHAIN OF POSSESSION — **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Ed Kenoh, [illegible]	5-18-09 1455	TM Gilbert [illegible]	5-18-09 1455
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

☐ ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A COA: 648(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-048	PAGE 2 OF 2
COLLECTOR Kause, White	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8P	DATA TURNAROUND
SAMPLING LOCATION C6404, I-005	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V09-002	AIR QUALITY ☐	75 Days / 75 Days
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-576-33 Pg 66	ACTUAL SAMPLE DEPTH 31' to 33'	COA 301483ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222 S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)Semi VOA 8270 Complete (TF) (1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 2,4,5-Trichlorophenol, 2,4,6 Trichlorophenol, 2,4-Dinitrotoluene, 2,6-bis(1,1-dimethylethyl) 4-methyl phenol, 2-Chlorophenol, 2-Methylphenol (cresol, o-), 2-Nitrophenol, 3-Methylphenol (cresol, m-), 4-Chloro-3-methylphenol, 4-Methylphenol (cresol, p-), Acenaphthene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Bis(2 ethylhexyl) phthalate, Butylbenzylphthalate, Cellosolve Solvent, Chrysene, Cyclohexanone, Di n butylphthalate, Di-n-octylphthalate, Dibenz[a,h]anthracene, Dibutylphosphate, Ethylene glycol, Fluoranthene, Hexachlorobutadiene, Hexachloroethane, Indeno(1,2,3 cd)pyrene, Isobutyl alcohol, Monobutyl phosphate, Naphthalene, Nitrobenzene, Pentachlorophenol, Pyrene, Pyridine, Total cresols, Tributyl phosphate, n-Nitrosodi-n-dipropylamine, n-Nitrosomorpholine) ICP Metals - 6010 (SW 846) (TF) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Uranium, Vanadium, Zinc) Mercury - 7471 - (CV) (TF) (Mercury) PCBs - 8082 (Aroclor-1016, Aroclor 1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260) TPH Gasoline Range - WTPH-G (Total petroleum hydrocarbons - gasoline range) TPH-Diesel Range - WTPH-D (Total petroleum hydrocarbons - diesel range) Pesticides - 8081 (TF) (2,4'-DDD (Dichlorodiphenyldichloroethane), 2,4'-DDE (Dichlorodiphenyldichloroethylene), 2,4'-DDT (Dichlorodiphenyltrichloroethane), 4,4'-DDD (Dichlorodiphenyldichloroethane), 4,4'-DDE (Dichlorodiphenyldichloroethylene), 4,4'-DDT (Dichlorodiphenyltrichloroethane), Aldrin, Chlordane, Dieldrin, Endrin, Gamma-BHC (Lindane), Heptachlor epoxide, Hexachlorobenzene) IC Anions - 9056 (2-Hydroxyacetate, Acetate, Chloride, Fluoride, Formate, Nitrate, Nitrite, Oxalate, Sulfate) 300.7_AMMONIUM (TF) (Nitrogen in ammonium) Sulfide - 9215 (Sulfide) Total Cyanide - 9014 (TF) (Cyanide) pH (Soil) - 9045 (pH Measurement) GAMMA ENERGY ANALYSIS (TF) (Antimony-125, Cesium-137, Cobalt-60, Europium-152, Europium 154, Europium 155) Actinides ICPMS (TF) (Neptunium-237, Technetium-99, Thorium-230, Thorium 232, Tin 126, Uranium-233, Uranium-234, Uranium-235, Uranium-236, Uranium-238) Americium-241 (TF) (Americium-241) I129_SEP_GEA (TF) (Iodine-129) C-14 (Carbon-14) CURIUM (Curium-242, Curium-243, Curium 244) H3 - TRITIUM (Tritium) Isotopic Plutonium (Plutonium-238, Plutonium-239/240) Nickel-63 (TF) (Nickel-63) Selenium-79 (TF) (Selenium-79) Strontium-89,90 -- Sr-90 (Strontium 90)

ORIGINAL

A-6003-618(01/06)

FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS			PAGE 1 OF 2 DATE/TIME 5-18-09/1140
SAF NO.(S) V09-002			
LOCATION C6404, 1-006		LOGBOOK NO./PAGE HNF-N-576-3 P66	
WELL NAME C6404		WELL ID C6404	ACTUAL DEPTH 42' to 44 ☑ft ☐m
BOTTOM OF CASING (bgs) 42' ☑ft ☐m		BOTTOM OF BOREHOLE (bgs) 44 ☑ft ☐m	
SAMPLES COLLECTED			
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR KAUER, White	

222-S V09-002-049

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTB5	5 / 40mL / aGs*	8140110	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B1YTB5	3 / 40mL / aGs*	0900751110	MEOH/Cool~6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

222-S V09-002-050

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTB6	1 / 40mL / aGs*	B9075010B	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

222-S V09-002-051

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTB7	3 / 160g / Liner	N/A	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

ORIGINAL

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A-6004-701 (REV.0)

FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS	PAGE 2 OF 2
	DATE/TIME 5-18-09 1140
SAF NO.(S) V09-002	
LOCATION C6404, I-006	LOGBOOK NO./PAGE HNF-N-576-3 PG 44
WELL NAME C6404	WELL ID C6404 ACTUAL DEPTH 42 to 44 ☑ ft ☐ m
BOTTOM OF CASING (bgs) 42 ☑ ft ☐ m	BOTTOM OF BOREHOLE (bgs) 44 ☑ ft ☐ m
SAMPLES COLLECTED	
TOTAL NUMBER OF BOTTLES 12 TOTAL NUMBER OF CHAINS 3	COLLECTOR KAUER, White

FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME? ☐ WSCF ☑ 222-S ☐ MO-612 ☐ MO-745 ☐ 6269 ☐ OTHER

CONTAINER/DRUM/TOTE/BOX N/A

SAMPLE MATRIX DESCRIPTION ☑ SOIL ☐ SLUDGE ☐ RESIN ☐ GAC ☐ FILTER PAPER ☐ OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

Dark Brown GRANULAR

FIELD OBSERVATIONS

WEATHER 83°F 0-5 mph wind CLEAR

FIELD COMMENTS N/A

SUPPORT PERSONNEL HPT- Jeff, Paul (FWS - Bill Clark)

SAMPLES SURVEYED BY RCT ☑ YES ☐ NO

IS A BLUE CARD REQUIRED ☑ YES ☐ NO BLUE CARD NO site-03-Excepted #5

IS SRS PROVIDED AND COMPLETE ☑ YES ☐ NO

	PRINT NAME	SIGN NAME	DATE
RECORDED BY	Ed KAUER	[signature]	5-18-09
CHECKED BY	Larry Rosane	Larry Rosane	5-18-09

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OFFICIAL

Washington River Protection Solutions — **CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST** — V09-002-049 — PAGE 1 OF 2

COLLECTOR: Kaser, White	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL
SAMPLING LOCATION: C6404, 1-006	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 p66	ACTUAL SAMPLE DEPTH: 42' to 44'	COA: 301483ES10
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.

PRICE CODE: 8P — AIR QUALITY: ☐ — DATA TURNAROUND: 75 Days / 75 Days — METHOD OF SHIPMENT: GOVERNMENT VEHICLE

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegitation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool <-7C and >-20C	HLOH/Cool-6 C
TYPE OF CONTAINER	aGs*	aGs*
NO. OF CONTAINER(S)	3	3
VOLUME	40mL	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B1YTB5	SOIL	5-18-09	1140	✓	✓
S09V000427 (hi)					
S09V000428 (lo)					

CHAIN OF POSSESSION — **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Ed Kaser/[illegible]	5-18-09 1455	TM Gilliland [illegible]	5-18-09 1455
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

ORIGINAL

LABORATORY SECTION — RECEIVED BY — TITLE — DATE/TIME

FINAL SAMPLE DISPOSITION — DISPOSAL METHOD — DISPOSED BY — DATE/TIME

A (003 [illegible])

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-049	PAGE 2 OF 2
COLLECTOR Kauer, White	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8P AIR QUALITY ☐	DATA TURNAROUND 75 Days / 75 Days
SAMPLING LOCATION C6404, I-006	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V09-002		
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-576-3 Pg 66	ACTUAL SAMPLE DEPTH 42' to 44'	COA 301483ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis.
** The laboratory is to use one of the low level VOA bottles for moisture content determination.
** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)VOA - 5035/8260 (LOW LEVEL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}
(2)VOA - 5035/8260 (HIGH LEVEL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}

ORIGINAL

A-6003 618(01/06)

Washington River Protection Solutions | **CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST** | V09-002-050 | PAGE 1 OF 1

COLLECTOR: Kaye, White	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL
SAMPLING LOCATION: C6404, I-006	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3	ACTUAL SAMPLE DEPTH: 42' to 44'	COA: 301483E510
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.

PRICE CODE: 8P
AIR QUALITY: ☐
DATA TURNAROUND: 75 Days / 75 Days
METHOD OF SHIPMENT: GOVERNMENT VEHICLE

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool-4C
TYPE OF CONTAINER	VOA*
NO. OF CONTAINER(S)	1
VOLUME	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B1YTB6	SOIL	5-18-09	1140
S09V000429			

CHAIN OF POSSESSION — SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Ed Kaye	5-18-09 1455	Tim Ollard	5-18-09 1455

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)VOA - 5035/8260 (TCL) (TF) (1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene)

ORIGINAL

LABORATORY SECTION — RECIEVED BY — TITLE — DATE/TIME

FINAL SAMPLE DISPOSITION — DISPOSAL METHOD — DISPOSED BY — DATE/TIME

Attachment 1 - Sample Record Sheet

SAMPLE RECORD SHEET

Location: C6404 I-006 Depth 42' to 44'

Sampler Initials and Date: ELK 5-18-09

Sample Number	Sample Suffix[1]	Tare Weight provided (grams)	Tare Weight prior to sample[2] (grams)	Initial Weight[3] (grams)	Total Weight[4] (grams)	Soil Weight[5] (grams)	Methanol in sample bottle (ml)
B1YTB5	K	28.0	28.0	29.5	36.3	6.8	No Methanol
B1YTB5	L	28.1	28.1	29.7	34.7	5.0	
B1YTB5	M	28.9	28.9	30.4	36.4	5.8	
B1YTB5	N	29.1	29.1	30.7	36.9	6.6	
B1YTB5	P	28.8	28.8	30.3	36.9	6.6	
B1YTB5	W	35.24	35.2	35.5	42.1	6.6	
B1YTB5	X	35.10	35.1	35.4	38.2	2.8	
B1YTB5	Y	35.35	35.3	35.7	41.9	6.2	
B1YTB6	*	35.22	35.2	35.6	35.6	Ø	

[1]Sample suffix of K, L, M, N, and P relate to low-level concentration samples and will not have any preservation beyond freezing between -7°°C and -20°C.

Sample suffix of W, X, and Y relate to methanol preservation for high-level samples.

Sample suffix of "*" relates to methanol blank. Cool these samples to 4°C ± 2°C.

[2]Tare weight prior to sample must be within +/- 0.1 grams of Vendors tare weight or bottle cannot be used. Weigh only the bottle, no labels, stickers or bags.

[3]Initial weight is to include all labels, stickers, bags, methanol (for vendor filled methanol samples with suffix W,X,Y and *) spin bars (for samples with suffix K,L,M,N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

[4]Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

[5]Soil weight is the vial with sample minus Initial Weight.

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-051

COLLECTOR: Kausk, White	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 8P	DATA TURNAROUND: 75 Days / 75 Days
SAMPLING LOCATION: C6404, 1-006	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 B66	ACTUAL SAMPLE DEPTH: 42' to 44'	COA: 301483ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: 222 S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool-4C
TYPE OF CONTAINER	Liner
NO. OF CONTAINER(S)	3
VOLUME	100g
SAMPLE ANALYSIS	HSE ITEM (1) IN SPECIM (Rad/Hsa_Isotopic)

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B1YTB7	SOIL	5-13-09	1140
S09V000430 (L)			
S09V000431 (L)			
S09V000432 (L)			

CHAIN OF POSSESSION	DATE/TIME	SIGN/ PRINT NAMES	DATE/TIME
RELINQUISHED BY/REMOVED FROM: Ed Kausk	5-13-09 1455	RECEIVED BY/STORED IN: TM Gilbert	5-13-09 1455
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-051	PAGE 2 OF 2
COLLECTOR KAUER, White	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8P	DATA TURNAROUND
SAMPLING LOCATION C6404, I-006	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V09-002	AIR QUALITY ☐	75 Days / 75 Days
ICE CHEST NO.	FIELD LOGBOOK NO. 1566 HNF-N-576-3	ACTUAL SAMPLE DEPTH 42 to 44'	COA 301483E510	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)Semi-VOA - 8270 Complete (TF) (1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 2,4-Dinitrotoluene, 2,6-bis(1,1-dimethylethyl)-4-methyl phenol, 2-Chlorophenol, 2-Methylphenol (cresol, o-), 2-Nitrophenol, 3-Methylphenol (cresol, m-), 4-Chloro-3-methylphenol, 4-Methylphenol (cresol, p-), Acenaphthene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Bis(2-ethylhexyl) phthalate, Butylbenzylphthalate, Cellosolve Solvent, Chrysene, Cyclohexanone, Di-n-butylphthalate, Di-n-octylphthalate, Dibenz[a,h]anthracene, Dibutylphosphate, Ethylene glycol, Fluoranthene, Hexachlorobutadiene, Hexachloroethane, Indeno(1,2,3 cd)pyrene, Isobutyl alcohol, Monobutyl phosphate, Naphthalene, Nitrobenzene, Pentachlorophenol, Pyrene, Pyridine, Total cresols, Tributyl phosphate, n-Nitrosodi-n-dipropylamine, n-Nitrosomorpholine) ICP Metals - 6010 (SW-846) (TF) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Uranium, Vanadium, Zinc) Mercury - 7471 - (CV) (TF) (Mercury) PCBs - 8082 (Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260) TPH-Gasoline Range - WTPH-G (Total petroleum hydrocarbons - gasoline range) TPH-Diesel Range - WTPH D (Total petroleum hydrocarbons - diesel range) Pesticides - 8081 (TF) (2,4'-DDD (Dichlorodiphenyldichloroethane), 2,4'-DDE (Dichlorodiphenyldichloroethylene), 2,4'-DDT (Dichlorodiphenyltrichloroethane), 4,4' DDD (Dichlorodiphenyldichloroethane), 4,4'-DDE (Dichlorodiphenyldichloroethylene), 4,4' DDT (Dichlorodiphenyltrichloroethane), Aldrin, Chlordane, Dieldrin, Endrin, Gamma-BHC (Lindane), Heptachlor epoxide, Hexachlorobenzene) IC Anions - 9056 (2-Hydroxyacetate, Acetate, Chloride, Fluoride, Formate, Nitrate, Nitrite, Oxalate, Sulfate) 300.7_AMMONIUM (TF) (Nitrogen in ammonium) Sulfide - 9215 (Sulfide) Total Cyanide - 9014 (TF) (Cyanide) pH (Soil) - 9045 (pH Measurement) GAMMA ENERGY ANALYSIS (TF) (Antimony-125, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155) Actinides ICPMS (TF) (Neptunium-237, Technetium-99, Thorium-230, Thorium-232, Tin-126, Uranium-233, Uranium-234, Uranium-235, Uranium-236, Uranium-238) Americium-241 (TF) (Americium-241) I129_SEP_GEA (TF) (Iodine-129) C-14 (Carbon-14) CURIUM (Curium-242, Curium-243, Curium-244) H3 - TRITIUM (Tritium) Isotopic Plutonium (Plutonium-238, Plutonium-239/240) Nickel-63 (TF) (Nickel-63) Selenium-79 (TF) (Selenium-79) Strontium-89,90 -- Sr-90 (Strontium-90)

ORIGINAL

A 6003-618(01/06)

C-6404 C Farms HNF-N-576-3 pg 67
Date: 5-19-09
Weather 60° Sunny Wind 10-15mph
NCO's- Rosane, Rust
FWS.- Bill Clark
Driller - Energy Solutions RWP-CO-460 Rev 4
0700- Started pre job preparing to reach sample depth for I-007
0945- Completed I-007 @ 57' BIYTB8, V09-002-052
BIYTB9, V09-002-053 } 222-S labs
BIYTC0, V09-002-054
all samples were at 100% full
1330- Samples were delivered to 222-S labs per Blue Card #5
Field readings on all samples for I-007 were @ background.

Last entry this Date 5-19-09 LR

Larry Rosane 5-19-09

FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS	PAGE 1 OF 2
	DATE/TIME 5-19-09/0945
SAF NO.(S) V09-002	
LOCATION C6404, I-007	LOGBOOK NO./PAGE HNF-N-576-3 pg 67
WELL NAME C6404	WELL ID C6404 ACTUAL DEPTH 57 ☑ft ☐m
BOTTOM OF CASING (bgs) N/A ☐ft ☐m	BOTTOM OF BOREHOLE (bgs) N/A ☐ft ☐m
SAMPLES COLLECTED	
TOTAL NUMBER OF BOTTLES 12 TOTAL NUMBER OF CHAINS 3	COLLECTOR Rosance, Rust

222-S V09-002-052

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTB8	5 / 40mL / aGs*	B14010	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B1YTB8	3 / 40mL / aGs*	B907501VB	MEOH/Cool~6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

222-S V09-002-053

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTB9	1 / 40mL / aGs*	B907501VB	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

222-S V09-002-054

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTC0	3 / 160g / Liner	N/A	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

ORIGINAL

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FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS	PAGE 2 OF 2
	DATE/TIME 5-19-09/0945
SAF NO.(S) V09-002	
LOCATION C6404, I-007	LOGBOOK NO./PAGE HNF-N-576-3- pg 67
WELL NAME C6404	WELL ID C6404 / ACTUAL DEPTH 57' ☑ft ☐m
BOTTOM OF CASING (bgs) N/A ☐ft ☐m	BOTTOM OF BOREHOLE (bgs) N/A ☐ft ☐m

SAMPLES COLLECTED

TOTAL NUMBER OF BOTTLES 12 TOTAL NUMBER OF CHAINS 3 COLLECTOR Rosanne Rust

FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME? ☐ WSCF ☑ 222-S ☐ MO-612 ☐ MO-745 ☐ 6269 ☐ OTHER

CONTAINER/DRUM/TOTE/BOX

SAMPLE MATRIX DESCRIPTION ☑ SOIL ☐ SLUDGE ☐ RESIN ☐ GAC ☐ FILTER PAPER ☐ OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

Sand 3 - liners 100% full

FIELD OBSERVATIONS

WEATHER 60°F Sunny Wind 10-15 mph

FIELD COMMENTS N/A

SUPPORT PERSONNEL RCT, Drillers, FWS.

SAMPLES SURVEYED BY RCT ☑ YES ☐ NO

IS A BLUE CARD REQUIRED ☑ YES ☐ NO BLUE CARD NO 5

IS SRS PROVIDED AND COMPLETE ☑ YES ☐ NO

RECORDED BY Larry Rosane (PRINT NAME) Larry Rosane (SIGN NAME) 5-19-09 (DATE)

CHECKED BY Ed Rauch (PRINT NAME) [signature] (SIGN NAME) 5-19-09 (DATE)

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ORIGINAL

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-052

PAGE 1 OF 2

COLLECTOR: Lesane, Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 8P	DATA TURNAROUND: 75 Days / 75 Days
SAMPLING LOCATION: C6404, 1-007	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 pg 67	ACTUAL SAMPLE DEPTH: 57'	COA: 301483ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

20040325

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool <-7C and >-20C	MEOH/Cool-6 C
TYPE OF CONTAINER	aGs*	aGs*
NO. OF CONTAINER(S)	3	3
VOLUME	40mL	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B1YTB8	SOIL	5-19-09	0945	✓	✓
S2?1DT3?42 (-0)					
S2?1?12?43 (-1)					

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rosane Larry Rosane	5-19-09 1330	TM Gilbert Tim Gilbert	5-19-09 1330

SPECIAL INSTRUCTIONS

SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

☐ ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/06)

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-052 PAGE 2 OF 2

COLLECTOR Rosalee Rost	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** WIDRIG, DL	**PRICE CODE** 8P	**DATA TURNAROUND**
SAMPLING LOCATION C6404, 1-007	**PROJECT DESIGNATION** WMA C Sampling for CMS		**SAF NO.** V09-002	**AIR QUALITY** ☐	75 Days / 75 Days
ICE CHEST NO.	**FIELD LOGBOOK NO.** HNF-N-576-3 pg 67	**ACTUAL SAMPLE DEPTH** 58'	**COA** 301483ES10	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**		

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis.
** The laboratory is to use one of the low level VOA bottles for moisture content determination.
** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)VOA - 5035/8260 (LOW LEVEL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}
(2)VOA - 5035/8260 (HIGH LEVEL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}

ORIGINAL

A-6003-618(01/06)

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-053 PAGE 1 OF 1

COLLECTOR: Rosanne Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: BP	DATA TURNAROUND
SAMPLING LOCATION: C6404, I-007	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY: ☐	75 Days / 75 Days
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 pg 67	ACTUAL SAMPLE DEPTH: 57'	COA: 301483ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

2009032

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~6C
TYPE OF CONTAINER	*Gls*
NO. OF CONTAINER(S)	1
VOLUME	*40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B1YTB9	SOIL	5-19-09	0945	✓

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rosanne Larry Rosanne	5-19-09/ 1330	TH Gilbert	5-19-09 1330

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.

(1)VOA - 5035/8260 (TCL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-610(01/06)

Attachment 1 - Sample Record Sheet

SAMPLE RECORD SHEET

Location: C 6404 F-007 C-Farms 5-19-09

Sampler Initials and Date: [illegible]

Sample Number	Sample Suffix[1]	Tare Weight provided (grams)	Tare Weight prior to sample[2] (grams)	Initial Weight[3] (grams)	Total Weight[4] (grams)	Soil Weight[5] (grams)	Methanol in sample bottle (ml)
B1YTB8	K	N/A	31.0	32.9	37.9	5.0	No Methanol
B1YTB8	L	N/A	31.4	33.3	39.3	6.0	
B1YTB8	M	N/A	30.6	32.5	39.1	6.6	
B1YTB8	N	N/A	29.9	31.7	37.9	6.2	
B1YTB8	P	N/A	30.5	32.3	39.2	6.9	
B1YTB8	W	35.38	35.4	35.8	43.9	8.1	10
B1YTB8	X	35.27	35.2	35.6	42.9	7.3	10
B1YTB8	Y	35.40	35.40	35.8	43.0	7.2	10
B1YTB9	*	35.15	35.1	35.5	35.5	0	10

[1]Sample suffix of K, L, M, N, and P relate to low-level concentration samples and will not have any preservation beyond freezing between -7°°C and -20°C.

Sample suffix of W, X, and Y relate to methanol preservation for high-level samples.

Sample suffix of "*" relates to methanol blank. Cool these samples to 4°C ± 2°C.

[2]Tare weight prior to sample must be within +/- 0.1 grams of Vendors tare weight or bottle cannot be used. Weigh only the bottle, no labels, stickers or bags.

[3]Initial weight is to include all labels, stickers, bags, methanol (for vendor filled methanol samples with suffix W,X,Y and *) spin bars (for samples with suffix K,L,M,N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

[4]Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

[5]Soil weight is the vial with sample minus Initial Weight.

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-054

PAGE 1 OF 2

COLLECTOR: Roshne Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 8P	DATA TURNAROUND: 75 Days / 75 Days
SAMPLING LOCATION: C5404, I-007	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY: ☐	
ICE CHEST NO.:	FIELD LOGBOOK NO.: HNF-N-526-3 pg 67	ACTUAL SAMPLE DEPTH: 57'	COA: 301483ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.:		BILL OF LADING/AIR BILL NO.:		

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegetation
W=Water
W/I=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

20090325

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~6C
TYPE OF CONTAINER	Liner
NO. OF CONTAINER(S)	3
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B1YTC0	SOIL	5-19-09	0945 ✓
S09V000445			
S09V000446			
S09V000447			

CHAIN OF POSSESSION

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rosne Jerry Rosne	5-19-09 / 1330	TM Gilbert	5-19-09 1330

SIGN/ PRINT NAMES

SPECIAL INSTRUCTIONS
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

☐ ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-054	PAGE 2 OF 2
COLLECTOR Resume Rust	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3867	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8P	DATA TURNAROUND 75 Days / 75 Days
SAMPLING LOCATION C6404, 1-007	PROJECT DESIGNATION WHA C Sampling for CHS		SAF NO. V09-002	AIR QUALITY ☐	
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-576-3 pg 67	ACTUAL SAMPLE DEPTH 57'	COA 301483ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)Semi-VOA - 8270 Complete (TF) {1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 2,4-Dinitrotoluene, 2,6-bis(1,1-dimethylethyl)-4-methyl phenol, 2-Chlorophenol, 2-Methylphenol (cresol, o-), 2-Nitrophenol, 3-Methylphenol (cresol, m-), 4-Chloro-3-methylphenol, 4-Methylphenol (cresol, p-), Acenaphthene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Bis(2-ethylhexyl) phthalate, Butylbenzylphthalate, Cellosolve Solvent, Chrysene, Cyclohexanone, Di-n-butylphthalate, Di-n-octylphthalate, Dibenz[a,h]anthracene, Dibutylphosphate, Ethylene glycol, Fluoranthene, Hexachlorobutadiene, Hexachloroethane, Indeno(1,2,3-cd)pyrene, Isobutyl alcohol, Monobutyl phosphate, Naphthalene, Nitrobenzene, Pentachlorophenol, Pyrene, Pyridine, Total cresols, Tributyl phosphate, n-Nitrosodi-n-dipropylamine, n-Nitrosomorpholine} ICP Metals - 6010 (SW-846) (TF) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Uranium, Vanadium, Zinc} Mercury - 7471 - (CV) (TF) {Mercury} PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260} TPH Gasoline Range - WTPH-G {Total petroleum hydrocarbons - gasoline range} TPH-Diesel Range - WTPH-D {Total petroleum hydrocarbons - diesel range} Pesticides - 8081 (TF) {2,4'-DDD (Dichlorodiphenyldichloroethane), 2,4'-DDE (Dichlorodiphenyldichloroethylene), 2,4'-DDT (Dichlorodiphenyltrichloroethane), 4,4'-DDD (Dichlorodiphenyldichloroethane), 4,4'-DDE (Dichlorodiphenyldichloroethylene), 4,4'-DDT (Dichlorodiphenyltrichloroethane), Aldrin, Chlordane, Dieldrin, Endrin, Gamma-BHC (Lindane), Heptachlor epoxide, Hexachlorobenzene} IC Anions - 9056 {2-Hydroxyacetate, Acetate, Chloride, Fluoride, Formate, Nitrate, Nitrite, Oxalate, Sulfate} 300.7_AMMONIUM (TF) {Nitrogen in ammonium} Sulfide - 9215 {Sulfide} Total Cyanide - 9014 (TF) {Cyanide} pH (Soil) - 9045 {pH Measurement} GAMMA ENERGY ANALYSIS (TF) {Antimony-125, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155} Actinides ICPMS (TF) {Neptunium-237, Technetium-99, Thorium-230, Thorium-232, Tin-126, Uranium-233, Uranium-234, Uranium-235, Uranium-236, Uranium-238} Americium-241 (TF) {Americium-241} I129_SEP_GEA (TF) {Iodine-129} C-14 {Carbon-14} CURIUM {Curium-242, Curium-243, Curium-244} H3 - TRITIUM {Tritium} Isotopic Plutonium {Plutonium-238, Plutonium-239/240} Nickel-63 (TF) {Nickel-63} Selenium-79 (TF) {Selenium-79} Strontium-89,90 -- Sr-90 {Strontium-90}

ORIGINAL

A-6000-610(06/08)

C-6400 C-Farm HNF-N-576-3 pg 68
Date: 5-21-09
Weather 70°F Sunny Wind 0-5 mph
NCO's - Rosane, Rust
F.W.S. - Bill Clark
Drillers - Energy Solutions RWP. CO-460 Rev 4
0700 - Started pre job sign in preparing to start on C-6400
0830 - Completed I-001 TB B20VR1, V09-003-013
0924 - Completed I-001 @ 5'-7' B1YTF9, V09-002-092 } 222-S labs
B1YTH0 V09-002-093
B1YTH1, V09-002-094
1021 - Completed I-002 @ 10'-12' B1YTF8, V09-002-095 } 222-S labs
B1YTH2, V09-002-096
B1YTH3, V09-002-097
preparing for next sample @ 132'-134' all Equipment blank are no longer required for the Push sample
I-001 liners were 2 liners full 1/4 of the third all VOA'S 100%
I-002 liners were 2 liner and 100% VOA'S
1322 - Samples were delivered to 222-S labs per Blue Card #5 Field reading were barely above background.

Last entry this Date 5-21-09 LJR

Larry Rosane 5-21-09

FIELD CHARACTERIZATION WATER/OTHER LIQUID SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS - QC Sampling	PAGE 1 OF 1
	DATE/TIME 5-21-09 0830
SAF NO.(S) V09-003	
LOCATION C6400, 1-001TB	LOGBOOK NO./PAGE HNF-N-576-3 pg 68
WELL NAME N/A	WELL ID N/A ACTUAL DEPTH N/A ☐ft ☐m
BOTTOM OF CASING (bgs) N/A ☐ft ☐m	BOTTOM OF BOREHOLE (bgs) N/A ☐ft ☐m

SAMPLES COLLECTED

TOTAL NUMBER OF BOTTLES 3 TOTAL NUMBER OF CHAINS 1 COLLECTOR Steve Rust

222-S V09-003-013

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
820VR1	3 / 40mL / aGs*	820302	HCl or H2SO4 to pH <2/Cool~4C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

FIELD INFORMATION

PURGE RATE N/A ☐ gpm ☐ Lpm	TIME ON	TIME WATER	TIME PURGE	TIME SAMP	TIME OFF
PURGE VOLUME REQUIRED N/A ☐ gal ☐ L	N/A	N/A	N/A	0830	N/A

WHERE ARE SAMPLES LOCATED AT THIS TIME? ☐ WSCF ☒ 222-S ☐ MO-612 ☐ MO-745 ☐ 6269 ☐ OTHER

FIELD MEASUREMENTS

SAMPLE NO.	N/A										
TIME											
pH (unitless)											
TEMP ☐°F ☐°C											
COND (µs/cm)											
TURB. (NTU)											
D.O. (mg/L)											
ORP (mV)											

SR 5-21-09

FIELD OBSERVATIONS

WEATHER 65°F Clear wind 0-5mph

FIELD COMMENTS Trip blank

SUPPORT PERSONNEL Steve Rust Larry Rose

SAMPLES SURVEYED BY RCT ☐ YES ☒ NO

	PRINT NAME	SIGN NAME	DATE
RECORDED BY	Steve Rust		5-21-09
CHECKED BY	Ed Kavan		5-21-09

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ORIGINAL A-6004-700 (REV.0)

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-003-013 PAGE 1 OF 1

COLLECTOR: Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL
PRICE CODE: 7P	DATA TURNAROUND: 75 Days / 75 Days	AIR QUALITY: ☐	
SAMPLING LOCATION: C6400, I-001TB	PROJECT DESIGNATION: WMA C Sampling for CMS - QC Sampling	SAF NO.: V09-003	
ICE CHEST NO.:	FIELD LOGBOOK NO.: HNF-N-576-3 pg 68	ACTUAL SAMPLE DEPTH: N/A	COA: 301483ES10
METHOD OF SHIPMENT: GOVERNMENT VEHICLE	SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.: N/A	BILL OF LADING/AIR BILL NO.: N/A

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

20090376

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	HCl or H2SO4 to pH <2/Cool=4C
TYPE OF CONTAINER	aGs*
NO. OF CONTAINER(S)	3
VOLUME	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B20VR1	WATER	5-21-09	0830	✓
509V000619				

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
[signature]	5-21-09 1322	TM Gilbert [signature]	5-21-09 1322

SPECIAL INSTRUCTIONS

(1)VOA - 8260 (TCL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/06)

FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS	PAGE 1 OF 2
	DATE/TIME 5-21-09 09:24
SAF NO.(S) V09-002	
LOCATION C6400; I-001	LOGBOOK NO./PAGE HNF-N-576-3 pg 68
WELL NAME	WELL ID / ACTUAL DEPTH 5-7' ☐ft ☐m
BOTTOM OF CASING (bgs) N/A ☐ft ☐m	BOTTOM OF BOREHOLE (bgs) N/A ☐ft ☐m

SAMPLES COLLECTED

TOTAL NUMBER OF BOTTLES 12 TOTAL NUMBER OF CHAINS 3 COLLECTOR Rosane, Rust

222-S V09-002-092

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTP9	5 / 40mL / aGs*	8140110	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B1YTP9	3 / 40mL / aGs*	B9075 01VB	MEOH/Cool~6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

222-S V09-002-093

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTH0	1 / 40mL / aGs*	B9075 01VB	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

222-S V09-002-094

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTH1	3 / 160g / Liner	N/A	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

ORIGINAL

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FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS	PAGE 2 OF 2
	DATE/TIME 5-21-09/0824
SAF NO.(S) V09-002	
LOCATION C6400; I-001	LOGBOOK NO./PAGE HNF-N-576-3 pg 68
WELL NAME C-6400	WELL ID N/A ACTUAL DEPTH 5-7' ☐ft ☐m
BOTTOM OF CASING (bgs) N/A ☐ft ☐m	BOTTOM OF BOREHOLE (bgs) N/A ☐ft ☐m
SAMPLES COLLECTED	
TOTAL NUMBER OF BOTTLES 12 TOTAL NUMBER OF CHAINS 3	COLLECTOR Rosane, Rust

FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME? ☐ WSCF ☑ 222-S ☐ MO-612 ☐ MO-745 ☐ 6269 ☐ OTHER

CONTAINER/DRUM/TOTE/BOX

SAMPLE MATRIX DESCRIPTION ☑ SOIL ☐ SLUDGE ☐ RESIN ☐ GAC ☐ FILTER PAPER ☐ OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

Sand Damp 1½ liners

FIELD OBSERVATIONS

WEATHER 70°F Sunny Wind 0-5 mph

FIELD COMMENTS

SUPPORT PERSONNEL RCT Drillers FWS.

SAMPLES SURVEYED BY RCT ☑ YES ☐ NO

IS A BLUE CARD REQUIRED ☑ YES ☐ NO BLUE CARD NO 5

IS SRS PROVIDED AND COMPLETE ☑ YES ☐ NO

	PRINT NAME	SIGN NAME	DATE
RECORDED BY	Larry Rosane	Larry Rosane	5-21-09
CHECKED BY	Ed Kauer	Ed Kauer	5-21-09

PRINTED BY TMJOHANS ON 5/20/2009 11:49:34 AM A-6004-701 (REV.0)

ORIGINAL

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-092 PAGE 1 OF 2

COLLECTOR: Rosanne Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 8P	DATA TURNAROUND: 75 Days / 75 Days
SAMPLING LOCATION: C6400; I-001	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 pg68	ACTUAL SAMPLE DEPTH: 5-7'	COA: 301483E510	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegitation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

20090377

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool <-7C and >-20C	MeOH/Cool-6 C
TYPE OF CONTAINER	8Gs*	8Gs*
NO. OF CONTAINER(S)	5	3
VOLUME	40mL	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (7) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B1YTF9	SOIL	5-21-09	09:26	✓	✓
S09V000620 (L.O)					
S09V000621 (H.)					

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rouse Larry Rouse	5-21-09 1322	TM Gilmore	5-21-09 1322

SPECIAL INSTRUCTIONS

SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6087-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-092	PAGE 2 OF 2
COLLECTOR Rosanne Rust	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8P	DATA TURNAROUND
SAMPLING LOCATION C6400; I-001	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V09-002	AIR QUALITY ☐	75 Days / 75 Days
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-576-3 p68	ACTUAL SAMPLE DEPTH 5-7'	COA 301483ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis.
** The laboratory is to use one of the low level VOA bottles for moisture content determination.
** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.
(1)VOA - 5035/8260 (LOW LEVEL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}
(2)VOA - 5035/8260 (HIGH LEVEL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}

A-6003 618(01/05)

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-093

PAGE 1 OF 2

COLLECTOR: Rosanne Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 8P	DATA TURNAROUND
SAMPLING LOCATION: C6400; I-001	PROJECT DESIGNATION: WMA C Sampling for CHS		SAF NO.: V09-002	AIR QUALITY: ☐	75 Days / 75 Days
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 pg 68	ACTUAL SAMPLE DEPTH: 5'-7'	COA: 301483ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegetation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

20090377

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~6C
TYPE OF CONTAINER	WGS*
NO. OF CONTAINER(S)	1
VOLUME	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B1YTH0	SOIL	5-21-09	09:24 ✓
S0910006 22			

CHAIN OF POSSESSION — SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rosanne Larry Rosanne	5-21-09/ 1322	T.W. Tod T.W. Tod	5-21-09 1322
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

LABORATORY SECTION — RECEIVED BY — TITLE — DATE/TIME

FINAL SAMPLE DISPOSITION — DISPOSAL METHOD — DISPOSED BY — DATE/TIME

A-0003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-093	PAGE 2 OF 2
COLLECTOR Roshne, Rost	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8P	DATA TURNAROUND
SAMPLING LOCATION C6400; I-001	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V09-002	AIR QUALITY | |	75 Days / 75 Days
ICE CHEST NO.	FIELD LOGBOOK NO. HNE-N-576-3 pg 68	ACTUAL SAMPLE DEPTH 5'-7'	COA 301483ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis.
** The laboratory is to use one of the low level VOA bottles for moisture content determination.
** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.
(1)VOA - 5035/8260 (TCL) (TF) (1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene)

A-6003-618(01/06)

Attachment 1 - Sample Record Sheet

SAMPLE RECORD SHEET

Location: C 6400 I-001 C Frame

Sampler Initials and Date: [illegible] 5-21-09

Sample Number	Sample Suffix[1]	Tare Weight provided (grams)	Tare Weight prior to sample[2] (grams)	Initial Weight[3] (grams)	Total Weight[4] (grams)	Soil Weight[5] (grams)	Methanol in sample bottle (ml)
B1YTF9	K	N/A	30.3	31.9	35.9	4.0	No Methanol
B1YTF9	L	N/A	30.3	31.9	37.1	5.2	
B1YTF9	M	N/A	31.0	32.6	39.4	6.8	
B1YTF9	N	N/A	30.7	32.3	37.9	5.6	
B1YTF9	P	N/A	30.8	32.4	37.0	4.6	
B1YTF9	W	35.43	35.4	35.7	42.0	6.3	10
B1YTF9	X	35.21	35.2	35.6	41.2	5.6	10
B1YTF9	Y	35.36	35.3	35.7	41.5	5.8	10
B1YTH0	*	35.45	35.5	35.8	35.8	0	10

[1]Sample suffix of K, L, M, N, and P relate to low-level concentration samples and will not have any preservation beyond freezing between -7°C and -20°C.

Sample suffix of W, X, and Y relate to methanol preservation for high-level samples.

Sample suffix of "*" relates to methanol blank. Cool these samples to 4°C ± 2°C.

[2]Tare weight prior to sample must be within +/- 0.1 grams of Vendors tare weight or bottle cannot be used. Weigh only the bottle, no labels, stickers or bags.

[3]Initial weight is to include all labels, stickers, bags, methanol (for vendor filled methanol samples with suffix W,X,Y and *) spin bars (for samples with suffix K,L,M,N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

[4]Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

[5]Soil weight is the vial with sample minus Initial Weight.

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-094

PAGE 1 OF 2

COLLECTOR: Rosanne Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 8P	DATA TURNAROUND: 75 Days / 75 Days
SAMPLING LOCATION: C6400; 1-001	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY: ☐	
ICE CHEST NO.:	FIELD LOGBOOK NO.: HNF-N-576-3, pg 68	ACTUAL SAMPLE DEPTH: 5-5'	COA: 301483ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.:		BILL OF LADING/AIR BILL NO.:		

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegetation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

20090677

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~6C
TYPE OF CONTAINER	Liner
NO. OF CONTAINER(S)	3
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME								
B1YTH1	SOIL	5-21-09	09:24	✓							
S09V000623											
S09V000624											
S09V000625											

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rosine Larry Rosine	5-21-09/1322	Tuletal Tuletal	5-21-09 1322

SPECIAL INSTRUCTIONS
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-094	PAGE 2 OF 2
COLLECTOR Roxanne Rust	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE BP	DATA TURNAROUND
SAMPLING LOCATION C6400; I-001	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V09-002	AIR QUALITY ☐	75 Days / 75 Days
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-576-3 pg 68	ACTUAL SAMPLE DEPTH	COA 301483ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis.
** The laboratory is to use one of the low level VOA bottles for moisture content determination.
** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.
(1)Semi-VOA - 8270 Complete (TF) {1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 2,4-Dinitrotoluene, 2,6-bis(1,1-dimethylethyl)-4-methyl phenol, 2-Chlorophenol, 2-Methylphenol (cresol, o-), 2-Nitrophenol, 3-Methylphenol (cresol, m-), 4-Chloro-3-methylphenol, 4-Methylphenol (cresol, p-), Acenaphthene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Bis(2-ethylhexyl) phthalate, Butylbenzylphthalate, Cellosolve Solvent, Chrysene, Cyclohexanone, Di-n-butylphthalate, Di-n-octylphthalate, Dibenz[a,h]anthracene, Dibutylphosphate, Ethylene glycol, Fluoranthene, Hexachlorobutadiene, Hexachloroethane, Indeno(1,2,3-cd)pyrene, Isobutyl alcohol, Monobutyl phosphate, Naphthalene, Nitrobenzene, Pentachlorophenol, Pyrene, Pyridine, Total cresols, Tributyl phosphate, n-Nitrosodi-n-dipropylamine, n-Nitrosomorpholine} ICP Metals - 6010 (SW-846) (TF) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Uranium, Vanadium, Zinc} Mercury - 7471 - (CV) (TF) {Mercury} PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260} TPH-Gasoline Range - WTPH-G {Total petroleum hydrocarbons - gasoline range} TPH-Diesel Range - WTPH-D {Total petroleum hydrocarbons - diesel range} Pesticides - 8081 (TF) {2,4'-DDD (Dichlorodiphenyldichloroethane), 2,4'-DDE (Dichlorodiphenyldichloroethylene), 2,4'-DDT (Dichlorodiphenyltrichloroethane), 4,4'-DDD (Dichlorodiphenyldichloroethane), 4,4'-DDE (Dichlorodiphenyldichloroethylene), 4,4'-DDT (Dichlorodiphenyltrichloroethane), Aldrin, Chlordane, Dieldrin, Endrin, Gamma-BHC (Lindane), Heptachlor epoxide, Hexachlorobenzene} IC Anions - 9056 {2-Hydroxyacetate, Acetate, Chloride, Fluoride, Formate, Nitrate, Nitrite, Oxalate, Sulfate} 300.7_AMMONIUM (TF) {Nitrogen in ammonium} Sulfide - 9215 {Sulfide} Total Cyanide - 9014 (TF) {Cyanide} pH (Soil) - 9045 {pH Measurement} GAMMA ENERGY ANALYSIS (TF) {Antimony-125, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155} Actinides ICPMS (TF) {Neptunium-237, Technetium-99, Thorium-230, Thorium-232, Tin-126, Uranium-233, Uranium-234, Uranium-235, Uranium-236, Uranium-238} Americium-241 (TF) {Americium-241} I129_SEP_GEA (TF) {Iodine-129} C-14 {Carbon-14} CURIUM {Cunum-242, Curium-243, Curium-244} H3 - TRITIUM {Tritium} Isotopic Plutonium {Plutonium-238, Plutonium-239/240} Nickel-63 (TF) {Nickel-63} Selenium-79 (TF) {Selenium-79} Strontium-89,90 -- Sr-90 {Strontium-90}

A-6003-618(01/06)

FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS	PAGE 1 OF 2
	DATE/TIME 5-21-09/1021
SAF NO.(S) V09-002	
LOCATION C6400; I-002	LOGBOOK NO./PAGE HNF-N-576-3 pg 68
WELL NAME C-6400	WELL ID N/A ACTUAL DEPTH 10-12' ☒ft ☐m
BOTTOM OF CASING (bgs) N/A ☐ft ☐m	BOTTOM OF BOREHOLE (bgs) N/A ☐ft ☐m

SAMPLES COLLECTED

TOTAL NUMBER OF BOTTLES 12 TOTAL NUMBER OF CHAINS 3 COLLECTOR Rosawe, Rust

222-S V09-002-095

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTF8	5 / 40mL / aGs*	8140110	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B1YTF8	3 / 40mL / aGs*	B907501VB	MEOH/Cool~6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

222-S V09-002-096

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTH2	1 / 40mL / aGs*	B907501VB	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

222-S V09-002-097

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTH3	3 / 160g / Liner	N/A	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

ORIGINAL

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FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS

PAGE 2 OF 2

DATE/TIME 5-21-09/1021

SAF NO.(S) V09-002

LOCATION C6400; I-002

LOGBOOK NO./PAGE HNF-N-576-3 pg 68

WELL NAME C-6400

WELL ID N/A

ACTUAL DEPTH 15.12 ☑ft ☐m

BOTTOM OF CASING (bgs) N/A ☐ft ☐m

BOTTOM OF BOREHOLE (bgs) ☐ft ☐m

SAMPLES COLLECTED

TOTAL NUMBER OF BOTTLES 12 TOTAL NUMBER OF CHAINS 3 COLLECTOR Rosanne, Rust

FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME? ☐ WSCF ☑ 222-S ☐ MO-612 ☐ MO-745 ☐ 6269 ☐ OTHER

CONTAINER/DRUM/TOTE/BOX

SAMPLE MATRIX DESCRIPTION ☑ SOIL ☐ SLUDGE ☐ RESIN ☐ GAC ☐ FILTER PAPER ☐ OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

Sand, Moist 2 1/4 liners full

FIELD OBSERVATIONS

WEATHER 70°F Sunny Wind 0-5 mph

FIELD COMMENTS N/A

SUPPORT PERSONNEL RCT, Drillers FWS.

SAMPLES SURVEYED BY RCT ☑ YES ☐ NO

IS A BLUE CARD REQUIRED ☑ YES ☐ NO BLUE CARD NO 5

IS SRS PROVIDED AND COMPLETE ☑ YES ☐ NO

RECORDED BY Larry Rosane (PRINT NAME) Larry Rosane (SIGN NAME) 5-21-09 (DATE)

CHECKED BY Ed Kanger (PRINT NAME) Ed Kanger (SIGN NAME) 5-21-09 (DATE)

PRINTED BY TMJOHANS ON 5/20/2009 11:49:41 AM

A-6004-701 (REV.0)

☐ ORIGINAL

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-095 PAGE 1 OF 2

COLLECTOR: Rosane Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 8P	DATA TURNAROUND: 75 Days / 75 Days
SAMPLING LOCATION: C6400; I-002	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY: ☐	
ICE CHEST NO.:	FIELD LOGBOOK NO.: HNF-N-576-3 pg 68	ACTUAL SAMPLE DEPTH: 10-12'	COA: 301483ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.:		BILL OF LADING/AIR BILL NO.:		

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

20090377

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool <-7C and >-20C	MEOH/Cool-6 C
TYPE OF CONTAINER	aGs*	aGs*
NO. OF CONTAINER(S)	3	3
VOLUME	40mL	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B1YTF8	SOIL	5-21-09	1021	✓	✓
S09V000636 (Lo)					
S09V000637 (Hi)					

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rosane Larry Rosane	5-21-09 1322	TH Gilbert	5-21-09 1322

SPECIAL INSTRUCTIONS

SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/06)

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-095

PAGE 2 OF 2

COLLECTOR: Rosanne, Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 8P	DATA TURNAROUND: 75 Days / 75 Days
SAMPLING LOCATION: C6400; I-002	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 p.68	ACTUAL SAMPLE DEPTH: 10'-12'	COA: 301483ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis.
** The laboratory is to use one of the low level VOA bottles for moisture content determination.
** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.

(1)VOA - 5035/8260 (LOW LEVEL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}

(2)VOA - 5035/8260 (HIGH LEVEL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}

A-6003-618(01/06)

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-096

COLLECTOR Rosanne, Rust	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** WIDRIG, DL	**PRICE CODE** 8P	**DATA TURNAROUND**
SAMPLING LOCATION C6400; I-002	**PROJECT DESIGNATION** WMA C Sampling for CMS		**SAF NO.** V09-002	**AIR QUALITY** ☐	75 Days / 75 Days
ICE CHEST NO.	**FIELD LOGBOOK NO.** HNF-N-576-3 p.68	**ACTUAL SAMPLE DEPTH** 10-12'	**COA** 301483ES10	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**		

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegetation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

20090377

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool-4C
TYPE OF CONTAINER	aGc*
NO. OF CONTAINER(S)	1
VOLUME	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME										
B1YTH2	SOIL	5-21-09	1021	✓									
S09V000638													

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rosanne Larry Rosanne	5-21-09/1722	Mitchell Mitchell	5-21-09 1722

SPECIAL INSTRUCTIONS
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

LABORATORY SECTION	**RECEIVED BY**	**TITLE**	**DATE/TIME**
FINAL SAMPLE DISPOSITION	**DISPOSAL METHOD**	**DISPOSED BY**	**DATE/TIME**

A-6003-618(01/08)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-096	PAGE 2 OF 2
COLLECTOR Rosanne Rust	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8P	DATA TURNAROUND 75 Days / 75 Days
SAMPLING LOCATION C6400; 1-002	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V09-002	AIR QUALITY ☐	
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-576-3, pg 68	ACTUAL SAMPLE DEPTH 10'-12'	COA 301483E510	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis.
** The laboratory is to use one of the low level VOA bottles for moisture content determination.
** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.
(1)VOA - 5035/8260 (TCL) (TF) (1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene)

A-6003-618(01/08)

Attachment 1 - Sample Record Sheet

SAMPLE RECORD SHEET

Location: C6400 I-002 C Farms

Sampler Initials and Date: SA 5-21-09

Sample Number	Sample Suffix[1]	Tare Weight provided (grams)	Tare Weight prior to sample[2] (grams)	Initial Weight[3] (grams)	Total Weight[4] (grams)	Soil Weight[5] (grams)	Methanol in sample bottle (ml)
B1YTF8	K	N/A	30.3	31.9	36.1	4.2	No Methanol
B1YTF8	L	N/A	30.5	32.1	36.9	4.8	
B1YTF8	M	N/A	29.9	31.6	35.8	4.2	
B1YTF8	N	N/A	30.1	31.7	36.1	4.4	
B1YTF8	P	N/A	30.7	32.3	35.7	3.4	
B1YTF8	W	35.38	35.3	35.7	40.1	4.4	10
B1YTF8	X	34.97	34.9	35.3	39.9	4.6	10
B1YTF8	Y	35.27	35.2	35.7	39.9	4.2	10
B1YTH2	*	35.08	35.1	35.5	35.5	0	10

[1]Sample suffix of K, L, M, N, and P relate to low-level concentration samples and will not have any preservation beyond freezing between -7°°C and -20°C.

Sample suffix of W, X, and Y relate to methanol preservation for high-level samples.

Sample suffix of "*" relates to methanol blank. Cool these samples to 4°C ± 2°C.

[2]Tare weight prior to sample must be within +/- 0.1 grams of Vendors tare weight or bottle cannot be used. Weigh only the bottle, no labels, stickers or bags.

[3]Initial weight is to include all labels, stickers, bags, methanol (for vendor filled methanol samples with suffix W,X,Y and *) spin bars (for samples with suffix K,L,M,N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

[4]Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

[5]Soil weight is the vial with sample minus Initial Weight.

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-097 PAGE 1 OF 2

COLLECTOR: Rosanne Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 8P	DATA TURNAROUND
SAMPLING LOCATION: C6400; 1-002	PROJECT DESIGNATION: WHA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY: —	75 Days / 75 Days
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 pg 68	ACTUAL SAMPLE DEPTH: 10-12'	COA: 301483ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegetation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

90090377

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool-8C
TYPE OF CONTAINER	Liner
NO. OF CONTAINER(S)	3
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B1YTH3	SOIL	5-21-09	1021
SC9V000639			
SC9V000640			
SC9V000641			

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rosanne Larry Rosanne	5-21-09/1322	Tyler Hood Tyler Hood	5-21-09 1322
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6005-818(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-097	PAGE 2 OF 2
COLLECTOR Rosanne Rust	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8P	DATA TURNAROUND
SAMPLING LOCATION C6400; I-002	PROJECT DESIGNATION WMA C Sampling for CHS		SAF NO. V09-002	AIR QUALITY ☐	75 Days / 75 Days
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-576-3 pg 68	ACTUAL SAMPLE DEPTH 10'-12'	COA 301483ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis.
** The laboratory is to use one of the low level VOA bottles for moisture content determination.
** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.
(1)Semi-VOA - 8270 Complete (TF) {1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 2,4-Dinitrotoluene, 2,6-bis(1,1-dimethylethyl)-4-methyl phenol, 2-Chlorophenol, 2-Methylphenol (cresol, o-), 2-Nitrophenol, 3-Methylphenol (cresol, m-), 4-Chloro-3-methylphenol, 4-Methylphenol (cresol, p-), Acenaphthene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Bis(2-ethylhexyl) phthalate, Butylbenzylphthalate, Cellosolve Solvent, Chrysene, Cyclohexanone, Di-n-butylphthalate, Di-n-octylphthalate, Dibenz[a,h]anthracene, Dibutylphosphate, Ethylene glycol, Fluoranthene, Hexachlorobutadiene, Hexachloroethane, Indeno(1,2,3-cd)pyrene, Isobutyl alcohol, Monobutyl phosphate, Naphthalene, Nitrobenzene, Pentachlorophenol, Pyrene, Pyridine, Total cresols, Tributyl phosphate, n-Nitrosodi-n-dipropylamine, n-Nitrosomorpholine} ICP Metals - 6010 (SW-846) (TF) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Uranium, Vanadium, Zinc} Mercury - 7471 - (CV) (TF) {Mercury} PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260} TPH-Gasoline Range - WTPH-G {Total petroleum hydrocarbons - gasoline range} TPH-Diesel Range - WTPH-D {Total petroleum hydrocarbons - diesel range} Pesticides - 8081 (TF) {2,4'-DDD (Dichlorodiphenyldichloroethane), 2,4'-DDE (Dichlorodiphenyldichloroethylene), 2,4'-DDT (Dichlorodiphenyltrichloroethane), 4,4'-DDD {Dichlorodiphenyldichloroethane}, 4,4'-DDE {Dichlorodiphenyldichloroethylene}, 4,4'-DDT (Dichlorodiphenyltrichloroethane), Aldrin, Chlordane, Dieldrin, Endrin, Gamma-BHC (Lindane), Heptachlor epoxide, Hexachlorobenzene} IC Anions - 9056 {2-Hydroxyacetate, Acetate, Chloride, Fluoride, Formate, Nitrate, Nitrite, Oxalate, Sulfate} 300.7_AMMONIUM (TF) {Nitrogen in ammonium} Sulfide - 9215 {Sulfide} Total Cyanide - 9014 (TF) {Cyanide} pH (Soil) - 9045 {pH Measurement} GAMMA ENERGY ANALYSIS (TF) {Antimony-125, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155} Actinides ICPMS (TF) {Neptunium-237, Technetium-99, Thorium-230, Thorium-232, Tin-126, Uranium-233, Uranium-234, Uranium-235, Uranium-236, Uranium-238} Americium-241 (TF) {Americium-241} I129_SEP_GEA (TF) {Iodine-129} C-14 {Carbon-14} CURIUM {Curium-242, Curium-243, Curium-244} H3 - TRITIUM {Tritium} Isotopic Plutonium {Plutonium-238, Plutonium-239/240} Nickel-63 (TF) {Nickel-63} Selenium-79 (TF) {Selenium-79} Strontium-89,90 -- Sr-90 {Strontium-90}

A-6003-618(01/06)

C-6400 C-Farms HNF-N-576-3 pg 69
Date: 6-1-09 NCOs, Kauer, Rust
Weather: 77°F Sunny FWS Bill Clark
wind 5-10 mph Drillers, Energy Solutions
RWP - CO-460 Rev 4
1030 - Started pre Job sign in
1135 - Completed I-003 @ 132' to 134.5 BIYTH4 V09-002-098
all 3 Liners full BIYTH5 V09-002-099 } 2225
field readings below background BIYTH6 V09-002-100
1400 - Samples Deliverd to 222 S Labs.
C Farms Drillers Back pulling casting on 2 wells.
Before moving to C 6406
1427 No Further Entries this Date 6-1-09

6-1-09

FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS	PAGE 1 OF 2
	DATE/TIME 6-4-09 1135
SAF NO.(S) V09-002	
LOCATION C6400; I-003	LOGBOOK NO./PAGE HNF-N-576-3 P964
WELL NAME —	WELL ID — ACTUAL DEPTH 132.6 to 134.5 ☑ft ☐m
BOTTOM OF CASING (bgs) 132. ~~134.5~~ 6-4-09 ☑ft ☐m	BOTTOM OF BOREHOLE (bgs) 134.5 ☑ft ☐m
SAMPLES COLLECTED	
TOTAL NUMBER OF BOTTLES 12 TOTAL NUMBER OF CHAINS 3	COLLECTOR Kraus, Rust

222-S V09-002-098

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTH4	5 / 40mL / aGs*	8140110	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B1YTH4	3 / 40mL / aGs*	8140110	MEOH/Cool~6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

222-S V09-002-099

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTH5	1 / 40mL / aGs*	8140110	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

222-S V09-002-100

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTH6	3 / 160g / Liner	N/A	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

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FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS	PAGE 2 OF 2
	DATE/TIME 6-1-09 1135
SAF NO.(S) V09-002	
LOCATION C6400; I-003	LOGBOOK NO./PAGE HNF-N-576-3 P164
WELL NAME —	WELL ID — ACTUAL DEPTH 132-134.5 ☑ft ☐m
BOTTOM OF CASING (bgs) 132 ☐ft ☐m	BOTTOM OF BOREHOLE (bgs) 134.5 ☐ft ☐m
SAMPLES COLLECTED	
TOTAL NUMBER OF BOTTLES 12 TOTAL NUMBER OF CHAINS 3	COLLECTOR Kaser, Rust

FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME? ☐ WSCF ☑ 222-S ☐ MO-612 ☐ MO-745 ☐ 6269 ☐ OTHER

CONTAINER/DRUM/TOTE/BOX N/A

SAMPLE MATRIX DESCRIPTION ☑ SOIL ☐ SLUDGE ☐ RESIN ☐ GAC ☐ FILTER PAPER ☐ OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

Salt and Pepper Sand white clay in shoe

FIELD OBSERVATIONS

WEATHER 97°F 5-10 mph wind SUNNY

FIELD COMMENTS N/A

SUPPORT PERSONNEL

SAMPLES SURVEYED BY RCT ☑ YES ☐ NO

IS A BLUE CARD REQUIRED ☑ YES ☐ NO BLUE CARD NO #5

IS SRS PROVIDED AND COMPLETE ☑ YES ☐ NO

	PRINT NAME	SIGN NAME	DATE
RECORDED BY	Ed Kaser	[signature]	6-1-09
CHECKED BY	LD Spicer CHPRC	[signature]	JUN 03 2009

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Washington River Protection Solutions | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | V09-002-098 | PAGE 1 OF 2

COLLECTOR: KAUER, Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 8P
SAMPLING LOCATION: C6400; I-003	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY: ☐
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 p369	ACTUAL SAMPLE DEPTH: 132 to 134.5	COA: 301483E510	METHOD OF SHIPMENT: GOVERNMENT VEHICLE
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.	

DATA TURNAROUND: 75 Days / 75 Days

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE: 20090377

PRESERVATION	Cool <-7C and >-20C	MEOH/Cool-6 °C
TYPE OF CONTAINER	aGs*	aGs*
NO. OF CONTAINER(S)	5	3
VOLUME	40mL	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B1YTH4	SOIL	6-1-09	1135	✓	✓
S09V000652	FREEZE 1				
S09V000653	→ Freq 3				

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Ed Kauer / [signature]	6-1-09 1400	[signature]	6-1-09 1400

SPECIAL INSTRUCTIONS: SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6005-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		V09-002-098	PAGE 2 OF 2
COLLECTOR KAUSE RUSH	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8P AIR QUALITY ☐
SAMPLING LOCATION C6400; I-003	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V09-002	DATA TURNAROUND 75 Days / 75 Days
ICE CHEST NO.	FIELD LOGBOOK NO. PSG HNF N-576-3	ACTUAL SAMPLE DEPTH 132 to 134.5	COA 301483ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.	

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis.
** The laboratory is to use one of the low level VOA bottles for moisture content determination.
** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.
(1)VOA - 5035/8260 (LOW LEVEL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}
(2)VOA - 5035/8260 (HIGH LEVEL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}

A-6003-618(01/06)

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-099 PAGE 1 OF 2

COLLECTOR: Kauer, Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL
SAMPLING LOCATION: C6400; I-003	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 PG 69	ACTUAL SAMPLE DEPTH: 132 to 134.5	COA: 301483ES10
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.

PRICE CODE: SP
AIR QUALITY: ☐
DATA TURNAROUND: 75 Days / 75 Days
METHOD OF SHIPMENT: GOVERNMENT VEHICLE

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegitation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE
20090377

PRESERVATION	Cool–6C
TYPE OF CONTAINER	aGs*
NO. OF CONTAINER(S)	1
VOLUME	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B1YTH5	SOIL	6-1-09	1135 ✓
509V000654			
Page 3			

CHAIN OF POSSESSION — **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
[signature]	6-1-09 1400	[signature] RJSteele	6-1-09 1400

SPECIAL INSTRUCTIONS
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-099	PAGE 2 OF 2
COLLECTOR Karen Rust	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3867	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8P	DATA TURNAROUND 75 Days / 75 Days
SAMPLING LOCATION C6400; I-003	PROJECT DESIGNATION WHA C Sampling for CMS		SAF NO. V09-002	AIR QUALITY ☐	
ICE CHEST NO.	FIELD LOGBOOK NO. P369 HWFN-576-3	ACTUAL SAMPLE DEPTH 132.1 to 134.1	COA 301483E510	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis.
** The laboratory is to use one of the low level VOA bottles for moisture content determination.
** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.
(1)VOA - 5035/8260 (TCL) (TF) (1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene)

A-6003-618(04/06)

Attachment 1 - Sample Record Sheet

SAMPLE RECORD SHEET

Location: C-6400 I-093

Sampler Initials and Date: SL 6-1-09

Sample Number	Sample Suffix[1]	Tare Weight provided (grams)	Tare Weight prior to sample[2] (grams)	Initial Weight[3] (grams)	Total Weight[4] (grams)	Soil Weight[5] (grams)	Methanol in sample bottle (ml)
B1YTH4	K	N/A	30.7	32.4	38.6	6.2	No Methanol
B1YTH4	L	N/A	30.6	32.4	36.0	3.6	
B1YTH4	M	N/A	30.2	31.9	35.8	3.9	
B1YTH4	N	N/A	30.3	32.1	36.7	4.6	
B1YTH4	P	N/A	30.3	32.0	34.8	2.8	
B1YTH4	W	38.4	38.4	38.8	41.9	3.1	10
B1YTH4	X	37.7	37.7	38.1	41.4	3.3	10
B1YTH4	Y	37.6	37.6	38.0	41.1	3.1	10
B1YTH5	*	38.3	38.3	38.7	38.7	0	10

[1]Sample suffix of K, L, M, N, and P relate to low-level concentration samples and will not have any preservation beyond freezing between -7°C and -20°C.

Sample suffix of W, X, and Y relate to methanol preservation for high-level samples.

Sample suffix of "*" relates to methanol blank. Cool these samples to 4°C ± 2°C.

[2]Tare weight prior to sample must be within +/- 0.1 grams of Vendors tare weight or bottle cannot be used. Weigh only the bottle, no labels, stickers or bags.

[3]Initial weight is to include all labels, stickers, bags, methanol (for vendor filled methanol samples with suffix W,X,Y and *) spin bars (for samples with suffix K,L,M,N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

[4]Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

[5]Soil weight is the vial with sample minus Initial Weight.

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-100 PAGE 1 OF 2

COLLECTOR: Kauk, Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL
PRICE CODE: 8P	DATA TURNAROUND: 75 Days / 75 Days	AIR QUALITY: ☐	
SAMPLING LOCATION: C6400; I-003	PROJECT DESIGNATION: WHA C Sampling for CMS	SAF NO.: V09-002	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3	ACTUAL SAMPLE DEPTH: 132 to 134.5	COA: 301483ES10
METHOD OF SHIPMENT: GOVERNMENT VEHICLE	SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.	BILL OF LADING/AIR BILL NO.

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE: 20090377

PRESERVATION	Cool-4C
TYPE OF CONTAINER	Liner
NO. OF CONTAINER(S)	3
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B1YTH8	SOIL	6-1-09	1135
509V000 655 A			
656 B			
657 C			

Page 2

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Ed Kauk	6-1-09 1400	RHSteele	6-1-09 1400

SPECIAL INSTRUCTIONS: SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-100	PAGE 2 OF 2
COLLECTOR Kevin Rust	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8P	DATA TURNAROUND 75 Days / 75 Days
SAMPLING LOCATION C6400; I-003	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V09-002	AIR QUALITY ☐	
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-576-3 P56	ACTUAL SAMPLE DEPTH 132 To 134.5'	COA 301483ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis.
** The laboratory is to use one of the low level VOA bottles for moisture content determination.
** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.

(1)Semi-VOA - 8270 Complete (TF) {1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 2,4-Dinitrotoluene, 2,6-bis(1,1-dimethylethyl)-4-methyl phenol, 2-Chlorophenol, 2-Methylphenol (cresol, o-), 2-Nitrophenol, 3-Methylphenol (cresol, m-), 4-Chloro-3-methylphenol, 4-Methylphenol (cresol, p-), Acenaphthene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Bis(2-ethylhexyl) phthalate, Butylbenzylphthalate, Cellosolve Solvent, Chrysene, Cyclohexanone, Di-n-butylphthalate, Di-n-octylphthalate, Dibenz[a,h]anthracene, Dibutylphosphate, Ethylene glycol, Fluoranthene, Hexachlorobutadiene, Hexachloroethane, Indeno(1,2,3-cd)pyrene, Isobutyl alcohol, Monobutyl phosphate, Naphthalene, Nitrobenzene, Pentachlorophenol, Pyrene, Pyridine, Total cresols, Tributyl phosphate, n-Nitrosodi-n-dipropylamine, n-Nitrosomorpholine} ICP Metals - 6010 (SW-846) (TF) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Uranium, Vanadium, Zinc} Mercury - 7471 - (CV) (TF) {Mercury} PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260} TPH-Gasoline Range - WTPH-G {Total petroleum hydrocarbons - gasoline range} TPH-Diesel Range - WTPH-D {Total petroleum hydrocarbons - diesel range} Pesticides - 8081 (TF) {2,4'-DDD (Dichlorodiphenyldichloroethane), 2,4'-DDE (Dichlorodiphenyldichloroethylene), 2,4'-DDT (Dichlorodiphenyltrichloroethane), 4,4'-DDD (Dichlorodiphenyldichloroethane), 4,4'-DDE (Dichlorodiphenyldichloroethylene), 4,4'-DDT (Dichlorodiphenyltrichloroethane), Aldrin, Chlordane, Dieldrin, Endrin, Gamma-BHC (Lindane), Heptachlor epoxide, Hexachlorobenzene} IC Anions - 9056 {2-Hydroxyacetate, Acetate, Chloride, Fluoride, Formate, Nitrate, Nitrite, Oxalate, Sulfate} 300.7_AMMONIUM (TF) {Nitrogen in ammonium} Sulfide - 9215 {Sulfide} Total Cyanide - 9014 (TF) {Cyanide} pH (Soil) - 9045 {pH Measurement} GAMMA ENERGY ANALYSIS (TF) {Antimony-125, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155} Actinides ICPMS (TF) {Neptunium-237, Technetium-99, Thorium-230, Thorium-232, Tin-126, Uranium-233, Uranium-234, Uranium-235, Uranium-236, Uranium-238} Americium-241 (TF) {Americium-241} I129_SEP_GEA (TF) {Iodine-129} C-14 {Carbon-14} CURIUM {Curium-242, Curium-243, Curium-244} H3 - TRITIUM {Tritium} Isotopic Plutonium {Plutonium-238, Plutonium-239/240} Nickel-63 (TF) {Nickel-63} Selenium-79 (TF) {Selenium-79} Strontium-89,90 -- Sr-90 {Strontium-90}

A-6003-618(01/06)

70

C6406 C FARMS HNF-N-576-3 pg 70
Date - 6-3-09 NCO's Rauch, White
Weather - 75°F · Drillers - Energy Solutions
5-10 mph wind Sunny FWS - Bill Clark
10:00 - On Site Sign in Pre-Job
11:20 - Completed I-001 @ 5' to 7' BIYTC7 V09-002-061
Only 1 Liner 1/2 Full BIYTC8 V09-002-062 -222S
Field Readings Below Background BIYTC9 V09-002-063
1346 - Completed I-002 TB BIYY24 V09-003-010
1425 - Completed I-002 @ 10'-12' ~~V09~~ BIYTD0 V09-002-064
Only 1 and a 1/2 Liners full BIYTD1 V09-002-065 -222S
Field Readings Below Background BIYTD2 V09-002-066
1530 - Samples where Delivered to 222-S Labs
1613 - No further Entries this Date 6-3-09

6-4-09

FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS	PAGE 1 OF 2
	DATE/TIME 6-3-09: 1120
SAF NO.(S) V09-002	
LOCATION C6406, I-001	LOGBOOK NO./PAGE HNF-N-576-3 PS 70
WELL NAME C6406	WELL ID C6406 ACTUAL DEPTH 5-7' ☑ft ☐m
BOTTOM OF CASING (bgs) 5 ☑ft ☐m	BOTTOM OF BOREHOLE (bgs) 7 ☑ft ☐m
SAMPLES COLLECTED	
TOTAL NUMBER OF BOTTLES 12 TOTAL NUMBER OF CHAINS 3 COLLECTOR Kauer, White	

222-S V09-002-061

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTC7	5 / 40mL / aGs*	8140110	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B1YTC7	3 / 40mL / aGs*	7312110	MEOH/Cool~6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

222-S V09-002-062

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTC8	1 / 40mL / aGs*	7312110	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

222-S V09-002-063

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTC9	3 / 160g / Liner		Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

ORIGINAL

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A-6004-701 (REV.0)

FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS	PAGE 2 OF 2
	DATE/TIME 6-3-09/1120
SAF NO.(S) V09-002	
LOCATION C6406, I-001	LOGBOOK NO./PAGE HNF-N-576-3 PS 70
WELL NAME C6406	WELL ID C6406 ACTUAL DEPTH 5-7 ☑ft ☐m
BOTTOM OF CASING (bgs) 5 ☑ft ☐m	BOTTOM OF BOREHOLE (bgs) 7 ☑ft ☐m
SAMPLES COLLECTED	
TOTAL NUMBER OF BOTTLES 12 TOTAL NUMBER OF CHAINS 3	COLLECTOR Kauer, White

FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME? ☐ WSCF ☑ 222-S ☐ MO-612 ☐ MO-745 ☐ 6269 ☐ OTHER

CONTAINER/DRUM/TOTE/BOX N/A

SAMPLE MATRIX DESCRIPTION ☑ SOIL ☐ SLUDGE ☐ RESIN ☐ GAC ☐ FILTER PAPER ☐ OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

Dark Brown Sand moist one Rock.

FIELD OBSERVATIONS

WEATHER 75°F 5-10 mph wind Sunny 90°F Inside Greenhouse

FIELD COMMENTS 1/2 Liner full

SUPPORT PERSONNEL Energy Solutions, Drillers, FWS Bill Clark

SAMPLES SURVEYED BY RCT ☑ YES ☐ NO

IS A BLUE CARD REQUIRED ☑ YES ☐ NO BLUE CARD NO #5

IS SRS PROVIDED AND COMPLETE ☑ YES ☐ NO

RECORDED BY Ed Kauer (PRINT NAME) [signature] (SIGN NAME) 6-3-09 (DATE)

CHECKED BY LD Spicer (PRINT NAME) [signature] (SIGN NAME) JUN 04 2009 (DATE)

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ORIGINAL

Washington River Protection Solutions | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | V09-002-081 | PAGE 1 OF 2

COLLECTOR: Knauer, White	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: BP; DATA TURNAROUND: 75 Days / 75 Days
SAMPLING LOCATION: C6406, I-001	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY: ☐
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 P70	ACTUAL SAMPLE DEPTH: 5'-7'	COA: 301483ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.	

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegitation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE: 20090364

PRESERVATION	Cool <-7C and >-20C	MEOH/Cool~6 C	
TYPE OF CONTAINER	aGs*	aGs*	
NO. OF CONTAINER(S)	5	3 ✓	
VOLUME	40mL	40mL	
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B1YTC7	SOIL	6-3-09	1120	✓	✓
S09V000476	(Lo)				
S09V000477	(Hi)				

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
SL Knauer	6-3-09 1530	Ted Rock	6-3-09 1530

SPECIAL INSTRUCTIONS: SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

☐ ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/09)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-061	PAGE 2 OF 2
COLLECTOR Kauer, White	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8P AIR QUALITY ☐	DATA TURNAROUND 75 Days / 75 Days
SAMPLING LOCATION C6406, 1-001	PROJECT DESIGNATION WHA C Sampling for CMS		SAF NO. V09-002		
ICE CHEST NO.	FIELD LOGBOOK NO. Pg 70 HNF-N-576-3	ACTUAL SAMPLE DEPTH 5'-7'	COA 301483E510	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

* All VOA samples will be collected using EPA Method 5035A.
* VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis.
* The laboratory is to use one of the low level VOA bottles for moisture content determination.
* VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)VOA - 5035/8260 (LOW LEVEL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene)
(2)VOA - 5035/8260 (HIGH LEVEL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene)

☐ ORIGINAL

A-6009-618(01/00)

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-062 PAGE 1 OF 1

COLLECTOR Kauer, White	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** WIDRIG, DL
SAMPLING LOCATION C6406, I-001	**PROJECT DESIGNATION** WMA C Sampling for CMS		**SAF NO.** V09-002
ICE CHEST NO.	**FIELD LOGBOOK NO.** HNF-N-576-3 P570	**ACTUAL SAMPLE DEPTH** 5' to 7	**COA** 301483ES10
SHIPPED TO 222-S Lab Operations	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**

PRICE CODE 8P **AIR QUALITY** ☐ **DATA TURNAROUND** 75 Days / 75 Days

METHOD OF SHIPMENT GOVERNMENT VEHICLE

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegitation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

PRESERVATION	Cool~6C
TYPE OF CONTAINER	aGs*
NO. OF CONTAINER(S)	1
VOLUME	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SPECIAL HANDLING AND/OR STORAGE 20090364

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B1YTC8	SOIL	6-3-09	11:20	✓
S09V000478				

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Kauer/White	6-3-09 1530	Tuttle	6-3-09 1530

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)VOA - 5035/8260 (TCL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}

LABORATORY SECTION	**RECEIVED BY**	**TITLE**	**DATE/TIME**
FINAL SAMPLE DISPOSITION	**DISPOSAL METHOD**	**DISPOSED BY**	**DATE/TIME**

ORIGINAL

A-6003-618(01/06)

Attachment 1 - Sample Record Sheet

SAMPLE RECORD SHEET

Location: C6406 C-FARMS I-001 5-7'

Sampler Initials and Date: ELK 6-3-09

Sample Number	Sample Suffix[1]	Tare Weight provided (grams)	Tare Weight prior to sample[2] (grams)	Initial Weight[3] (grams)	Total Weight[4] (grams)	Soil Weight[5] (grams)	Methanol in sample bottle (ml)
B1YTC7	K	31.3	31.3	33.0	35.3	2.3	No Methanol
B1YTC7	L	30.4	30.4	32.1	35.1	3	
B1YTC7	M	30.0	30.0	31.7	33.3	1.6	
B1YTC7	N	31.0	31.0	32.6	35.9	3.3	
B1YTC7	P	31.0	31.0	32.6	35.3	2.7	
B1YTC7	W	37.8	37.8	38.2	40.2	2	N/A
B1YTC7	X	38.2	38.1	38.5	42.3	3.8	N/A
B1YTC7	Y	38.8	38.8	38.2	41.6	3.4	N/A
B1YTC8	*	38.4	38.4	38.8	38.8	0	N/A

[1]Sample suffix of K, L, M, N, and P relate to low-level concentration samples and will not have any preservation beyond freezing between -7°C and -20°C.

Sample suffix of W, X, and Y relate to methanol preservation for high-level samples.

Sample suffix of "*" relates to methanol blank. Cool these samples to 4°C ± 2°C.

[2]Tare weight prior to sample must be within +/- 0.1 grams of Vendors tare weight or bottle cannot be used. Weigh only the bottle, no labels, stickers or bags.

[3]Initial weight is to include all labels, stickers, bags, methanol (for vendor filled methanol samples with suffix W,X,Y and *) spin bars (for samples with suffix K,L,M,N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

[4]Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

[5]Soil weight is the vial with sample minus Initial Weight.

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	V09-002-063	PAGE 1 OF 2

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	8P	DATA TURNAROUND
Kanga white	SYDNOR, HA	373-3967	WIDRIG, DL	AIR QUALITY	☐	75 Days / 75 Days
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**			
C6406, 1-001	WMA C Sampling for CMS		V09-002			
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**ACTUAL SAMPLE DEPTH**	**COA**	**METHOD OF SHIPMENT**		
	HNF-N-576-3 Pg 70		301483ES10	GOVERNMENT VEHICLE		
SHIPPED TO	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**			
222-S Lab Operations						

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

20090364

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~6C
TYPE OF CONTAINER	Liner
NO. OF CONTAINER(S)	1
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B1YTC9	SOIL	6-3-09	1120	✓
S09V000479(A)				

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Ed Kang, Ed Kang 6-3-09	1530	Tim Collect Tim Collect 6-3-09	1530
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
Only one Liner 1/2 Full

☐ ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-063	PAGE 2 OF 2
COLLECTOR Kauer, White	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE SP	DATA TURNAROUND
SAMPLING LOCATION C6406, I-001	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V09-002	AIR QUALITY [ ]	75 Days / 75 Days
ICE CHEST NO.	FIELD LOGBOOK NO. 9570 HNF-N-576-3	ACTUAL SAMPLE DEPTH 5' to 7'	COA 301483ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

#4 After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)Semi-VOA - 8270 Complete (TF) {1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 2,4-Dinitrotoluene, 2,6-bis(1,1-dimethylethyl)-4-methyl phenol, 2-Chlorophenol, 2-Methylphenol (cresol, o-), 2-Nitrophenol, 3-Methylphenol (cresol, m-), 4-Chloro-3-methylphenol, 4-Methylphenol (cresol, p-), Acenaphthene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Bis(2-ethylhexyl) phthalate, Butylbenzylphthalate, Cellosolve Solvent, Chrysene, Cyclohexanone, Di-n-butylphthalate, Di-n-octylphthalate, Dibenz[a,h]anthracene, Dibutylphosphate, Ethylene glycol, Fluoranthene, Hexachlorobutadiene, Hexachloroethane, Indeno(1,2,3-cd)pyrene, Isobutyl alcohol, Monobutyl phosphate, Naphthalene, Nitrobenzene, Pentachlorophenol, Pyrene, Pyridine, Total cresols, Tributyl phosphate, n-Nitrosodi-n-dipropylamine, n-Nitrosomorpholine} ICP Metals - 6010 (SW-846) (TF) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Uranium, Vanadium, Zinc} Mercury - 7471 - (CV) (TF) {Mercury} PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260} TPH-Gasoline Range - WTPH-G {Total petroleum hydrocarbons - gasoline range} TPH-Diesel Range - WTPH-D {Total petroleum hydrocarbons - diesel range} Pesticides - 8081 (TF) {2,4'-DDD (Dichlorodiphenyldichloroethane), 2,4'-DDE (Dichlorodiphenyldichloroethylene), 2,4'-DDT (Dichlorodiphenyltrichloroethane), 4,4'-DDD (Dichlorodiphenyldichloroethane), 4,4'-DDE (Dichlorodiphenyldichloroethylene), 4,4'-DDT (Dichlorodiphenyltrichloroethane), Aldrin, Chlordane, Dieldrin, Endrin, Gamma-BHC (Lindane), Heptachlor epoxide, Hexachlorobenzene} IC Anions - 9056 {2-Hydroxyacetate, Acetate, Chloride, Fluoride, Formate, Nitrate, Nitrite, Oxalate, Sulfate} 300.7_AMMONIUM (TF) {Nitrogen in ammonium} Sulfide - 9215 {Sulfide} Total Cyanide - 9014 (TF) {Cyanide} pH (Soil) - 9045 {pH Measurement} GAMMA ENERGY ANALYSIS (TF) {Antimony-125, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155} Actinides ICPMS (TF) {Neptunium-237, Technetium-99, Thorium-230, Thorium-232, Tin-126, Uranium-233, Uranium-234, Uranium-235, Uranium-236, Uranium-238} Americium-241 (TF) {Americium-241} I129_SEP_GEA (TF) {Iodine-129} C-14 {Carbon-14} CURIUM {Curium-242, Curium-243, Curium-244} H3 - TRITIUM {Tritium} Isotopic Plutonium {Plutonium-238, Plutonium-239/240} Nickel-63 (TF) {Nickel-63} Selenium-79 (TF) {Selenium-79} Strontium-89,90 -- Sr-90 {Strontium-90}

ORIGINAL

A-6003-618(01/06)

FIELD CHARACTERIZATION WATER/OTHER LIQUID SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS - QC Sampling	PAGE 1 OF 1
	DATE/TIME 6-3-09 1346
SAF NO.(S) V09-003	
LOCATION C6406, I-002 TB	LOGBOOK NO./PAGE HNF-N-576-3 PG 70
WELL NAME N/A	WELL ID N/A ACTUAL DEPTH N/A ☐ft ☐m
BOTTOM OF CASING (bgs) N/A ☐ft ☐m	BOTTOM OF BOREHOLE (bgs) N/A ☐ft ☐m

SAMPLES COLLECTED

TOTAL NUMBER OF BOTTLES 3 TOTAL NUMBER OF CHAINS 1 COLLECTOR Kause, White

222-S V09-003-010

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YY24	3 / 40mL / aGs*	820302	HCl or H2SO4 to pH <2/Cool~4C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

FIELD INFORMATION

PURGE RATE N/A	☐ gpm ☐ Lpm	TIME ON	TIME WATER	TIME PURGE	TIME SAMP	TIME OFF
PURGE VOLUME REQUIRED N/A	☐ gal ☐ L	N/A	N/A	N/A	N/A	N/A

WHERE ARE SAMPLES LOCATED AT THIS TIME? ☐ WSCF ☑ 222-S ☐ MO-612 ☐ MO-745 ☐ 6269 ☐ OTHER

FIELD MEASUREMENTS

SAMPLE NO.											
TIME											
pH (unitless)											
TEMP ☐°F ☐°C											
COND (µs/cm)											
TURB. (NTU)											
D.O. (mg/L)											
ORP (mV)											

See 6-3-09

FIELD OBSERVATIONS

WEATHER Inside 5 Bay

FIELD COMMENTS N/A

SUPPORT PERSONNEL N/A

SAMPLES SURVEYED BY RCT ☐ YES ☑ NO

	PRINT NAME	SIGN NAME	DATE
RECORDED BY	Ed Kause		6-3-09
CHECKED BY	LD Spicer CHPRC		JUN 04 2009

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ORIGINAL

Washington River Protection Solutions | **CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST** | **V09-003-010** | **PAGE 1 OF 1**

COLLECTOR Kauer, White	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** WIDRIG, DL
SAMPLING LOCATION C8406, I-002 TB	**PROJECT DESIGNATION** WMA C Sampling for CMS - QC Sampling		**SAF NO.** V09-003
ICE CHEST NO.	**FIELD LOGBOOK NO.** HNF-N-576-3 P570	**ACTUAL SAMPLE DEPTH** N/A	**COA** 301483E510
SHIPPED TO 222-S Lab Operations	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**

PRICE CODE 7P | **AIR QUALITY** ☐ | **DATA TURNAROUND** 75 Days / 75 Days | **METHOD OF SHIPMENT** GOVERNMENT VEHICLE

MATRIX[a]: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegitation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE
20090366

PRESERVATION	HCl or H2SO4 to pH <2/Cool~4C
TYPE OF CONTAINER	glass
NO. OF CONTAINER(S)	3
VOLUME	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	**MATRIX[a]**	**SAMPLE DATE**	**SAMPLE TIME**
B1YY24	WATER	6-3-09	1346
S09V000493			

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Ed Kauer	6-3-09 1530	Tuck Hock	6-3-09 1530

SPECIAL INSTRUCTIONS
(1)VOA - 8260 (TCL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}

☐ ORIGINAL

LABORATORY SECTION	**RECEIVED BY**	**TITLE**	**DATE/TIME**
FINAL SAMPLE DISPOSITION	**DISPOSAL METHOD**	**DISPOSED BY**	**DATE/TIME**

A-6003-028(01/04)

FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS	PAGE 1 OF 2
	DATE/TIME 6-3-09/1425
SAF NO.(S) V09-002	
LOCATION C6406, I-002	LOGBOOK NO./PAGE HNF-N-576-3 PS70
WELL NAME C6406	WELL ID C6406 / ACTUAL DEPTH 10-12' ☑ft ☐m
BOTTOM OF CASING (bgs) 10' ☑ft ☐m	BOTTOM OF BOREHOLE (bgs) 12 ☑ft ☐m

SAMPLES COLLECTED

TOTAL NUMBER OF BOTTLES 12 TOTAL NUMBER OF CHAINS 3 COLLECTOR KAUER, White

222-S V09-002-064

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTD0	5 / 40mL / aGs*	814010	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B1YTD0	3 / 40mL / aGs*	731210	MEOH/Cool~6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

222-S V09-002-065

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTD1	1 / 40mL / aGs*	731210	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

222-S V09-002-066

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTD2	3 / 160g / Liner	N/A	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

ORIGINAL

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FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS	PAGE 2 OF 2
	DATE/TIME 6-3-09/1425
SAF NO.(S) V09-002	
LOCATION C6406, 1-002	LOGBOOK NO./PAGE HNF-N-576-3 P570
WELL NAME C6406	WELL ID C6406 ACTUAL DEPTH 10 to 12 ☑ft ☐m
BOTTOM OF CASING (bgs) 10 ☑ft ☐m	BOTTOM OF BOREHOLE (bgs) 12' ☑ft ☐m

SAMPLES COLLECTED

TOTAL NUMBER OF BOTTLES 12 TOTAL NUMBER OF CHAINS 3 COLLECTOR KAUER, White

FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME? ☐ WSCF ☑ 222-S ☐ MO-612 ☐ MO-745 ☐ 6269 ☐ OTHER

CONTAINER/DRUM/TOTE/BOX N/A

SAMPLE MATRIX DESCRIPTION ☑ SOIL ☐ SLUDGE ☐ RESIN ☐ GAC ☐ FILTER PAPER ☐ OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

N/A

FIELD OBSERVATIONS

WEATHER 84°F 5-10 mph wind Sonny 100 °F Inside Greenhouse

FIELD COMMENTS

SUPPORT PERSONNEL Drillers - Energy Solutions FWS - Bill clark

SAMPLES SURVEYED BY RCT ☑ YES ☐ NO

IS A BLUE CARD REQUIRED ☑ YES ☐ NO BLUE CARD NO #5

IS SRS PROVIDED AND COMPLETE ☑ YES ☐ NO

RECORDED BY	PRINT NAME EL Kauer	SIGN NAME	DATE 6-3-09
CHECKED BY	PRINT NAME LD Spicer CHPRC	SIGN NAME Lynn D Spicer	DATE JUN 04 2009

PRINTED BY TMJOHANS ON 3/23/2009 10:49:20 AM A-6004-701 (REV.0)

ORIGINAL

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	V09-002-064	PAGE 1 OF 2

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE 8P	DATA TURNAROUND
Kauser, White	SYDNOR, HA	373-3967	WIDRIG, DL		
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**	**AIR QUALITY** ☐	75 Days / 75 Days
C6406, I-002	WMA C Sampling for CMS		V09-002		
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**ACTUAL SAMPLE DEPTH**	**COA**	**METHOD OF SHIPMENT**	
	HNF-N-576-3 Pg 70	10-12'	301483ES10	GOVERNMENT VEHICLE	
SHIPPED TO	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**		
222-S Lab Operations					

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegitation, W=Water, Wi=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

20090364

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool <-7C and >-20C	MEOH/Cool~6 C
TYPE OF CONTAINER	aGs*	aGs*
NO. OF CONTAINER(S)	3	3
VOLUME	40mL	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B1YTD0	SOIL	6-3-09	1425	✓	✓
S09V000494	(LO)				
S09V000495					

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Ed Kauser, Edward Kauser	6-3-09 1530	Tuk Tock Tuk Tock	6-3-09 1530
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/09)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-064	PAGE 2 OF 2
COLLECTOR Kruger, White	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8P	DATA TURNAROUND
SAMPLING LOCATION C6406, I-002	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V09-002	AIR QUALITY [ ]	75 Days / 75 Days
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-576-3 8579	ACTUAL SAMPLE DEPTH 10'-12'	COA 301483ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis.
** The laboratory is to use one of the low level VOA bottles for moisture content determination.
** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)VOA - 5035/8260 (LOW LEVEL) (TF) (1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene)
(2)VOA - 5035/8260 (HIGH LEVEL) (TF) (1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene)

ORIGINAL

A-6003 618(01/06)

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-065 PAGE 1 OF 1

COLLECTOR: Kauer, White	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 8P
SAMPLING LOCATION: C6406, 1-002	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY: ☐
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 P170	ACTUAL SAMPLE DEPTH: 10'-12'	COA: 301483ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.	

DATA TURNAROUND: 75 Days / 75 Days

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

20090364

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool-6C
TYPE OF CONTAINER	aGs*
NO. OF CONTAINER(S)	1
VOLUME	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B1YTD1	SOIL	6-3-09	1425 ✓
S09V000496			

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Ed Kauer/EL Kauer	6-3-09 1530	TW Thiel	6-3-09 1530

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 503SA.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)VOA - 5035/8260 (TCL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}

LABORATORY SECTION — RECEIVED BY — TITLE — DATE/TIME

FINAL SAMPLE DISPOSITION — DISPOSAL METHOD — DISPOSED BY — DATE/TIME

ORIGINAL

A-6003-618(01/06)

Attachment 1 - Sample Record Sheet

SAMPLE RECORD SHEET

Location: C6406 I-002 10' to 12'

Sampler Initials and Date: [illegible] 6-3-05

Sample Number	Sample Suffix[1]	Tare Weight provided (grams)	Tare Weight prior to sample[2] (grams)	Initial Weight[3] (grams)	Total Weight[4] (grams)	Soil Weight[5] (grams)	Methanol in sample bottle (ml)
B1Y7D0	K	31.6	31.6	33.2	36.4	3.2	No Methanol
B1Y7D0	L	30.7	30.7	32.6	36.9	4.3	
B1Y7D0	M	30.2	30.2	32.0	37.1	5.1	
B1Y7D0	N	31.1	31.1	32.7	36.7	4	
B1Y7D0	P	30.3	30.3	32.2	37.2	5	
B1Y7D0	W	38.0	37.9	38.2	44.1	5.9	N/A
B1Y7D0	X	38.5	38.5	38.9	43.0	4.1	N/A
B1Y7D0	Y	37.8	37.8	38.1	42.0	3.9	N/A
B1Y7D1	*	37.7	37.6	38.0	38.0	~~0.0~~	N/A

[1]Sample suffix of K, L, M, N, and P relate to low-level concentration samples and will not have any preservation beyond freezing between -7°C and -20°C.

Sample suffix of W, X, and Y relate to methanol preservation for high-level samples.

Sample suffix of "*" relates to methanol blank. Cool these samples to 4°C ± 2°C.

[2]Tare weight prior to sample must be within +/- 0.1 grams of Vendors tare weight or bottle cannot be used. Weigh only the bottle, no labels, stickers or bags.

[3]Initial weight is to include all labels, stickers, bags, methanol (for vendor filled methanol samples with suffix W,X,Y and *) spin bars (for samples with suffix K,L,M,N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

[4]Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

[5]Soil weight is the vial with sample minus Initial Weight.

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	V09-002-066	PAGE 1 OF 2

COLLECTOR: Kauer, white	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL
PRICE CODE: 8P	DATA TURNAROUND: 75 Days / 75 Days		
SAMPLING LOCATION: C6406, I-002	PROJECT DESIGNATION: WMA C Sampling for CMS	SAF NO.: V09-002	AIR QUALITY: ☐
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 Pg 70	ACTUAL SAMPLE DEPTH: 10'-12'	COA: 301483ES10
METHOD OF SHIPMENT: GOVERNMENT VEHICLE			
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.	BILL OF LADING/AIR BILL NO.	

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~8C
TYPE OF CONTAINER	Liner
NO. OF CONTAINER(S)	2
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B1YTD2	SOIL	6-3-09	1425	✓
S09V000497 (A)				
S09V000498 (B)				

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Ed Kauer, Edward Kauer 6-3-09	1530	Tuttelbach Tuttelbach 6-3-09	1530

SPECIAL INSTRUCTIONS
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
Liner One Full
Liner Two 1/2

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-066	PAGE 2 OF 2
COLLECTOR Kauer, White	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE AIR QUALITY	8P ☐	DATA TURNAROUND 75 Days / 75 Days
SAMPLING LOCATION C6406, 1-002	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V09-002		
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-576-3 PG 70	ACTUAL SAMPLE DEPTH 10'-12'	COA 301483ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)Semi-VOA - 8270 Complete (TF) {1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 2,4-Dinitrotoluene, 2,6-bis(1,1-dimethylethyl)-4-methyl phenol, 2-Chlorophenol, 2-Methylphenol (cresol, o-), 2-Nitrophenol, 3-Methylphenol (cresol, m-), 4-Chloro-3-methylphenol, 4-Methylphenol (cresol, p-), Acenaphthene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Bis(2-ethylhexyl) phthalate, Butylbenzylphthalate, Cellosolve Solvent, Chrysene, Cyclohexanone, Di-n-butylphthalate, Di-n-octylphthalate, Dibenz[a,h]anthracene, Dibutylphosphate, Ethylene glycol, Fluoranthene, Hexachlorobutadiene, Hexachloroethane, Indeno(1,2,3-cd)pyrene, Isobutyl alcohol, Monobutyl phosphate, Naphthalene, Nitrobenzene, Pentachlorophenol, Pyrene, Pyridine, Total cresols, Tributyl phosphate, n-Nitrosodi-n-dipropylamine, n-Nitrosomorpholine) ICP Metals - 6010 (SW-846) (TF) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Uranium, Vanadium, Zinc} Mercury - 7471 - (CV) (TF) (Mercury) PCBs - 8082 (Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260) TPH-Gasoline Range - WTPH-G (Total petroleum hydrocarbons - gasoline range) TPH-Diesel Range - WTPH-D (Total petroleum hydrocarbons - diesel range) Pesticides - 8081 (TF) (2,4'-DDD (Dichlorodiphenyldichloroethane), 2,4'-DDE (Dichlorodiphenyldichloroethylene), 2,4'-DDT (Dichlorodiphenyltrichloroethane), 4,4'-DDD (Dichlorodiphenyldichloroethane), 4,4'-DDE (Dichlorodiphenyldichloroethylene), 4,4'-DDT (Dichlorodiphenyltrichloroethane), Aldrin, Chlordane, Dieldrin, Endrin, Gamma-BHC (Lindane), Heptachlor epoxide, Hexachlorobenzene) IC Anions - 9056 (2-Hydroxyacetate, Acetate, Chloride, Fluoride, Formate, Nitrate, Nitrite, Oxalate, Sulfate) 300.7_AMMONIUM (TF) (Nitrogen, ammonium) Sulfide - 9215 (Sulfide) Total Cyanide - 9014 (TF) (Cyanide) pH (Soil) - 9045 (pH Measurement) GAMMA ENERGY ANALYSIS (TF) (Antimony-125, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155) Actinides ICPMS (TF) (Neptunium-237, Technetium-99, Thorium-230, Thorium-232, Tin-126, Uranium-233, Uranium-234, Uranium-235, Uranium-236, Uranium-238) Americium-241 (TF) (Americium-241) 1129_SEP_GEA (TF) (Iodine-129) C-14 (Carbon-14) CURIUM (Curium-242, Curium-243, Curium-244) H3 - TRITIUM (Tritium) Isotopic Plutonium (Plutonium-238, Plutonium-239/240) Nickel-63 (TF) (Nickel-63) Selenium-79 (TF) (Selenium-79) Strontium-89,90 -- Sr-90 (Strontium-90)

ORIGINAL

A-6003-698(01/06)

C-6406 C-Farms HNF-N-576-3 pg 71

Date: 6-4-09

Weather 88° Sunny Wind 5-10 mph

NCO's - Rosane, Kauer

FWS. - Bill Clark

Drillers - Energy Solutions RWP CO-460 Rev. 4

0700- Started pre job sign in preparing samples for I-003

0934- Completed I-003 @ 14'-16' BIYTD3, V09-002-067
BIYTD4, V09-002-068 } 222-S labs
BIYTD5, V09-002-069

1030- Completed I-004 @ 18'-20' BIYTD6, V09-002-070
BIYTD7, V09-002-071 } 222-S labs
BIYTD8, V09-002-072

1328- Completed I-005 @ 26'-28' BIYTD9, V09-002-073
BIYTF0, V09-002-074 } 222-S labs
BIYTF1, V09-002-075

all liners full 100% Field reading on all samples were below background levels

1445- Sample were delivered to 222-S labs per Blue Card #5

Last entry this Date 6-4-09 LR

Larry Rosane 6-4-09

FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS	PAGE 1 OF 2
	DATE/TIME 6-4-09/0934
SAF NO.(S) V09-002	
LOCATION C6406, 1-003	LOGBOOK NO./PAGE HNF-N-576-3 Pg 71
WELL NAME C6406	WELL ID C6406 / ACTUAL DEPTH 14'-16' ☑ft ☐m
BOTTOM OF CASING (bgs) 14' ☑ft ☐m	BOTTOM OF BOREHOLE (bgs) 16 ☑ft ☐m
SAMPLES COLLECTED	
TOTAL NUMBER OF BOTTLES 12 / TOTAL NUMBER OF CHAINS 3	COLLECTOR KAUER, ROSANE

222-S V09-002-067

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTD3	5 / 40mL / aGs*	8140110	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B1YTD3	3 / 40mL / aGs*	7312110	MEOH/Cool~6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

222-S V09-002-068

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTD4	1 / 40mL / aGs*	7312110	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

222-S V09-002-069

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTD5	3 / 160g / Liner	N/A	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

☐ ORIGINAL

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FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS	PAGE 2 OF 2
	DATE/TIME 6-4-09/0934
SAF NO.(S) V09-002	
LOCATION C6406, I-003	LOGBOOK NO./PAGE HNF-N-576-3
WELL NAME C6406	WELL ID C6406 ACTUAL DEPTH 14'-16' ☒ft ☐m
BOTTOM OF CASING (bgs) 14 ☒ft ☐m	BOTTOM OF BOREHOLE (bgs) 16 ☒ft ☐m
SAMPLES COLLECTED R.	
TOTAL NUMBER OF BOTTLES 12 TOTAL NUMBER OF CHAINS 3	COLLECTOR Rosane, ~~Las~~ Kauel

FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME? ☐ WSCF ☒ 222-S ☐ MO-612 ☐ MO-745 ☐ 6269 ☐ OTHER

CONTAINER/DRUM/TOTE/BOX

SAMPLE MATRIX DESCRIPTION ☒ SOIL ☐ SLUDGE ☐ RESIN ☐ GAC ☐ FILTER PAPER ☐ OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

Dry Sand NO Rock

FIELD OBSERVATIONS

WEATHER 88°F Sunny Wind 5-10 mph

FIELD COMMENTS

—

SUPPORT PERSONNEL RCT, Drillers FWS.

SAMPLES SURVEYED BY RCT ☒ YES ☐ NO

IS A BLUE CARD REQUIRED ☒ YES ☐ NO BLUE CARD NO 5

IS SRS PROVIDED AND COMPLETE ☒ YES ☐ NO

	PRINT NAME	SIGN NAME	DATE
RECORDED BY	Larry Rosane	Larry Rosane	6-4-09
CHECKED BY	LD Spicer CHPRC	Lynn D Spicer	JUN 09 2009

PRINTED BY TMJOHANS ON 3/23/2009 10:49:27 AM A-6004-701 (REV.0)

☐ ORIGINAL

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-067 | PAGE 1 OF 2

COLLECTOR: Roshne Kaur	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL
SAMPLING LOCATION: C6406, I-003	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 PS71	ACTUAL SAMPLE DEPTH: 14-16'	COA: 301483ES10
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.

PRICE CODE: 8P | AIR QUALITY: ☐ | DATA TURNAROUND: 75 Days / 75 Days

METHOD OF SHIPMENT: GOVERNMENT VEHICLE

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegitation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

20090364

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool <-7C and >-20C	MEOH/Cool-6 C
TYPE OF CONTAINER	aGs*	aGs*
NO. OF CONTAINER(S)	5	3
VOLUME	40mL	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B1YTD3	SOIL	6-4-09	0934	✓	✓
5C9V1C0539	(Lo)				
5C9V0205 40	(Hi)				

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rosene Larry Rosene	6-4-09 1445	Richard R Steele	6-4-09 1445

SPECIAL INSTRUCTIONS

SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-067	PAGE 2 OF 2
COLLECTOR	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8P	DATA TURNAROUND
SAMPLING LOCATION C6406, I-003	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V09-002	AIR QUALITY ☐	75 Days / 75 Days
ICE CHEST NO.	FIELD LOGBOOK NO. HNP-N-576-3 pg 21	ACTUAL SAMPLE DEPTH 14-16'	COA 301403E510	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis.
** The laboratory is to use one of the low level VOA bottles for moisture content determination.
** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)VOA - 5035/8260 (LOW LEVEL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}
(2)VOA - 5035/8260 (HIGH LEVEL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}

ORIGINAL

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-068	PAGE 1 OF 1
COLLECTOR: Rosanne Kauer	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 8P	DATA TURNAROUND
SAMPLING LOCATION: C6406, 1-003	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY ☐	75 Days / 75 Days
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 PS71	ACTUAL SAMPLE DEPTH: 14-16'	COA: 301483ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegitation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

DCC9 C36P

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~6C
TYPE OF CONTAINER	aGs*
NO. OF CONTAINER(S)	1
VOLUME	40mL
SAMPLE ANALYSIS	SEE FILM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B1YTD4	SOIL	6-4-09	0934
S09V000541			

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rowe Larry Rowe	6-4-09 1445	R R Steele R R Steele	6-4-09 1445
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)VOA - 5035/8260 (TCL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-518(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	V09-002-069	PAGE 1 OF 2

COLLECTOR: Rosanne Kamer	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 8P	DATA TURNAROUND: 75 Days / 75 Days
SAMPLING LOCATION: C6406, 1-003	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY: [ ]	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 P571	ACTUAL SAMPLE DEPTH: 14-16'	COA: 301483ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

20090364

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool-6C
TYPE OF CONTAINER	Liner
NO. OF CONTAINER(S)	3
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME								
B1YTD5	SOIL	6-4-09	0934	✓							
(09W000542 (a)											
543 (b)											
544 (c)											

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: Lenny Lorane Lenny Lorane 6-4-09	DATE/TIME: 1445	RECEIVED BY/STORED IN: R.R. Steele	DATE/TIME: 6-4-09 1445	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/05)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-069	PAGE 2 OF 2
COLLECTOR ROXANNE Kauer	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8P	DATA TURNAROUND
SAMPLING LOCATION C6406, I-003	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V09-002	AIR QUALITY ☐	75 Days / 75 Days
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-576-3 p.71	ACTUAL SAMPLE DEPTH	COA 301483ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)Semi-VOA - 8270 Complete (TF) {1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 2,4-Dinitrotoluene, 2,6-bis(1,1-dimethylethyl)-4-methyl phenol, 2-Chlorophenol, 2-Methylphenol (cresol, o-), 2-Nitrophenol, 3-Methylphenol (cresol, m-), 4-Chloro-3-methylphenol, 4-Methylphenol (cresol, p-), Acenaphthene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Bis(2-ethylhexyl) phthalate, Butylbenzylphthalate, Cellosolve Solvent, Chrysene, Cyclohexanone, Di-n-butylphthalate, Di-n-octylphthalate, Dibenz[a,h]anthracene, Dibutylphosphate, Ethylene glycol, Fluoranthene, Hexachlorobutadiene, Hexachloroethane, Indeno(1,2,3-cd)pyrene, Isobutyl alcohol, Monobutyl phosphate, Naphthalene, Nitrobenzene, Pentachlorophenol, Pyrene, Pyridine, Total cresols, Tributyl phosphate, n-Nitrosodi-n-dipropylamine, n-Nitrosomorpholine} ICP Metals - 6010 (SW-846) (TF) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Uranium, Vanadium, Zinc} Mercury - 7471 - (CV) (TF) {Mercury} PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260} TPH-Gasoline Range - WTPH-G {Total petroleum hydrocarbons - gasoline range} TPH-Diesel Range - WTPH-D {Total petroleum hydrocarbons - diesel range} Pesticides - 8081 (TF) {2,4'-DDD (Dichlorodiphenyldichloroethane), 2,4'-DDE (Dichlorodiphenyldichloroethylene), 2,4'-DDT (Dichlorodiphenyltrichloroethane), 4,4'-DDD (Dichlorodiphenyldichloroethane), 4,4'-DDE (Dichlorodiphenyldichloroethylene), 4,4'-DDT (Dichlorodiphenyltrichloroethane), Aldrin, Chlordane, Dieldrin, Endrin, Gamma-BHC (Lindane), Heptachlor epoxide, Hexachlorobenzene} IC Anions - 9056 {2-Hydroxyacetate, Acetate, Chloride, Fluoride, Formate, Nitrate, Nitrite, Oxalate, Sulfate} 300.7_AMMONIUM (TF) {Nitrogen in ammonium} Sulfide - 9215 {Sulfide} Total Cyanide - 9014 (TF) {Cyanide} pH (Soil) - 9045 {pH Measurement} GAMMA ENERGY ANALYSIS (TF) {Antimony-125, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155} Actinides ICPMS (TF) {Neptunium-237, Technetium-99, Thorium-230, Thorium-232, Tin-126, Uranium-233, Uranium-234, Uranium-235, Uranium-236, Uranium-238} Americium-241 (TF) {Americium-241} I129_SEP_GEA (TF) {Iodine-129} C-14 {Carbon-14} CURIUM {Curium-242, Curium-243, Curium-244} H3 - TRITIUM {Tritium} Isotopic Plutonium {Plutonium-238, Plutonium-239/240} Nickel-63 (TF) {Nickel-63} Selenium-79 (TF) {Selenium-79} Strontium-89,90 – Sr-90 {Strontium-90}

ORIGINAL

A-6005-618(01/08)

FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS	PAGE 1 OF 2
	DATE/TIME 6-4-09/1030
SAF NO.(S) V09-002	
LOCATION C6406, I-004	LOGBOOK NO./PAGE HNF-N-576-3 pg 71
WELL NAME C6406	WELL ID C6406 / ACTUAL DEPTH 18'-20' ☒ft ☐m
BOTTOM OF CASING (bgs) 18' ☐ft ☐m	BOTTOM OF BOREHOLE (bgs) 20' ☒ft ☐m
SAMPLES COLLECTED	
TOTAL NUMBER OF BOTTLES 12 TOTAL NUMBER OF CHAINS 3	COLLECTOR Rosanne Kauer

222-S V09-002-070

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTD6	5 / 40mL / aGs*	8140110	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B1YTD6	3 / 40mL / aGs*	7312110	MEOH/Cool~6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

222-S V09-002-071

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTD7	1 / 40mL / aGs*	7312110	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

222-S V09-002-072

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTD8	3 / 160g / Liner	N/A	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

☐ ORIGINAL

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FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS	PAGE 2 OF 2
	DATE/TIME 6-4-09/1030
SAF NO.(S) V09-002	
LOCATION C6406, I-004	LOGBOOK NO./PAGE HNF-N-576-3 pg 71
WELL NAME C6406	WELL ID C6406 ACTUAL DEPTH 18'-20' ☑ft ☐m
BOTTOM OF CASING (bgs) 18' ☐ft ☐m	BOTTOM OF BOREHOLE (bgs) 20' ☐ft ☐m
SAMPLES COLLECTED	
TOTAL NUMBER OF BOTTLES 12 TOTAL NUMBER OF CHAINS 3	COLLECTOR Rosane Kauer

FIELD INFORMATION	
WHERE ARE SAMPLES LOCATED AT THIS TIME?	☐ WSCF ☑ 222-S ☐ MO-612 ☐ MO-745 ☐ 6269 ☐ OTHER
CONTAINER/DRUM/TOTE/BOX	
SAMPLE MATRIX DESCRIPTION	☑ SOIL ☐ SLUDGE ☐ RESIN ☐ GAC ☐ FILTER PAPER ☐ OTHER
FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]	
N/A	
FIELD OBSERVATIONS	
WEATHER	88°F Sunny Wind 5-10mph
FIELD COMMENTS	
—	
SUPPORT PERSONNEL	RCT Drillers FWS.
SAMPLES SURVEYED BY RCT	☑ YES ☐ NO
IS A BLUE CARD REQUIRED	☑ YES ☐ NO BLUE CARD NO 5
IS SRS PROVIDED AND COMPLETE	☑ YES ☐ NO
RECORDED BY	PRINT NAME Larry Rosane SIGN NAME Larry Rosane DATE 6-4-09
CHECKED BY	PRINT NAME LD Spicer CHPRC SIGN NAME Lynn D Spicer DATE JUN 09 2009

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☐ ORIGINAL

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-070	PAGE 1 OF 2
COLLECTOR: Rosanne Kaur	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 8P	DATA TURNAROUND: 75 Days / 75 Days
SAMPLING LOCATION: C6406, I-004	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 pg 71	ACTUAL SAMPLE DEPTH: 18-20'	COA: 301483ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegitation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

20090364

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool <-7C and >-20C	MEOH/Cool~6 :C	
TYPE OF CONTAINER	aGs*	aGs*	
NO. OF CONTAINER(S)	5	3	
VOLUME	40mL	40mL	
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B1YTD6	SOIL	6-4-09	1030	✓	✓
3094W000555					
3094W000556					

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Lacey Rosario Jerry Rosario	6-4-09 1445	[illegible]	6-4-09 1445
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS: SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-070	PAGE 2 OF 2
COLLECTOR Rosane Kauer	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8P AIR QUALITY ☐	DATA TURNAROUND 75 Days / 75 Days
SAMPLING LOCATION C6406, 1-004	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V09-002		
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-576-3 pg 71	ACTUAL SAMPLE DEPTH 18'-20'	COA 301483ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis.
** The laboratory is to use one of the low level VOA bottles for moisture content determination.
** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)VOA - 5035/8260 (LOW LEVEL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}
(2)VOA - 5035/8260 (HIGH LEVEL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}

ORIGINAL

A 6003-618(01/08)

Washington River Protection Solutions — **CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST** — V09-002-071 — PAGE 1 OF 1

COLLECTOR: Rosanne Kauer	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL
PRICE CODE: 8P	DATA TURNAROUND: 75 Days / 75 Days	AIR QUALITY: ☐	
SAMPLING LOCATION: C6406, I-004	PROJECT DESIGNATION: WMA C Sampling for CMS	SAF NO.: V09-002	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 pg 71	ACTUAL SAMPLE DEPTH: 18-20'	COA: 301483E510
METHOD OF SHIPMENT: GOVERNMENT VEHICLE			
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.

MATRIX*: A=Air, DL=Drums Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

Q20090364

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~5C
TYPE OF CONTAINER	aGa*
NO. OF CONTAINER(S)	1
VOLUME	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B1YTD7	SOIL	6-4-09	1030	✓
SG1C000537				

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rosanne Larry Rosanne	6-4-09 1445	RKBS A Steele	6-4-09 1445

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.

(1)VOA - 5035/8260 (TCL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		V09-002-072	PAGE 1 OF 2
COLLECTOR: Rosanne Kanner	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: BP; DATA TURNAROUND: 75 Days / 75 Days
SAMPLING LOCATION: C6406, 1-004	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY: ☐
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 pg 71	ACTUAL SAMPLE DEPTH: 18-20'	COA: 301483E510	METHOD OF SHIPMENT: GOVERNMENT VEHICLE
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.	

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegitation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

2CC9C364

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~6C
TYPE OF CONTAINER	Liner
NO. OF CONTAINER(S)	3
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B1YTD8	SOIL	6-4-09	1030	✓
509V002538	(a)			
539	(b)			
560	(c)			

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rohne Larry Rohne 6-4-09	1445	Arthur DiSteele 6-4-09	1445
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-610(03/09)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-072	PAGE 2 OF 2
COLLECTOR Rosanne Kauer	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8P	DATA TURNAROUND
SAMPLING LOCATION C6406, I-004	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V09-002	AIR QUALITY ☐	75 Days / 75 Days
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-596-3 pg 71	ACTUAL SAMPLE DEPTH 18-20'	COA 301483ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)Semi-VOA - 8270 Complete (TF) {1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 2,4-Dinitrotoluene, 2,6-bis(1,1-dimethylethyl)-4-methyl phenol, 2-Chlorophenol, 2-Methylphenol (cresol, o-), 2-Nitrophenol, 3-Methylphenol (cresol, m-), 4-Chloro-3-methylphenol, 4-Methylphenol (cresol, p-), Acenaphthene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Bis(2-ethylhexyl) phthalate, Butylbenzylphthalate, Cellosolve Solvent, Chrysene, Cyclohexanone, Di-n-butylphthalate, Di-n-octylphthalate, Dibenz[a,h]anthracene, Dibutylphosphate, Ethylene glycol, Fluoranthene, Hexachlorobutadiene, Hexachloroethane, Indeno(1,2,3-cd)pyrene, Isobutyl alcohol, Monobutyl phosphate, Naphthalene, Nitrobenzene, Pentachlorophenol, Pyrene, Pyridine, Total cresols, Tributyl phosphate, n-Nitrosodi-n-dipropylamine, n-Nitrosomorpholine} ICP Metals - 6010 (SW-846) (TF) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Uranium, Vanadium, Zinc} Mercury - 7471 - (CV) (TF) {Mercury} PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260} TPH-Gasoline Range - WTPH-G {Total petroleum hydrocarbons - gasoline range} TPH-Diesel Range - WTPH-D {Total petroleum hydrocarbons - diesel range} Pesticides - 8081 (TF) {2,4'-DDD (Dichlorodiphenyldichloroethane), 2,4'-DDE (Dichlorodiphenyldichloroethylene), 2,4'-DDT (Dichlorodiphenyltrichloroethane), 4,4'-DDD (Dichlorodiphenyldichloroethane), 4,4'-DDE (Dichlorodiphenyldichloroethylene), 4,4'-DDT (Dichlorodiphenyltrichloroethane), Aldrin, Chlordane, Dieldrin, Endrin, Gamma-BHC (Lindane), Heptachlor epoxide, Hexachlorobenzene} IC Anions - 9056 {2-Hydroxyacetate, Acetate, Chloride, Fluoride, Formate, Nitrate, Nitrite, Oxalate, Sulfate} 300.7_AMMONIUM (TF) {Nitrogen in ammonium} Sulfide - 9215 {Sulfide} Total Cyanide - 9014 (TF) {Cyanide} pH (Soil) - 9045 {pH Measurement} GAMMA ENERGY ANALYSIS (TF) {Antimony-125, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155} Actinides ICPMS (TF) {Neptunium-237, Technetium-99, Thorium-230, Thorium-232, Tin-126, Uranium-233, Uranium-234, Uranium-235, Uranium-236, Uranium-238} Americium-241 (TF) {Americium-241} I129_SEP_GEA (TF) {Iodine-129} C-14 {Carbon-14} CURIUM {Curium-242, Curium-243, Curium-244} H3 - TRITIUM {Tritium} Isotopic Plutonium {Plutonium-238, Plutonium-239/240} Nickel-63 (TF) {Nickel-63} Selenium-79 (TF) {Selenium-79} Strontium-89,90 -- Sr-90 {Strontium-90}

ORIGINAL

A-6003-618(01/06)

FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS	PAGE 1 OF 2
	DATE/TIME 6-4-09/1328
SAF NO.(S) V09-002	
LOCATION C6406, I-005	LOGBOOK NO./PAGE HNF-N-576-3 pg 71
WELL NAME C6406	WELL ID C6406 ACTUAL DEPTH 26'-28' ☑ft ☐m
BOTTOM OF CASING (bgs) 26' ☐ft ☐m	BOTTOM OF BOREHOLE (bgs) 28' ☐ft ☐m
SAMPLES COLLECTED	
TOTAL NUMBER OF BOTTLES 12 TOTAL NUMBER OF CHAINS 3	COLLECTOR Rosalie Kaun

222-S V09-002-073

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTD9	5 / 40mL / aGs*	8140110	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B1YTD9	3 / 40mL / aGs*	7312110	MEOH/Cool~6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

222-S V09-002-074

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTF0	1 / 40mL / aGs*	7312110	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

222-S V09-002-075

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTF1	3 / 160g / Liner	NA	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

ORIGINAL

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FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS	PAGE 2 OF 2
	DATE/TIME 6-4-09/1328
SAF NO.(S) V09-002	
LOCATION C6406, I-005	LOGBOOK NO./PAGE HNF-N-576-3 pg 71
WELL NAME C6406	WELL ID C6406 ACTUAL DEPTH 26-28' ☑ft ☐m
BOTTOM OF CASING (bgs) 26' ☐ft ☐m	BOTTOM OF BOREHOLE (bgs) 28' ☑ft ☐m

SAMPLES COLLECTED

TOTAL NUMBER OF BOTTLES 12 TOTAL NUMBER OF CHAINS 3 COLLECTOR Rosane, Karen

FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME? ☐ WSCF ☑ 222-S ☐ MO-612 ☐ MO-745 ☐ 6269 ☐ OTHER

CONTAINER/DRUM/TOTE/BOX

SAMPLE MATRIX DESCRIPTION ☑ SOIL ☐ SLUDGE ☐ RESIN ☐ GAC ☐ FILTER PAPER ☐ OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

N/A

FIELD OBSERVATIONS

WEATHER Wind 10-15 mph 90°F Sunny

FIELD COMMENTS

—

SUPPORT PERSONNEL RCT Drillers FWS

SAMPLES SURVEYED BY RCT ☑ YES ☐ NO

IS A BLUE CARD REQUIRED ☑ YES ☐ NO BLUE CARD NO 5

IS SRS PROVIDED AND COMPLETE ☑ YES ☐ NO

RECORDED BY Larry Rosane (PRINT NAME) Larry Rosane (SIGN NAME) 6-4-09 (DATE)

CHECKED BY LD Spicer (PRINT NAME) Lynn D Spicer (SIGN NAME) JUN 09 2009 (DATE)

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ORIGINAL

Washington River Protection Solutions — **CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST** — V09-002-073 — PAGE 1 OF 2

COLLECTOR: Rosane Rowe	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL
PRICE CODE: BP	AIR QUALITY: ☐	DATA TURNAROUND: 75 Days / 75 Days	
SAMPLING LOCATION: C8406, 1-005	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002
ICE CHEST NO.:	FIELD LOGBOOK NO.: HNF-N-576-3 pg 71	ACTUAL SAMPLE DEPTH: 26'-28'	COA: 301483ES10
METHOD OF SHIPMENT: GOVERNMENT VEHICLE	SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.:	BILL OF LADING/AIR BILL NO.:

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegitation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

20090364

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool <-7C and >-20C	MEOH/Cool~6 C
TYPE OF CONTAINER	aGs*	aGs*
NO. OF CONTAINER(S)	3	3
VOLUME	40mL	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B1YTD9	SOIL	6-4-09	1328	✓	✓
S09V000571 (U.)					
S09V000572 (L.)					

CHAIN OF POSSESSION — **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rowe Larry Rowe	6-4-09 1445	RL Stoll RL Stoll	6-4-09 1445

SPECIAL INSTRUCTIONS: SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-073	PAGE 2 OF 2
COLLECTOR Rosanne Kauer	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8P	DATA TURNAROUND
SAMPLING LOCATION C6406, I-005	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V09-002	AIR QUALITY ☐	75 Days / 75 Days
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-576-3 pg 21	ACTUAL SAMPLE DEPTH 26'-28'	COA 301483ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis.
** The laboratory is to use one of the low level VOA bottles for moisture content determination.
** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)VOA - 5035/8260 (LOW LEVEL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}
(2)VOA - 5035/8260 (HIGH LEVEL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}

ORIGINAL

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		V09-002-074	PAGE 1 OF 1
COLLECTOR: Rosanne Kauer	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 8P; DATA TURNAROUND: 75 Days / 75 Days
SAMPLING LOCATION: C6406, I-005	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY: ☐
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 pg 71	ACTUAL SAMPLE DEPTH: 26'-28'	COA: 301483E510	METHOD OF SHIPMENT: GOVERNMENT VEHICLE
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.	

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegitation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

20090364

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~6C
TYPE OF CONTAINER	aGs*
NO. OF CONTAINER(S)	1
VOLUME	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B1YTF0	SOIL	6-4-09	1328	✓
SOIV000573				

CHAIN OF POSSESSION — SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rosane Larry Rosane	6-4-09 / 1445	R K Keele	6-4-09 1445

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.

(1)VOA - 5035/8260 (TCL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-075	PAGE 1 OF 2
COLLECTOR Rosane, Karen	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8P AIR QUALITY ☐	DATA TURNAROUND 75 Days / 75 Days
SAMPLING LOCATION C6406, I-005	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V09-002		
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-576-3 pg 71	ACTUAL SAMPLE DEPTH 26 - 28'	COA 301483ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO. ~~HNF-N-576-3 pg 71~~		BILL OF LADING/AIR BILL NO.		

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegitation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~8C
TYPE OF CONTAINER	Liner
NO. OF CONTAINER(S)	3
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B1YTF1	SOIL	6-4-09	1328	✓
S09V000374	(a)			
575	(b)			
576	(c)			

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rooke, Jerry Rosane 6-4-09	1445	R K Steele 6-4-09	1445
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-075	PAGE 2 OF 2
COLLECTOR Rosalie Kaiser	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8P	DATA TURNAROUND
SAMPLING LOCATION C6406, 1-005	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V09-002	AIR QUALITY ☐	75 Days / 75 Days
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-586-3 pg 71	ACTUAL SAMPLE DEPTH 26-28	COA 301483ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)Semi-VOA - 8270 Complete (TF) {1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 2,4-Dinitrotoluene, 2,6-bis(1,1-dimethylethyl)-4-methyl phenol, 2-Chlorophenol, 2-Methylphenol (cresol, o-), 2-Nitrophenol, 3-Methylphenol (cresol, m-), 4-Chloro-3-methylphenol, 4-Methylphenol (cresol, p-), Acenaphthene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Bis(2-ethylhexyl) phthalate, Butylbenzylphthalate, Cellosolve Solvent, Chrysene, Cyclohexanone, Di-n-butylphthalate, Di-n-octylphthalate, Dibenz[a,h]anthracene, Dibutylphosphate, Ethylene glycol, Fluoranthene, Hexachlorobutadiene, Hexachloroethane, Indeno(1,2,3-cd)pyrene, Isobutyl alcohol, Monobutyl phosphate, Naphthalene, Nitrobenzene, Pentachlorophenol, Pyrene, Pyridine, Total cresols, Tributyl phosphate, n-Nitrosodi-n-dipropylamine, n-Nitrosomorpholine} ICP Metals - 6010 (SW-846) (TF) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Uranium, Vanadium, Zinc} Mercury - 7471 - (CV) (TF) {Mercury} PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260} TPH-Gasoline Range - WTPH-G (Total petroleum hydrocarbons - gasoline range) TPH-Diesel Range - WTPH-D (Total petroleum hydrocarbons - diesel range) Pesticides - 8081 (TF) {2,4'-DDD (Dichlorodiphenyldichloroethane), 2,4'-DDE (Dichlorodiphenyldichloroethylene), 2,4'-DDT (Dichlorodiphenyltrichloroethane), 4,4'-DDD (Dichlorodiphenyldichloroethane), 4,4'-DDE (Dichlorodiphenyldichloroethylene), 4,4'-DDT (Dichlorodiphenyltrichloroethane), Aldrin, Chlordane, Dieldrin, Endrin, Gamma-BHC (Lindane), Heptachlor epoxide, Hexachlorobenzene} IC Anions - 9056 (2-Hydroxyacetate, Acetate, Chloride, Fluoride, Formate, Nitrate, Nitrite, Oxalate, Sulfate} 300.7_AMMONIUM (TF) {Nitrogen in ammonium} Sulfide - 9215 {Sulfide} Total Cyanide - 9014 (TF) {Cyanide} pH (Soil) - 9045 {pH Measurement} GAMMA ENERGY ANALYSIS (TF) {Antimony-125, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155} Actinides ICPMS (TF) {Neptunium-237, Technetium-99, Thorium-230, Thorium-232, Tin-126, Uranium-233, Uranium-234, Uranium-235, Uranium-236, Uranium-238} Americium-241 (TF) {Americium-241} I129_SEP_GEA (TF) {Iodine-129} C-14 {Carbon-14} CURIUM {Curium-242, Curium-243, Curium-244} H3 - TRITIUM {Tritium} Isotopic Plutonium {Plutonium-238, Plutonium-239/240} Nickel-63 (TF) {Nickel-63} Selenium-79 (TF) {Selenium-79} Strontium-89,90 -- Sr-90 {Strontium-90}

ORIGINAL

C-6406 C-Farm HNF-N-576-3 pg 72
Date - 6-09-09
Weather 74°F Sunny Wind 0-5mph
NCO's, Rossane, Rust
FWS - Bill Clark
Drillers - Energy Solutions RWP. CO-460 Rev 4
0700 - Started pre job sign in preparing for Samples
I-006 and I-007.
0920 - Completed I-006 @ 54.5-56.5', BIYTF2, V09-002-076
BIYTF3, V09-002-077 } 222-5 labs
BIYTF4, V09-002-078
1055 - Completed I-007 @ 59'-61', BIYTF5, V09-002-079
BIYTF6, V09-002-080 } 222-5 labs
BIYTF7, V09-002-081
all liners full 100% Field reading on all samples were below background levels
1430 - Samples were delivered to 222-5 labs per Blue Card #5

Last entry this Date 6-9-09 LKR

Larry Rossne 6-9-09

FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS

PAGE 1 OF 2

DATE/TIME 6-9-09/0920

SAF NO.(S) V09-002

LOCATION C6406, I-006

LOGBOOK NO./PAGE HNF-N-576 3 pg 72

WELL NAME C6406

WELL ID C6406

ACTUAL DEPTH 54.5'-56.5' ☑ft ☐m

BOTTOM OF CASING (bgs) 54.5' ☑ft ☐m

BOTTOM OF BOREHOLE (bgs) 56.5' ☑ft ☐m

SAMPLES COLLECTED –

TOTAL NUMBER OF BOTTLES 12 TOTAL NUMBER OF CHAINS 3 COLLECTOR Rosane, Rust

222-S V09-002-076

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTF2	5 / 40mL / aGs*	8140110	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B1YTF2	3 / 40mL / aGs*	7312110	MEOH/Cool~6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

222-S V09-002-077

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTF3	1 / 40mL / aGs*	7312110	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

222-S V09-002-078

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTF4	3 / 160g / Liner	N/A	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

ORIGINAL

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A-6004-701 (REV.0)

FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS	PAGE 2 OF 2
	DATE/TIME 6-9-09/0920
SAF NO.(S) V09-002	
LOCATION C6406, I-006	LOGBOOK NO./PAGE HNF-N-576-3 pg 72
WELL NAME C6406	WELL ID C6406 ACTUAL DEPTH ☐ft ☐m
BOTTOM OF CASING (bgs) 54.5' ☑ft ☐m	BOTTOM OF BOREHOLE (bgs) 56.5' ☑ft ☐m

SAMPLES COLLECTED

TOTAL NUMBER OF BOTTLES 12 TOTAL NUMBER OF CHAINS 3 COLLECTOR Rosane, Rust

FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME? ☐ WSCF ☑ 222-S ☐ MO-612 ☐ MO-745 ☐ 6269 ☐ OTHER

CONTAINER/DRUM/TOTE/BOX

SAMPLE MATRIX DESCRIPTION ☑ SOIL ☐ SLUDGE ☐ RESIN ☐ GAC ☐ FILTER PAPER ☐ OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

Sand

FIELD OBSERVATIONS

WEATHER 74°F Sunny Wind 0-5 mph

FIELD COMMENTS

N/A

SUPPORT PERSONNEL RCT Drillers F.W.S.

SAMPLES SURVEYED BY RCT ☑ YES ☐ NO

IS A BLUE CARD REQUIRED ☑ YES ☐ NO BLUE CARD NO 5

IS SRS PROVIDED AND COMPLETE ☑ YES ☐ NO

RECORDED BY Larry Rosane (PRINT NAME) Larry Rosane (SIGN NAME) 6-9-09 (DATE)

CHECKED BY LD Spicer (PRINT NAME) CHPRC LD Spicer (SIGN NAME) JUN 10 2009 (DATE)

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ORIGINAL

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	V09-002-076	PAGE 1 OF 2

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE BP	DATA TURNAROUND
Rosane Rust	SYDNOR, HA	373-3967	WIDRIG, DL	AIR QUALITY ☐	75 Days / 75 Days
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**		
C6406, 1-006	WMA C Sampling for CMS		V09-002		
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**ACTUAL SAMPLE DEPTH**	**COA**	**METHOD OF SHIPMENT**	
	HNF-N-576-3 pg	54.5' - 56.5'	301483ES10	GOVERNMENT VEHICLE	
SHIPPED TO	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**		
222-S Lab Operations					

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

20090364

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool <-7C and >-20C	MEOH/Cool-6 C
TYPE OF CONTAINER	aGs*	aGs*
NO. OF CONTAINER(S)	5	3
VOLUME	40mL	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B1YTF2	SOIL	6-9-09	0920	✓	✓
S09V000587 (L.)					
S09V000588 (H.)					

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Lacey Rossie Lacey Rossie	6-9-09 / 1430	R. Stegle R. Stegle	6-9-09 1430

SPECIAL INSTRUCTIONS
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

☐ ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-076	PAGE 2 OF 2
COLLECTOR Rosane Rust	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8P AIR QUALITY ☐	DATA TURNAROUND 75 Days / 75 Days
SAMPLING LOCATION C6406, I-006	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V09-002		
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-576-3 pg	ACTUAL SAMPLE DEPTH 54.5'-56.5'	COA 301483ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis.
** The laboratory is to use one of the low level VOA bottles for moisture content determination.
** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)VOA - 5035/8260 (LOW LEVEL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}
(2)VOA - 5035/8260 (HIGH LEVEL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene)

ORIGINAL

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-077	PAGE 1 OF 1
COLLECTOR: Rosanne Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 8P	DATA TURNAROUND: 75 Days / 75 Days
SAMPLING LOCATION: C6406, 1-006	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 pg	ACTUAL SAMPLE DEPTH: 54.5'-56.5'	COA: 301483ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

50090364

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool-6C												
TYPE OF CONTAINER	aGs*												
NO. OF CONTAINER(S)	1												
VOLUME	40mL												
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS												

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME										
B1YTF3	SOIL	6-9-09	0920	✓									
S09V000589													

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: Lacey Rosner Lacey Rosner 6-9-09	DATE/TIME: 1430	RECEIVED BY/STORED IN: RHFteslo RHFteslo 6-9-09	DATE/TIME: 1430
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.

(1)VOA - 5035/8260 (TCL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-018(04/08)

Attachment 1 - Sample Record Sheet

SAMPLE RECORD SHEET

Location: C-Farms C6406 I-006

Sampler Initials and Date: [illegible] 6-9-09

Sample Number	Sample Suffix[1]	Tare Weight provided (grams)	Tare Weight prior to sample[2] (grams)	Initial Weight[3] (grams)	Total Weight[4] (grams)	Soil Weight[5] (grams)	Methanol in sample bottle (ml)
B1YTF2	K	N/A	30.4	32.3	40.2	7.9	No Methanol
B1YTF2	L	N/A	31.4	33.3	39.4	6.1	
B1YTF2	M	N/A	30.5	32.4	39.3	6.9	
B1YTF2	N	N/A	31.5	33.4	39.2	5.8	
B1YTF2	P	N/A	31.3	33.2	39.6	6.4	
B1YTF2	W	38.3	38.3	38.7	43.7	5.0	10
B1YTF2	X	38.3	38.3	38.6	43.8	5.2	10
B1YTF2	Y	37.7	37.8	38.2	43.5	5.3	10
B1YTF3	*	38.1	38.1	38.3	38.3	0	10

[1]Sample suffix of K, L, M, N, and P relate to low-level concentration samples and will not have any preservation beyond freezing between -7°C and -20°C.

Sample suffix of W, X, and Y relate to methanol preservation for high-level samples.

Sample suffix of "*" relates to methanol blank. Cool these samples to 4°C ± 2°C.

[2]Tare weight prior to sample must be within +/- 0.1 grams of Vendors tare weight or bottle cannot be used. Weigh only the bottle, no labels, stickers or bags.

[3]Initial weight is to include all labels, stickers, bags, methanol (for vendor filled methanol samples with suffix W,X,Y and *) spin bars (for samples with suffix K,L,M,N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

[4]Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

[5]Soil weight is the vial with sample minus Initial Weight.

Washington River Protection Solutions — **CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST** — V09-002-078 — PAGE 1 OF 2

COLLECTOR: Rosane Rust	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL
SAMPLING LOCATION: C6406, T-006	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 pg	ACTUAL SAMPLE DEPTH: 54.5-56.5'	COA: 301483ES10
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.

PRICE CODE: 8P — DATA TURNAROUND: 75 Days / 75 Days — AIR QUALITY: ☐ — METHOD OF SHIPMENT: GOVERNMENT VEHICLE

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegitation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

S0090364

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~6C
TYPE OF CONTAINER	Liner
NO. OF CONTAINER(S)	3
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B1YTF4	SOIL	6-9-09	0920	✓
S09V000 590				
↓ 591				
592				

CHAIN OF POSSESSION — **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rosane Larry Rosane	6-9-09 / 1430	RRSteele	6.9.09 1430

SPECIAL INSTRUCTIONS

SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6000-510(01/05)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-078	PAGE 2 OF 2
COLLECTOR Rosanne Rust	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8P AIR QUALITY ☐	DATA TURNAROUND 75 Days / 75 Days
SAMPLING LOCATION C6406, I-006	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V09-002		
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-576-3,4	ACTUAL SAMPLE DEPTH 54.5 - 56.5'	COA 301483ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)Semi-VOA - 8270 Complete (TF) {1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 2,4-Dinitrotoluene, 2,6-bis(1,1-dimethylethyl)-4-methyl phenol, 2-Chlorophenol, 2-Methylphenol (cresol, o-), 2-Nitrophenol, 3-Methylphenol (cresol, m-), 4-Chloro-3-methylphenol, 4-Methylphenol (cresol, p-), Acenaphthene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Bis(2-ethylhexyl) phthalate, Butylbenzylphthalate, Cellosolve Solvent, Chrysene, Cyclohexanone, Di-n-butylphthalate, Di-n-octylphthalate, Dibenz[a,h]anthracene, Dibutylphosphate, Ethylene glycol, Fluoranthene, Hexachlorobutadiene, Hexachloroethane, Indeno(1,2,3-cd)pyrene, Isobutyl alcohol, Monobutyl phosphate, Naphthalene, Nitrobenzene, Pentachlorophenol, Pyrene, Pyridine, Total cresols, Tributyl phosphate, n-Nitrosodi-n-dipropylamine, n-Nitrosomorpholine} ICP Metals - 6010 (SW-846) (TF) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Uranium, Vanadium, Zinc} Mercury - 7471 - (CV) (TF) {Mercury} PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260} TPH-Gasoline Range - WTPH-G (Total petroleum hydrocarbons - gasoline range} TPH-Diesel Range - WTPH-D {Total petroleum hydrocarbons - diesel range} Pesticides - 8081 (TF) {2,4'-DDD (Dichlorodiphenyldichloroethane), 2,4'-DDE (Dichlorodiphenyldichloroethylene), 2,4'-DDT (Dichlorodiphenyltrichloroethane), 4,4'-DDD (Dichlorodiphenyldichloroethane), 4,4'-DDE (Dichlorodiphenyldichloroethylene), 4,4'-DDT (Dichlorodiphenyltrichloroethane), Aldrin, Chlordane, Dieldrin, Endrin, Gamma-BHC (Lindane), Heptachlor epoxide, Hexachlorobenzene} IC Anions - 9056 {2-Hydroxyacetate, Acetate, Chloride, Fluoride, Formate, Nitrate, Nitrite, Oxalate, Sulfate} 300.7_AMMONIUM (TF) {Nitrogen in ammonium} Sulfide - 9215 {Sulfide} Total Cyanide - 9014 (TF) {Cyanide} pH (Soil) - 9045 {pH Measurement} GAMMA ENERGY ANALYSIS (TF) {Antimony-125, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155} Actinides ICPMS (TF) {Neptunium-237, Technetium-99, Thorium-230, Thorium-232, Tin-126, Uranium-233, Uranium-234, Uranium-235, Uranium-236, Uranium-238} Americium-241 (TF) {Americium-241} I129_SEP_GEA (TF) {Iodine-129} C-14 {Carbon-14} CURIUM {Curium-242, Curium-243, Curium-244} H3 - TRITIUM {Tritium} Isotopic Plutonium {Plutonium-238, Plutonium-239/240} Nickel-63 (TF) {Nickel-63} Selenium-79 (TF) {Selenium-79} Strontium-89,90 -- Sr-90 {Strontium-90}

ORIGINAL

A-6003-618(01/06)

FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS		PAGE 1 OF 2	
		DATE/TIME 6-9-09/1055	
SAF NO.(S) V09-002			
LOCATION C6406, I-007	LOGBOOK NO./PAGE HNF-N-576-3 p 72		
WELL NAME C6406	WELL ID C6406	ACTUAL DEPTH 59-61' ☑ft ☐m	
BOTTOM OF CASING (bgs) 59' ☑ft ☐m	BOTTOM OF BOREHOLE (bgs) 61' ☑ft ☐m		
SAMPLES COLLECTED			
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR Rosane, Rust	

222-S V09-002-079

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTF5	5 / 40mL / aGs*	8140110	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B1YTF5	3 / 40mL / aGs*	7312110	MEOH/Cool~6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

222-S V09-002-080

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTF6	1 / 40mL / aGs*	7312110	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

222-S V09-002-081

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B1YTF7	3 / 160g / Liner	N/A	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

ORIGINAL

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FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS	PAGE 2 OF 2
	DATE/TIME 6-9-09 /
SAF NO.(S) V09-002	
LOCATION C6406, I-007	LOGBOOK NO./PAGE HNF-N-576-3 pg 72
WELL NAME C6406	WELL ID C6406 ACTUAL DEPTH 59'-61' ☑ft ☐m
BOTTOM OF CASING (bgs) 59' ☑ft ☐m	BOTTOM OF BOREHOLE (bgs) 61' ☑ft ☐m

SAMPLES COLLECTED

TOTAL NUMBER OF BOTTLES 12 TOTAL NUMBER OF CHAINS 3 COLLECTOR Rosane, Rust

FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME? ☐ WSCF ☑ 222-S ☐ MO-612 ☐ MO-745 ☐ 6269 ☐ OTHER

CONTAINER/DRUM/TOTE/BOX

SAMPLE MATRIX DESCRIPTION ☑ SOIL ☐ SLUDGE ☐ RESIN ☐ GAC ☐ FILTER PAPER ☐ OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

salt and pepper Sand

FIELD OBSERVATIONS

WEATHER 74°F 0-5 mph wind Sunny

FIELD COMMENTS ~ 6'

SUPPORT PERSONNEL RCT, Drillers, FWS

SAMPLES SURVEYED BY RCT ☑ YES ☐ NO

IS A BLUE CARD REQUIRED ☑ YES ☐ NO BLUE CARD NO 5

IS SRS PROVIDED AND COMPLETE ☑ YES ☐ NO

RECORDED BY Larry Rosane (PRINT NAME) Larry Rosane (SIGN NAME) 6-9-09 (DATE)

CHECKED BY LD Spicer (PRINT NAME) LD Spicer (SIGN NAME) JUN 1 4 2009 (DATE)

PRINTED BY TMJOHANS ON 3/23/2009 10:49:57 AM A-6004-701 (REV.0)

ORIGINAL

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-079	PAGE 1 OF 2
COLLECTOR: Roxanne Rust, Kavir	COMPANY CONTACT: STONOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 8P	DATA TURNAROUND
SAMPLING LOCATION: C6406, I-007	PROJECT DESIGNATION: WMA C Sampling for CMS		SAP NO.: V09-002	AIR QUALITY ☐	75 Days / 75 Days
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 pg 72	ACTUAL SAMPLE DEPTH: 59-61'	COA: 301483E510	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegitation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

20090364

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool <-7C and >-20C	MEOH/Cool~6 C	
TYPE OF CONTAINER	aGs*	aGs*	
NO. OF CONTAINER(S)	5	3	
VOLUME	40mL	40mL	
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B1YTF5	SOIL	6-9-09	1055	✓	✓
SG9V000604 & SG9V000603					
~~645~~ (H)				(LO)	

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: E. Knox/ [illegible] 6-9-09	DATE/TIME: 1430	RECEIVED BY/STORED IN: [illegible] 6.9.09	DATE/TIME: 1430
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-079	PAGE 2 OF 2
COLLECTOR Rosane Rust Kauer	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8P AIR QUALITY ☐	DATA TURNAROUND 75 Days / 75 Days
SAMPLING LOCATION C6406, I-007	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V09-002		
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-576-3 pg 72	ACTUAL SAMPLE DEPTH 59'-61'	COA 301483E510	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis.
** The laboratory is to use one of the low level VOA bottles for moisture content determination.
** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)VOA - 5035/8260 (LOW LEVEL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}
(2)VOA - 5035/8260 (HIGH LEVEL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}

ORIGINAL

A-6003-618(01/06)

Washington River Protection Solutions | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | V09-002-080 | PAGE 1 OF 1

COLLECTOR: Rosane Rust Kowa	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL
PRICE CODE: 8P	DATA TURNAROUND: 75 Days / 75 Days	AIR QUALITY: ☐	
SAMPLING LOCATION: C6406, I-007	PROJECT DESIGNATION: WMA C Sampling for CMS	SAF NO.: V09-002	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 pg 72	ACTUAL SAMPLE DEPTH: 59'-61'	COA: 301483ES10
METHOD OF SHIPMENT: GOVERNMENT VEHICLE			
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.	BILL OF LADING/AIR BILL NO.	

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

20090364

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool-6C
TYPE OF CONTAINER	"Gs"
NO. OF CONTAINER(S)	1
VOLUME	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B1YTF6	SOIL	6-9-09	1055 ✓
S09V006 605			

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Ed Kowa / [illegible]	1430	[illegible]	6-9-09 1430

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)VOA - 5035/8260 (TCL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/06)

Attachment 1 - Sample Record Sheet

SAMPLE RECORD SHEET

Location: C Farms C 6406 I-007

Sampler Initials and Date: [illegible] 6-9-09 10:55

Sample Number	Sample Suffix[1]	Tare Weight provided (grams)	Tare Weight prior to sample[2] (grams)	Initial Weight[3] (grams)	Total Weight[4] (grams)	Soil Weight[5] (grams)	Methanol in sample bottle (ml)
B1YTF5	K	N/A	31.0	32.9	38.2	5.3	No Methanol
B1YTF5	L	N/A	31.0	32.8	39.5	6.7	
B1YTF5	M	N/A	30.8	32.6	39.1	6.5	
B1YTF5	N	N/A	30.0	31.9	37.9	6.0	
B1YTF5	P	N/A	30.0	31.9	38.2	6.3	
B1YTF5	W	37.7	37.7	38.1	43.9	5.8	10
B1YTF5	X	37.7	37.7	38.1	44.7	6.6	10
B1YTF5	Y	38.0	38.0	38.4	45.3	6.9	10
B1YTF6	*	38.3	38.3	38.4	38.4	0	10

[1]Sample suffix of K, L, M, N, and P relate to low-level concentration samples and will not have any preservation beyond freezing between -7°C and -20°C.

Sample suffix of W, X, and Y relate to methanol preservation for high-level samples.

Sample suffix of "*" relates to methanol blank. Cool these samples to 4°C ± 2°C.

[2]Tare weight prior to sample must be within +/- 0.1 grams of Vendors tare weight or bottle cannot be used. Weigh only the bottle, no labels, stickers or bags.

[3]Initial weight is to include all labels, stickers, bags, methanol (for vendor filled methanol samples with suffix W,X,Y and *) spin bars (for samples with suffix K,L,M,N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

[4]Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

[5]Soil weight is the vial with sample minus Initial Weight.

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-081

PAGE 1 OF 2

COLLECTOR: Rosanne Rust Kautz	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 8P	DATA TURNAROUND: 75 Days / 75 Days
SAMPLING LOCATION: C8406, I-007	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY: ☐	
ICE CHEST NO.:	FIELD LOGBOOK NO.: HNF-N-576-3 pg 72	ACTUAL SAMPLE DEPTH: 59'-61'	COA: 301483ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.:		BILL OF LADING/AIR BILL NO.:		

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

20090364

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~6C
TYPE OF CONTAINER	Liner
NO. OF CONTAINER(S)	3
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B1YTF7	SOIL	6-9-09	1055
S09V000 606			
607			
608			

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
[illegible]	6-9-09 1430	[illegible]	6-9-09 1430

SPECIAL INSTRUCTIONS

SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-081	PAGE 2 OF 2
COLLECTOR Rosane Rust Kuua	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8P	DATA TURNAROUND
SAMPLING LOCATION C6406, I-007	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V09-002	AIR QUALITY ☐	75 Days / 75 Days
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-576-3 pg 72	ACTUAL SAMPLE DEPTH 59'-61'	COA 301483ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

SPECIAL INSTRUCTIONS

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)Semi-VOA - 8270 Complete (TF) {1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 2,4-Dinitrotoluene, 2,6-bis(1,1-dimethylethyl)-4-methyl phenol, 2-Chlorophenol, 2-Methylphenol (cresol, o-), 2-Nitrophenol, 3-Methylphenol (cresol, m-), 4-Chloro-3-methylphenol, 4-Methylphenol (cresol, p-), Acenaphthene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Bis(2-ethylhexyl) phthalate, Butylbenzylphthalate, Cellosolve Solvent, Chrysene, Cyclohexanone, Di-n-butylphthalate, Di-n-octylphthalate, Dibenz[a,h]anthracene, Dibutylphosphate, Ethylene glycol, Fluoranthene, Hexachlorobutadiene, Hexachloroethane, Indeno(1,2,3-cd)pyrene, Isobutyl alcohol, Monobutyl phosphate, Naphthalene, Nitrobenzene, Pentachlorophenol, Pyrene, Pyridine, Total cresols, Tributyl phosphate, n-Nitrosodi-n-dipropylamine, n-Nitrosomorpholine} ICP Metals - 6010 (SW-846) (TF) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Uranium, Vanadium, Zinc} Mercury - 7471 - (CV) (TF) {Mercury} PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260} TPH-Gasoline Range - WTPH-G {Total petroleum hydrocarbons - gasoline range} TPH-Diesel Range - WTPH-D {Total petroleum hydrocarbons - diesel range} Pesticides - 8081 (TF) {2,4'-DDD (Dichlorodiphenyldichloroethane), 2,4'-DDE (Dichlorodiphenyldichloroethylene), 2,4'-DDT (Dichlorodiphenyltrichloroethane), 4,4'-DDD (Dichlorodiphenyldichloroethane), 4,4'-DDE (Dichlorodiphenyldichloroethylene), 4,4'-DDT (Dichlorodiphenyltrichloroethane), Aldrin, Chlordane, Dieldrin, Endrin, Gamma-BHC (Lindane), Heptachlor epoxide, Hexachlorobenzene} IC Anions - 9056 {2-Hydroxyacetate, Acetate, Chloride, Fluoride, Formate, Nitrate, Nitrite, Oxalate, Sulfate} 300.7_AMMONIUM (TF) {Nitrogen in ammonium} Sulfide - 9215 {Sulfide} Total Cyanide - 9014 (TF) {Cyanide} pH {Soil} - 9045 {pH Measurement} GAMMA ENERGY ANALYSIS (TF) {Antimony-125, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155} Actinides ICPMS (TF) {Neptunium-237, Technetium-99, Thorium-230, Thorium-232, Tin-126, Uranium-233, Uranium-234, Uranium-235, Uranium-236, Uranium-238} Americium-241 (TF) {Americium-241} I129_SEP_GEA (TF) {Iodine-129} C-14 {Carbon-14} CURIUM {Curium-242, Curium-243, Curium-244} H3 - TRITIUM {Tritium} Isotopic Plutonium {Plutonium-238, Plutonium-239/240} Nickel-63 (TF) {Nickel-63} Selenium-79 (TF) {Selenium-79} Strontium-89,90 -- Sr-90 {Strontium-90}

ORIGINAL

A-6003-618(01/06)

C-6402 C-Farm HNF-N-576-3 pg 73
Date: 6-15-09
Weather 80°F Sunny wind 5-10 mph
NCO's - Rosane, Rust, Kaver
FWS - Bill Clark
Drillers - Energy Solutions RWP CO-460 REV. 4
0700- Started pre job sign preparing for samples on C-6402
0935- Completed I-001 @ 6'-8', B20XV6, V09-002-102
B20XV6, V09-002-103 } 222-S labs
B20XV7, V09-002-104
Only 1-3/4 liners were filled due to the lack of soil VOA's 100%
1017- Completed I-002 @ 10'-12' B20XV9, V09-002-106
B20XW0, V09-002-107 } 222-S labs
B20XW1, V09-002-108
Only 2 liners were filled due to the lack of soil VOA's 100%
1053- Completed I-003 @ 14'-16' B20XW3, V09-002-110
B20XW4, V09-002-111 } 222-S labs
B20XW5, V09-002-112
Field reading in this area were about 400 cpm above back ground levels.
1352- Samples were delivered to 222-S labs per Blue Card #5

Last entry this Date 6-15-09 LR

Larry Rosane 6-15-09

FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS	PAGE 1 OF 2
	DATE/TIME 6-15-09/0935
SAF NO.(S) V09-002	
LOCATION C6402; I-001	LOGBOOK NO./PAGE HNF-N-576-3 pg 73
WELL NAME N/A	WELL ID N/A ACTUAL DEPTH 6'-8' ☑ft ☐m
BOTTOM OF CASING (bgs) 6' ☑ft ☐m	BOTTOM OF BOREHOLE (bgs) 8' ☐ft ☐m

SAMPLES COLLECTED

TOTAL NUMBER OF BOTTLES 13 TOTAL NUMBER OF CHAINS 4 COLLECTOR Rosane, Rust, Kaur

222-S V09-002-101

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B20XV4	1 / 60mL / G/P	N/A	None	Rad Screen (No CAS)

222-S V09-002-102

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B20XV5	3 / 160g / Liner	N/A	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

222-S V09-002-103

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B20XV6	1 / 40mL / aGs*	7312110 ~~8140110~~ 6-15-09	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

222-S V09-002-104

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B20XV7	5 / 40mL / aGs*	8140110	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B20XV7	3 / 40mL / aGs*	7312110	MEOH/Cool~6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

PRINTED BY TMJOHANS ON 6/10/2009 10:53:49 AM A-6004-701 (REV.0)

FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS

PAGE 2 OF 2

DATE/TIME 6-15-09/0935

SAF NO.(S) V09-002

LOCATION C6402; I-001

LOGBOOK NO./PAGE HNF-N-576-3 pg 73

WELL NAME N/A

WELL ID N/A

ACTUAL DEPTH 6'-8' ☑ft ☐m

BOTTOM OF CASING (bgs) 6' ☑ft ☐m

BOTTOM OF BOREHOLE (bgs) 8' ☐ft ☐m

SAMPLES COLLECTED

TOTAL NUMBER OF BOTTLES 13 TOTAL NUMBER OF CHAINS 4 COLLECTOR Rosane, Rust, Kerr

FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME? ☐ WSCF ☑ 222-S ☐ MO-612 ☐ MO-74S ☐ 6269 ☐ OTHER

CONTAINER/DRUM/TOTE/BOX

SAMPLE MATRIX DESCRIPTION ☑ SOIL ☐ SLUDGE ☐ RESIN ☐ GAC ☐ FILTER PAPER ☐ OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

Damp Sand some rock

FIELD OBSERVATIONS

WEATHER 88°F

FIELD COMMENTS N/A 1 3/4 Liners Full

SUPPORT PERSONNEL RCT, Drillers, FWS,

SAMPLES SURVEYED BY RCT ☑ YES ☐ NO

IS A BLUE CARD REQUIRED ☑ YES ☐ NO BLUE CARD NO 5

IS SRS PROVIDED AND COMPLETE ☑ YES ☐ NO

RECORDED BY Larry Rosane (PRINT NAME) Larry Rosane (SIGN NAME) 6-15-09 (DATE)

CHECKED BY Ed Kerr (PRINT NAME) [signature] (SIGN NAME) 6-15-09 (DATE)

PRINTED BY TMJOHANS ON 6/30/2009 10:53:49 AM A-6004-701 (REV. 0)

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-102 PAGE 1 OF 2

COLLECTOR: Rosane, Rust, Kauer	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 8P
SAMPLING LOCATION: C5402; I-001	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY: ☐
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 pg 73	ACTUAL SAMPLE DEPTH: 6-8'	COA: 301483ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A	

DATA TURNAROUND: 75 Days / 75 Days

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegitation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

20090452

SPECIAL HANDLING AND/OR STORAGE
RADIOACTIVE TIE TO: B20XV5

PRESERVATION	Cool-6C
TYPE OF CONTAINER	Liner
NO. OF CONTAINER(S)	2
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B20XV5	SOIL	6-15-09	0935
S09V200722 Liner "B"			
Tub Liner "A"			

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rosane Larry Rosane	6-15-09/1352	Robert Ristedt	6.15.09 1352

SPECIAL INSTRUCTIONS
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
1 3/4 Liners full

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/05)

Washington River Protection Solutions | **CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST** | **V09-002-102** | **PAGE 2 OF 2**

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	8P	DATA TURNAROUND
Roxane Rust, Keiser	SYDNOR, HA	373-3967	WIDRIG, DL			
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**	**AIR QUALITY**	[ ]	**75 Days / 75 Days**
C6402; I-001	WMA C Sampling for CMS		V09-002			
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**ACTUAL SAMPLE DEPTH**	**COA**	**METHOD OF SHIPMENT**		
	HNF-N-576-3 pg 73	6'-8'	301483ES10	GOVERNMENT VEHICLE		
SHIPPED TO	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**			
222-S Lab Operations	N/A		N/A			

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis, and 1 methanol process control sample.
** The laboratory is to use one of the low level VOA bottles for moisture content determination.
** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)Semi-VOA - 8270 Complete (TF) {1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 2,4-Dinitrotoluene, 2,6-bis(1,1-dimethylethyl)-4-methyl phenol, 2-Chlorophenol, 2-Methylphenol (cresol, o-), 2-Nitrophenol, 3-Methylphenol (cresol, m-), 4-Chloro-3-methylphenol, 4-Methylphenol (cresol, p-), Acenaphthene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Bis(2-ethylhexyl) phthalate, Butylbenzylphthalate, Cellosolve Solvent, Chrysene, Cyclohexanone, Di-n-butylphthalate, Di-n-octylphthalate, Dibenz[a,h]anthracene, Dibutylphosphate, Ethylene glycol, Fluoranthene, Hexachlorobutadiene, Hexachloroethane, Indeno(1,2,3-cd)pyrene, Isobutyl alcohol, Monobutyl phosphate, Naphthalene, Nitrobenzene, Pentachlorophenol, Pyrene, Pyridine, Total cresols, Tributyl phosphate, n-Nitrosodi-n-dipropylamine, n-Nitrosomorpholine} ICP Metals - 6010 (SW-846) (TF) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Uranium, Vanadium, Zinc} Mercury - 7471 - (CV) (TF) {Mercury} PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260} TPH-Gasoline Range - WTPH-G {Total petroleum hydrocarbons - gasoline range} TPH-Diesel Range - WTPH-D {Total petroleum hydrocarbons - diesel range} Pesticides - 8081 (TF) {2,4'-DDD (Dichlorodiphenyldichloroethane), 2,4'-DDE (Dichlorodiphenyldichloroethylene), 2,4'-DDT (Dichlorodiphenyltrichloroethane), 4,4'-DDD (Dichlorodiphenyldichloroethane), 4,4'-DDE (Dichlorodiphenyldichloroethylene), 4,4'-DDT (Dichlorodiphenyltrichloroethane), Aldrin, Chlordane, Dieldrin, Endrin, Gamma-BHC (Lindane), Heptachlor epoxide, Hexachlorobenzene} IC Anions - 9056 {2-Hydroxyacetate, Acetate, Chloride, Fluoride, Formate, Nitrate, Nitrite, Oxalate, Sulfate} 300.7_AMMONIUM (TF) {Nitrogen in ammonium} Sulfide - 9215 {Sulfide} Total Cyanide - 9014 (TF) {Cyanide} pH (Soil) - 9045 {pH Measurement} GAMMA ENERGY ANALYSIS (TF) {Antimony-125, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155} Actinides ICPMS (TF) {Neptunium-237, Technetium-99, Thorium-230, Thorium-232, Tin-126, Uranium-233, Uranium-234, Uranium-235, Uranium-236, Uranium-238} Americium-241 (TF) {Americium-241} I129_SEP_GEA (TF) {Iodine-129} C-14 {Carbon-14} CURIUM {Curium-242, Curium-243, Curium-244} H3 - TRITIUM {Tritium} Isotopic Plutonium {Plutonium-238, Plutonium-239/240} Nickel-63 (TF) {Nickel-63} Selenium-79 (TF) {Selenium-79} Strontium-89,90 -- Sr-90 {Strontium-90}

A-6003-618(01/06)

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-103

PAGE 1 OF 2

COLLECTOR: Rosanne, Rust, Kevin	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 8P	DATA TURNAROUND: 75 Days / 75 Days
SAMPLING LOCATION: C6402; I-001	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY: ☐	
ICE CHEST NO.:	FIELD LOGBOOK NO.: HNF-N-326-3 pg 73	ACTUAL SAMPLE DEPTH: 6-8'	COA: 301483ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A		

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegetation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

452 OPR 6/17/09

20090547

SPECIAL HANDLING AND/OR STORAGE
RADIOACTIVE TIE TO: B20XV5

PRESERVATION	Cool-4C
TYPE OF CONTAINER	aGs*
NO. OF CONTAINER(S)	1
VOLUME	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B20XV8	SOIL	6-15-09	0935 ✓
SCAI-000724			

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Leroy Rosanne - Jimmy Rosanne	6-15-09 / 1352	[illegible signature]	6-15-09 1352
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/06)

Washington River Protection Solutions — **CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST** — **V09-002-103** — **PAGE 2 OF 2**

COLLECTOR Rosanne Rast, Kaiser	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** WIDRIG, DL	**PRICE CODE** 8P	**DATA TURNAROUND**
SAMPLING LOCATION C6402; I-001	**PROJECT DESIGNATION** WMA C Sampling for CMS		**SAF NO.** V09-002	**AIR QUALITY** ☐	75 Days / 75 Days
ICE CHEST NO.	**FIELD LOGBOOK NO.** HNF-N-576-3 pg. 73	**ACTUAL SAMPLE DEPTH** 6-8'	**COA** 301483E510	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	**OFFSITE PROPERTY NO.** N/A		**BILL OF LADING/AIR BILL NO.** N/A		

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis, and 1 methanol process control sample.
** The laboratory is to use one of the low level VOA bottles for moisture content determination.
** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)VOA - 5035/8260 (TCL) (TF) (1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene)

A-6003-818(01/06)

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-104 PAGE 1 OF 2

COLLECTOR Rosanne Rust, Kenny	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** WIDRIG, DL	**PRICE CODE** BP
SAMPLING LOCATION C6402; I-001	**PROJECT DESIGNATION** WMA C Sampling for CMS		**SAF NO.** V09-002	**AIR QUALITY** ☐
ICE CHEST NO.	**FIELD LOGBOOK NO.** HNF-N-376-3 pg 73	**ACTUAL SAMPLE DEPTH** 6-8'	**COA** 301483E510	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE
SHIPPED TO 222-S Lab Operations	**OFFSITE PROPERTY NO.** N/A		**BILL OF LADING/AIR BILL NO.** N/A	

DATA TURNAROUND 75 Days / 75 Days

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

4.5'

PRESERVATION	Cool 4-7C and >-20C	MEOH/Cool-6 C
TYPE OF CONTAINER	wGs*	wGs*
NO. OF CONTAINER(S)	3	3
VOLUME	40mL	40mL
SAMPLE ANALYSIS	See item (1) in Special Instructions	See item (7) in Special Instructions

SPECIAL HANDLING AND/OR STORAGE
RADIOACTIVE TIE TO: B20XV5

20090452

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME						
B20XV7	SOIL	6-15-09	0935	✓	✓				

S09V000722 (Hi)
S09V000723 (Lo)

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rosario, Jenny Rosario	6-15-09/1352	Rilled Estrada	6.15.09 1352
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

LABORATORY SECTION	**RECEIVED BY**	**TITLE**	**DATE/TIME**
FINAL SAMPLE DISPOSITION	**DISPOSAL METHOD**	**DISPOSED BY**	**DATE/TIME**

A-6003-618(01/05)

Washington River Protection Solutions — **CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST** — V09-002-104 — PAGE 2 OF 2

COLLECTOR Ronnie Rust, Karen	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** WIDRIG, DL	**PRICE CODE** 8P	**DATA TURNAROUND**
SAMPLING LOCATION C6402; 1-001	**PROJECT DESIGNATION** WMA C Sampling for CMS		**SAF NO.** V09-002	**AIR QUALITY** ☐	75 Days / 75 Days
ICE CHEST NO.	**FIELD LOGBOOK NO.** HNF-IN-526-3 Pg. 73	**ACTUAL SAMPLE DEPTH** 6'-8'	**COA** 301483ES10	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	**OFFSITE PROPERTY NO.** N/A		**BILL OF LADING/AIR BILL NO.** N/A		

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis, and 1 methanol process control sample.
** The laboratory is to use one of the low level VOA bottles for moisture content determination.
** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)VOA - 5035/8260 (LOW LEVEL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}
(2)VOA - 5035/8260 (HIGH LEVEL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}

A-6003-618(01/06)

Attachment 1 - Sample Record Sheet

SAMPLE RECORD SHEET

Location: L-Farm C6402 I-001

Sampler Initials and Date: [illegible] 6-15-09 0935

Sample Number	Sample Suffix[1]	Tare Weight provided (grams)	Tare Weight prior to sample[2] (grams)	Initial Weight[3] (grams)	Total Weight[4] (grams)	Soil Weight[5] (grams)	Methanol in sample bottle (ml)
B20XV7	K	N/A	30.3	32.1	37.4	5.3	No Methanol
B20XV7	L	N/A	30.7	32.6	39.5	6.9	
B20XV7	M	N/A	30.8	32.7	38.9	6.2	
B20XV7	N	N/A	31.3	33.1	38.7	5.6	
B20XV7	P	N/A	30.2	32.0	36.5	4.5	
B20XV7	W	37.7	37.7	38.2	43.7	5.5	10
B20XV7	X	38.2	38.2	38.6	44.7	6.1	10
B20XV7	Y	38.2	38.1	38.5	44.3	5.8	10
B20XV6	*	38.4	38.4	38.8	38.8	0	10

[1]Sample suffix of K, L, M, N, and P relate to low-level concentration samples and will not have any preservation beyond freezing between -7°C and -20°C.

Sample suffix of W, X, and Y relate to methanol preservation for high-level samples.

Sample suffix of "*" relates to methanol blank. Cool these samples to 4°C ± 2°C.

[2]Tare weight prior to sample must be within +/- 0.1 grams of Vendors tare weight or bottle cannot be used. Weigh only the bottle, no labels, stickers or bags.

[3]Initial weight is to include all labels, stickers, bags, methanol (for vendor filled methanol samples with suffix W,X,Y and *) spin bars (for samples with suffix K,L,M,N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

[4]Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

[5]Soil weight is the vial with sample minus Initial Weight.

FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S)	WMA C Sampling for CMS	PAGE 1 OF 2	
		DATE/TIME	6-15-09/1017
SAF NO.(S)	V09-002		
LOCATION	C6402; I-002	LOGBOOK NO./PAGE	HNF-N-576-3 pg 73
WELL NAME	NA	WELL ID	C-6402
		ACTUAL DEPTH	~~6'~~ 8' 10-12 ☑ft ☐m
BOTTOM OF CASING (bgs)	~~6'~~ 10' 6-16-09 ☑ft ☐m	BOTTOM OF BOREHOLE (bgs)	~~8'~~ 12' 6-15-09 ☑ft ☐m
SAMPLES COLLECTED			
TOTAL NUMBER OF BOTTLES 13	TOTAL NUMBER OF CHAINS 4	COLLECTOR	Rosine, Rost, Kauu

222-S V09-002-105

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B20XV8	1 / 60mL / G/P	N/A	None	Rad Screen (No CAS)

222-S V09-002-106

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B20XV9	3 / 160g / Liner	N/A	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

222-S V09-002-107

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B20XW0	1 / 40mL / aGs*	7312110	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

222-S V09-002-108

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B20XW1	5 / 40mL / aGs*	8140110	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B20XW1	3 / 40mL / aGs*	7312110	MEOH/Cool~6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

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FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS	PAGE 2 OF 2
	DATE/TIME 6-15-09/1017
SAF NO.(S) V09-002	
LOCATION C6402; I-002	LOGBOOK NO./PAGE HNF-N-576-3 pg 73
WELL NAME N/A	WELL ID C-6402 ACTUAL DEPTH ~~6'~~ ~~8'~~ 10-12 ☐ft ☐m
BOTTOM OF CASING (bgs) ~~6'~~ 10' SJE 6-15-09 ☐ft ☐m	BOTTOM OF BOREHOLE (bgs) ~~8~~ 12 JRC 6-15-09 ☐ft ☐m

SAMPLES COLLECTED

TOTAL NUMBER OF BOTTLES 13 TOTAL NUMBER OF CHAINS 4 COLLECTOR Rosanne, Rust, Kauer

FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME? ☐ WSCF ☑ 222-S ☐ MO-612 ☐ MO-745 ☐ 6269 ☐ OTHER

CONTAINER/DRUM/TOTE/BOX

SAMPLE MATRIX DESCRIPTION ☑ SOIL ☐ SLUDGE ☐ RESIN ☐ GAC ☐ FILTER PAPER ☐ OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

Damp Sand

FIELD OBSERVATIONS

WEATHER 85°F Sunny Wind 0-5 mph

FIELD COMMENTS ~~6/16~~-15-09 2 Full Liners

SUPPORT PERSONNEL RCT, Drillers, F.W.S.

SAMPLES SURVEYED BY RCT ☑ YES ☐ NO

IS A BLUE CARD REQUIRED ☑ YES ☐ NO BLUE CARD NO 5

IS SRS PROVIDED AND COMPLETE ☑ YES ☐ NO

	PRINT NAME	SIGN NAME	DATE
RECORDED BY	Larry Rosane	Larry Rosane	6-15-09
CHECKED BY	Ed Kauer	[signature]	6-15-09

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Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-106 PAGE 1 OF 2

COLLECTOR: Rosanne Rust, Kowell	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 8P
SAMPLING LOCATION: C6402; I-002	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY: ☐
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-526-3 p73	ACTUAL SAMPLE DEPTH: 10-12' DRR 6/18/09	COA: 301483E510	METHOD OF SHIPMENT: GOVERNMENT VEHICLE
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A	

DATA TURNAROUND: 75 Days / 75 Days

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegitation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

46°

PRESERVATION: Cool-6C

TYPE OF CONTAINER: Liner

NO. OF CONTAINER(S): 2 ea

VOLUME: 160g

SPECIAL HANDLING AND/OR STORAGE: RADIOACTIVE TIE TO. B20XV8

SAMPLE ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

20090452

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B20XV9	SOIL	6-15-09	1017
S09V000738	Liner A		
S09V000739	Liner B		

CHAIN OF POSSESSION — SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Lowe, Larry Lowe	6-15-09 1352	RERTOLC RERTOLC	6.15.09 1352

SPECIAL INSTRUCTIONS

SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

2 full Liners

LABORATORY SECTION: RECEIVED BY — TITLE — DATE/TIME

FINAL SAMPLE DISPOSITION: DISPOSAL METHOD — DISPOSED BY — DATE/TIME

A-6003-618(01/08)

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-106

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	8P	DATA TURNAROUND
ROSANE, RUST. Kauer	SYDNOR, HA	373-3967	WIDRIG, DL	AIR QUALITY	☐	75 Days / 75 Days
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**			
C6402; I-002	WMA C Sampling for CMS		V09-002			
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**ACTUAL SAMPLE DEPTH**	**COA**	**METHOD OF SHIPMENT**		
	HNF-N-576-3 pg 73		301483ES10	GOVERNMENT VEHICLE		
SHIPPED TO	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**			
222-S Lab Operations	N/A		N/A			

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis, and 1 methanol process control sample.
** The laboratory is to use one of the low level VOA bottles for moisture content determination.
** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)Semi VOA - 8270 Complete (TF) {1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 2,4-Dinitrotoluene, 2,6-bis(1,1-dimethylethyl)-4-methyl phenol, 2-Chlorophenol, 2-Methylphenol (cresol, o-), 2-Nitrophenol, 3-Methylphenol (cresol, m-), 4-Chloro-3-methylphenol, 4-Methylphenol (cresol, p-), Acenaphthene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Bis(2-ethylhexyl) phthalate, Butylbenzylphthalate, Cellosolve Solvent, Chrysene, Cyclohexanone, Di-n-butylphthalate, Di-n-octylphthalate, Dibenz[a,h]anthracene, Dibutylphosphate, Ethylene glycol, Fluoranthene, Hexachlorobutadiene, Hexachloroethane, Indeno(1,2,3-cd)pyrene, Isobutyl alcohol, Monobutyl phosphate, Naphthalene, Nitrobenzene, Pentachlorophenol, Pyrene, Pyridine, Total cresols, Tributyl phosphate, n-Nitrosodi-n-dipropylamine, n-Nitrosomorpholine} ICP Metals - 6010 (SW-846) (TF) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Uranium, Vanadium, Zinc} Mercury - 7471 - (CV) (TF) {Mercury} PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260} TPH-Gasoline Range - WTPH-G {Total petroleum hydrocarbons - gasoline range} TPH Diesel Range - WTPH-D {Total petroleum hydrocarbons - diesel range} Pesticides - 8081 (TF) {2,4'-DDD (Dichlorodiphenyldichloroethane), 2,4'-DDE (Dichlorodiphenyldichloroethylene), 2,4'-DDT (Dichlorodiphenyltrichloroethane), 4,4'-DDD (Dichlorodiphenyldichloroethane), 4,4'-DDE (Dichlorodiphenyldichloroethylene), 4,4'-DDT (Dichlorodiphenyltrichloroethane), Aldrin, Chlordane, Dieldrin, Endrin, Gamma-BHC (Lindane), Heptachlor epoxide, Hexachlorobenzene} IC Anions - 9056 {2-Hydroxyacetate, Acetate, Chloride, Fluoride, Formate, Nitrate, Nitrite, Oxalate, Sulfate} 300.7_AMMONIUM (TF) {Nitrogen in ammonium} Sulfide - 9215 {Sulfide} Total Cyanide - 9014 (TF) {Cyanide} pH (Soil) - 9045 {pH Measurement} GAMMA ENERGY ANALYSIS (TF) {Antimony-125, Cesium-137, Cobalt-60, Europium-152, Europium 154, Europium-155} Actinides ICPMS (TF) {Neptunium-237, Technetium-99, Thorium-230, Thorium-232, Tin-126, Uranium-233, Uranium-234, Uranium-235, Uranium-236, Uranium-238} Americium-241 (TF) {Americium-241} 1129_SEP_GEA (TF) {Iodine-129} C-14 {Carbon-14} CURIUM {Curium-242, Curium-243, Curium-244} H3 - TRITIUM {Tritium} Isotopic Plutonium {Plutonium-238, Plutonium-239/240} Nickel-63 (TF) {Nickel-63} Selenium-79 (TF) {Selenium-79} Strontium-89,90 -- Sr-90 {Strontium-90}

A 6009-618(01/06)

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-107

COLLECTOR: Rosque, Rust, Rowe	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373 3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 8P	DATA TURNAROUND: 75 Days / 75 Days
SAMPLING LOCATION: C6402; I-002	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 pg 73	ACTUAL SAMPLE DEPTH: 10-12'	COA: 301483ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A		

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, LN=LN, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

PRESERVATION: Cool-6C

TYPE OF CONTAINER: aGlass

NO. OF CONTAINER(S): 1

VOLUME: 40mL

SAMPLE ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SPECIAL HANDLING AND/OR STORAGE: RADIOACTIVE TIE TO: B20XV8

669 # 20090452

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B20XW0	SOIL	6-15-09	1017
S09V000737	MeOH Blank		

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rosque Larry Rosque	6-15-09 1352	Robert Rikkle	6-15-09 1352

SPECIAL INSTRUCTIONS: SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6001-618(01/09)

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-107

COLLECTOR Kosave Rust Kauz	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** WIDRIG, DL	**PRICE CODE** 8P	**DATA TURNAROUND**
SAMPLING LOCATION C6-102; I-002	**PROJECT DESIGNATION** WMA C Sampling for CMS		**SAF NO.** V09-002	**AIR QUALITY** ☐	75 Days / 75 Days
ICE CHEST NO.	**FIELD LOGBOOK NO.** HNF-N-326-3 pg 73	**ACTUAL SAMPLE DEPTH** 10 - 12'	**COA** 301483E510	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	**OFFSITE PROPERTY NO.** N/A		**BILL OF LADING/AIR BILL NO.** N/A		

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis, and 1 methanol process control sample.
** The laboratory is to use one of the low level VOA bottles for moisture content determination.
** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)VOA - 5035/8260 (TCL) (TF) (1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene)

A-6003-618(01/06)

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-108

COLLECTOR: Rosane Rust Rosane	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 8P	DATA TURNAROUND: 75 Days / 75 Days
SAMPLING LOCATION: C6402; I-002	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HAF-N-576-3 pg 73	ACTUAL SAMPLE DEPTH: 10-12'	COA: 301483ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A		

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

PRESERVATION	Cool <-7C and > 20C	MEOH/Cool~6 L
TYPE OF CONTAINER	aGs*	aGs*
NO. OF CONTAINER(S)	5	3
VOLUME	40mL	40ml
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SPECIAL HANDLING AND/OR STORAGE: RADIOACTIVE TIE TO: B20XV8

GRP# 20090452

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B20XW1	SOIL	6-15-09	1017
5090000735	Low Level		
5090000736	Hi Level		

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: Larry Rosane Larry Rosane	DATE/TIME: 6-15-09 1357	RECEIVED BY/STORED IN: [illegible]	DATE/TIME: 6-15-09 1352
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS: SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A 6003-618(01/06)

Washington River Protection Solutions | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | V09-002-108 | PAGE 2 OF 2

COLLECTOR: Rosanne Rust Kauer	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DI.	PRICE CODE: 8P	DATA TURNAROUND: 75 Days / 75 Days
SAMPLING LOCATION: C6402; 1 002	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3, pg 73	ACTUAL SAMPLE DEPTH: 10-12'	COA: 301483ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A		

SPECIAL INSTRUCTIONS

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** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)VOA - 5035/8260 (LOW LEVEL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}
(2)VOA - 5035/8260 (HIGH LEVEL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}

A-6001-818(01/06)

Attachment 1 - Sample Record Sheet

SAMPLE RECORD SHEET

Location: L Farm C6402 I-002

Sampler Initials and Date: SL 6-15-09 1017

Sample Number	Sample Suffix[1]	Tare Weight provided (grams)	Tare Weight prior to sample[2] (grams)	Initial Weight[3] (grams)	Total Weight[4] (grams)	Soil Weight[5] (grams)	Methanol in sample bottle (ml)
B20XW1	K	N/A	30.3	32.1	38.0	5.9	No Methanol
B20XW1	L	N/A	31.2	33.0	37.8	4.8	
B20XW1	M	N/A	30.7	32.3	37.3	5.0	
B20XW1	N	N/A	30.2	31.7	38.4	6.7	
B20XW1	P	N/A	30.8	32.3	38.2	5.9	
B20XW1	W	37.4	37.4	37.7	44.6	6.9	10
B20XW1	X	38.0	38.0	38.3	45.8	7.5	10
B20XW1	Y	38.1	38.0	38.4	45.8	7.4	10
B20XW0	*	37.4	37.4	37.8	37.8	0	10

[1]Sample suffix of K, L, M, N, and P relate to low-level concentration samples and will not have any preservation beyond freezing between -7°°C and -20°C.

Sample suffix of W, X, and Y relate to methanol preservation for high-level samples.

Sample suffix of "*" relates to methanol blank. Cool these samples to 4°C ± 2°C.

[2]Tare weight prior to sample must be within +/- 0.1 grams of Vendors tare weight or bottle cannot be used. Weigh only the bottle, no labels, stickers or bags.

[3]Initial weight is to include all labels, stickers, bags, methanol (for vendor filled methanol samples with suffix W,X,Y and *) spin bars (for samples with suffix K,L,M,N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

[4]Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

[5]Soil weight is the vial with sample minus Initial Weight.

FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS	PAGE 1 OF 2
	DATE/TIME 6-13-09/1055
SAF NO.(S) V09-002	
LOCATION C6402; I-003	LOGBOOK NO./PAGE HNF-N-576-3 pg 73
WELL NAME N/A	WELL ID N/A ACTUAL DEPTH 14-16' ☑ft ☐m
BOTTOM OF CASING (bgs) 14 ☑ft ☐m	BOTTOM OF BOREHOLE (bgs) 16 ☑ft ☐m

SAMPLES COLLECTED

TOTAL NUMBER OF BOTTLES 13 TOTAL NUMBER OF CHAINS 4 COLLECTOR Rossine, Rust, Kemm

222-S V09-002-109

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B20XW2	1 / 60mL / G/P	N1A	None	Rad Screen (No CAS)

222-S V09-002-110

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B20XW3	3 / 160g / Liner	N1A	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

222-S V09-002-111

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B20XW4	1 / 40mL / aGs*	7312110	Cool~6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

222-S V09-002-112

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B20XW5	5 / 40mL / aGs*	8140110	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B20XW5	3 / 40mL / aGs*	7312110	MEOH/Cool~6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

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FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) WMA C Sampling for CMS

PAGE 2 OF 2

DATE/TIME 6-15-09/1053

SAF NO.(S) V09-002

LOCATION C6402; I-003

LOGBOOK NO./PAGE HNF-N-576-3 pg 73

WELL NAME N/A

WELL ID N/A

ACTUAL DEPTH 14-16' ☒ft ☐m

BOTTOM OF CASING (bgs) 14' ☒ft ☐m

BOTTOM OF BOREHOLE (bgs) 16' ☒ft ☐m

SAMPLES COLLECTED

TOTAL NUMBER OF BOTTLES 13 TOTAL NUMBER OF CHAINS 4 COLLECTOR Rosane, Rust, Kauer

FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME? ☐ WSCF ☒ 222-S ☐ MO-612 ☐ MO-745 ☐ 6269 ☐ OTHER

CONTAINER/DRUM/TOTE/BOX

SAMPLE MATRIX DESCRIPTION ☒ SOIL ☐ SLUDGE ☐ RESIN ☐ GAC ☐ FILTER PAPER ☐ OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

Damp Sand Some rock

FIELD OBSERVATIONS

WEATHER 88°F Sunny Wind 5-10 mph

FIELD COMMENTS ~~N/A~~ Sky clear 1 1/2 Liners full

SUPPORT PERSONNEL HPT Drillers FWS

SAMPLES SURVEYED BY RCT ☒ YES ☐ NO

IS A BLUE CARD REQUIRED ☒ YES ☐ NO BLUE CARD NO 5

IS SRS PROVIDED AND COMPLETE ☒ YES ☐ NO

RECORDED BY Larry Rosane (PRINT NAME) Larry Rosane (SIGN NAME) 6-15-09 (DATE)

CHECKED BY Ed Kauer (PRINT NAME) [signature] (SIGN NAME) 6-15-09 (DATE)

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A-6004-701 (REV.0)

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-110 PAGE 1 OF 2

COLLECTOR: Rosales Rust, Kamer	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL
SAMPLING LOCATION: C6402; 1-003	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 pg 73	ACTUAL SAMPLE DEPTH: 14'-16'	COA: 301483ES10
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A

PRICE CODE: 8P

AIR QUALITY: | |

DATA TURNAROUND: 75 Days / 75 Days

METHOD OF SHIPMENT: GOVERNMENT VEHICLE

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

PRESERVATION	Cool~4C
TYPE OF CONTAINER	Liner
NO. OF CONTAINER(S)	2
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SPECIAL HANDLING AND/OR STORAGE: RADIOACTIVE TIE 1O: B20XW2

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B20XW3	SOIL	6-15-09	1053
S09V000751	Liner A		
↓ 752	Liner B		

CHAIN OF POSSESSION — SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rosanne Larry Rosanne	6-15-09 1352	Alfred R Steele	6-15-09 1352

SPECIAL INSTRUCTIONS

SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

1-1/2 liner full

LABORATORY SECTION: RECEIVED BY — TITLE — DATE/TIME

FINAL SAMPLE DISPOSITION: DISPOSAL METHOD — DISPOSED BY — DATE/TIME

A-6003-618(01/06)

Washington River Protection Solutions | **CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST** | **V09-002-110** | **PAGE 2 OF 2**

COLLECTOR Rosanne Rust Kaser	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** WIDRIG, DL	**PRICE CODE** 8P	**DATA TURNAROUND**
SAMPLING LOCATION C6402; I-003	**PROJECT DESIGNATION** WMA C Sampling for CMS		**SAF NO.** V09-002	**AIR QUALITY** ☐	75 Days / 75 Days
ICE CHEST NO.	**FIELD LOGBOOK NO.** HNF-N-526-3473	**ACTUAL SAMPLE DEPTH** 14'-16'	**COA** 301483ES10	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	**OFFSITE PROPERTY NO.** N/A		**BILL OF LADING/AIR BILL NO.** N/A		

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis, and 1 methanol process control sample.
** The laboratory is to use one of the low level VOA bottles for moisture content determination.
** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)Semi-VOA - 8270 Complete (TF) {1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 2,4-Dinitrotoluene, 2,6-bis(1,1-dimethylethyl)-4-methyl phenol, 2-Chlorophenol, 2-Methylphenol (cresol, o-), 2-Nitrophenol, 3-Methylphenol (cresol, m-), 4-Chloro-3-methylphenol, 4-Methylphenol (cresol, p-), Acenaphthene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Bis(2-ethylhexyl) phthalate, Butylbenzylphthalate, Cellosolve Solvent, Chrysene, Cyclohexanone, Di-n-butylphthalate, Di-n-octylphthalate, Dibenz(a,h)anthracene, Dibutylphosphate, Ethylene glycol, Fluoranthene, Hexachlorobutadiene, Hexachloroethane, Indeno(1,2,3-cd)pyrene, Isobutyl alcohol, Monobutyl phosphate, Naphthalene, Nitrobenzene, Pentachlorophenol, Pyrene, Pyridine, Total cresols, Tributyl phosphate, n-Nitrosodi-n-dipropylamine, n-Nitrosomorpholine} ICP Metals - 6010 (SW-846) (TF) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Uranium, Vanadium, Zinc} Mercury - 7471 - (CV) (TF) {Mercury} PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260} TPH-Gasoline Range - WTPH-G {Total petroleum hydrocarbons - gasoline range} TPH-Diesel Range - WTPH-D {Total petroleum hydrocarbons - diesel range} Pesticides - 8081 (TF) {2,4'-DDD (Dichlorodiphenyldichloroethane), 2,4'-DDE (Dichlorodiphenyldichlorethylene), 2,4'-DDT (Dichlorodiphenyltrichloroethane), 4,4'-DDD (Dichlorodiphenyldichloroethane), 4,4'-DDE (Dichlorodiphenyldichloroethylene), 4,4'-DDT (Dichlorodiphenyltrichloroethane), Aldrin, Chlordane, Dieldrin, Endrin, Gamma-BHC (Lindane), Heptachlor epoxide, Hexachlorobenzene} IC Anions - 9056 {2-Hydroxyacetate, Acetate, Chloride, Fluoride, Formate, Nitrate, Nitrite, Oxalate, Sulfate} 300.7_AMMONIUM (TF) {Nitrogen in ammonium} Sulfide - 9215 {Sulfide} Total Cyanide - 9014 (TF) {Cyanide} pH (Soil) - 9045 {pH Measurement} GAMMA ENERGY ANALYSIS (TF) {Antimony-125, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155} Actinides ICPMS (TF) {Neptunium-237, Technetium-99, Thorium-230, Thorium-232, Tin-126, Uranium-233, Uranium-234, Uranium-235, Uranium-236, Uranium-238} Americium-241 (TF) {Americium-241} I129_SEP_GEA (TF) {Iodine-129} C-14 {Carbon-14} CURIUM {Curium-242, Curium-243, Curium-244} H3 - TRITIUM {Tritium} Isotopic Plutonium {Plutonium-238, Plutonium-239/240} Nickel-63 (TF) {Nickel-63} Selenium-79 (TF) {Selenium-79} Strontium-89,90 -- Sr-90 {Strontium-90}

A-6003 618(01/06)

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-111 PAGE 1 OF 2

COLLECTOR: Rosane Rust Kauer	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIORIG, DL
SAMPLING LOCATION: C6402; I-003	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002
ICE CHEST NO.	FIELD LOGBOOK NO.: HNFN-576-3 p73	ACTUAL SAMPLE DEPTH: 14'-16'	COA: 301483ES10
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A

PRICE CODE: 8P

AIR QUALITY: ☐

DATA TURNAROUND: 75 Days / 75 Days

METHOD OF SHIPMENT: GOVERNMENT VEHICLE

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, I=Issue, V=Vegitation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE: RADIOACTIVE TIE TO: B20XW2

PRESERVATION	Cool-6C
TYPE OF CONTAINER	2Gs*
NO. OF CONTAINER(S)	1
VOLUME	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B20XW4	SOIL	6-15-09	1053	✓
509V000750	meOH blank			

CHAIN OF POSSESSION — SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rosane Larry Rosane	6-15-09 1352	Robert R Steele	6-15-09 1352

SPECIAL INSTRUCTIONS: SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/08)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-111	PAGE 2 OF 2
COLLECTOR Rosanne Rust, Kuma	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-5967	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8P AIR QUALITY ☐	DATA TURNAROUND 75 Days / 75 Days
SAMPLING LOCATION C6402; I-003	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V09-032		
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-IN-576-3 pg 73	ACTUAL SAMPLE DEPTH 14-16'	COA 3014R3ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis, and 1 methanol process control sample.
** The laboratory is to use one of the low level VOA bottles for moisture content determination.
** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 ml. or 250 ml. poly bottles with Teflon lined lids.
(1)VOA - 5035/8260 (TCL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}

A-6000-618(01/08)

Washington River Protection Solutions

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

V09-002-112 PAGE 1 OF 2

COLLECTOR: Rosanne, Lust Kauer	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL
SAMPLING LOCATION: C6402; I-003	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002
ICE CHEST NO.:	FIELD LOGBOOK NO.: HWF-N-576-3 pg 73	ACTUAL SAMPLE DEPTH: 14-16'	COA: 301483E510
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A

PRICE CODE: 8P
AIR QUALITY: [ ]
DATA TURNAROUND: 75 Days / 75 Days
METHOD OF SHIPMENT: GOVERNMENT VEHICLE

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

48

SPECIAL HANDLING AND/OR STORAGE: RADIOACTIVE TIE TO: B20XW2

PRESERVATION	Cool <-70C and >-70C	HEOM/Cool-6 C
TYPE OF CONTAINER	4Oz*	4Oz*
NO. OF CONTAINER(S)	3	3
VOLUME	40mL	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B20XW5	SOIL	6-15-09	1053	✓	✓
S09V000748	Low Level				
S09V000749	High Level				

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Larry Rosanne Lang Lauer	6-15-09 1352	RSteele	6.15.09 1352

SPECIAL INSTRUCTIONS: SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

LABORATORY SECTION: RECEIVED BY | TITLE | DATE/TIME

FINAL SAMPLE DISPOSITION: DISPOSAL METHOD | DISPOSED BY | DATE/TIME

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V09-002-112	PAGE 2 OF 2
COLLECTOR: Rosanne Rust Kaus	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 8P	DATA TURNAROUND
SAMPLING LOCATION: C6402; I-003	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V09-002	AIR QUALITY ☐	75 Days / 75 Days
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-576-3 pg 23	ACTUAL SAMPLE DEPTH: 14-16'	COA: 30148 3E510	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A		

SPECIAL INSTRUCTIONS

** All VOA samples will be collected using EPA Method 5035A.
** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis, and 1 methanol process control sample.
** The laboratory is to use one of the low level VOA bottles for moisture content determination.
** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be included as part of the sample ID reported in the final data packages.

** After VOA bottles for the direct pushes are filled, the NCOs will cap remaining liners for shipment to 222-S. Where capping is not possible, they will put into 500 mL or 250 mL poly bottles with Teflon lined lids.
(1)VOA - 5035/8260 (LOW LEVEL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}
(2)VOA - 5035/8260 (HIGH LEVEL) (TF) {1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, 1-Butanol, 2-Butanone, 2-Nitropropane, 2-Pentanone, 4-Methyl, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroform, Diethyl ether, Ethyl acetate, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Trichloromonofluoromethane, Vinyl chloride, Xylenes (total), cis-1,2-Dichloroethylene, m-Xylene, o-Xylene, p-Xylene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene}

A-6003-618(01/06)

Attachment 1 - Sample Record Sheet

SAMPLE RECORD SHEET

Location: C Farms C6402 I-003

Sampler Initials and Date: JL 6-15-09 1053

Sample Number	Sample Suffix[1]	Tare Weight provided (grams)	Tare Weight prior to sample[2] (grams)	Initial Weight[3] (grams)	Total Weight[4] (grams)	Soil Weight[5] (grams)	Methanol in sample bottle (ml)
B20XW5	K	N/A	30.9	32.6	41.1	8.5	No Methanol
B20XW5	L	N/A	30.7	32.4	39.9	7.5	
B20XW5	M	N/A	30.2	31.9	37.7	5.8	
B20XW5	N	N/A	30.9	32.7	39.3	6.6	
B20XW5	P	N/A	30.7	32.5	38.6	6.1	
B20XW5	W	37.7	37.7	38.2	44.3	6.1	10
B20XW5	X	38.0	38.0	38.5	44.2	5.7	10
B20XW5	Y	38.4	38.4	38.9	43.9	5.0	10
B20XW4	*	37.8	37.7	38.3	38.3	0	10

[1]Sample suffix of K, L, M, N, and P relate to low-level concentration samples and will not have any preservation beyond freezing between -7°°C and -20°C.

Sample suffix of W, X, and Y relate to methanol preservation for high-level samples.

Sample suffix of "*" relates to methanol blank. Cool these samples to 4°C ± 2°C.

[2]Tare weight prior to sample must be within +/- 0.1 grams of Vendors tare weight or bottle cannot be used. Weigh only the bottle, no labels, stickers or bags.

[3]Initial weight is to include all labels, stickers, bags, methanol (for vendor filled methanol samples with suffix W,X,Y and *) spin bars (for samples with suffix K,L,M,N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

[4]Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

[5]Soil weight is the vial with sample minus Initial Weight.

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APPENDIX F

WASHINGTON STATE DEPARTMENT OF ECOLOGY DOCUMENTS

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ENERGYSOLUTIONS

March 17, 2008 MGG-08-5022

Sate of Washington
Department of ecology
Water Resources Program
Well Drilling Unit
Post Office Box 47600
Olympia, Washington 98504-7600

Subject: Notice of Intent to Construct and Install Probes in Geotechnical Borings

To Whom It May Concern,

Attached is the Notice of Intent to Construct (S27644) Geotechnical Soil Borings. This Notice of Intent form has been completed with information pertaining to 16 borings that will be located on the Hanford Site near the intersection of 7th Street and Buffalo Avenue located in the 200 East Area, within the northwest corner of the 241-C Tank Farm.

These borings are designated as C6391 through C6405 and are being placed in support of the vadose characterization scope. Placement will be performed under the Notice of Intent to Construct Start Card S27644. A majority of these borings will subsequently be decommissioned upon acquisition of geophysical data collection and selective soil sample collection. Selected borings will be utilized for placement of subsurface soil resistivity probes and such construction will be documented with the applicable Well Completion Reports. Probe holes not utilized for probe placement will be documented on the appropriate Decommissioning Report forms.

If you have any questions, please contact me at (509) 375-9587.

Sincerely

Martin G. Gardner, Manager
Remediation and Well Services

jmt

Attachments

CH2M HILL - H. A. Sydnor

FH - G. G. Kelty

Energy*Solutions* - K. D. Reynolds
D. E. Skoglie
MGG File/LB

2345 Stevens Drive, Suite 240 • Richland, WA 99354
509.371.8006 • Fax: 509.371.1906 • 1.888.532.1330 • www.energysolutions.com

ENERGYSOLUTIONS

MGG-08-5022

ATTACHMENT

Notice of Intent to Construct a
Geotechnical Soil Boring

Consisting of 2 pages
including cover sheet

WASHINGTON STATE DEPARTMENT OF ECOLOGY

NOTICE OF INTENT TO CONSTRUCT A

Notification Number S 27644

Please check one: ☒ GEOTECH SOIL BORING
☐ SOIL SAMPLING (CONTAMINANTS)
☐ VAPOR SAMPLING

This form MUST BE RECEIVED by the Department of Ecology 72 HOURS BEFORE you construct a well.

Submit one form for each job site. **Mail this form to the Department of Ecology, Water Resources Program, Well Drilling Unit, P.O. Box 47600, Olympia, WA 98504-7600.** Instructions for filling out this form are printed on the back.

NOTE: PLEASE PRINT ALL ANSWERS. PROCESSING YOUR NOTICE OF INTENT MAY BE DELAYED IF ALL FIELDS OUTLINED IN THE BOXES ARE NOT FILLED IN COMPLETELY.

1. Property Owner U.S. Department of Energy Phone No. (509) 373-9630
   Address (include city, state, zip) 825 Jadwin Ave., Richland, Washington, 99352
2. Consulting Firm (if different from #1): CH2M Hill Phone No. (509) 373-3967
   Address (include city, state, zip) Richland, Washington, 99352

01-Adams, 02-Asotin, 03-Benton, 04-Chelan, 05-Clallam, 06-Clark, 07-Columbia, 08-Cowlitz, 09-Douglas, 10-Ferry, 11-Franklin, 12-Garfield, 13-Grant, 14-Grays Harbor, 15-Island, 16-Jefferson, 17-King, 18-Kitsap, 19-Kittitas, 20-Klickitat, 21-Lewis, 22-Lincoln, 23-Mason, 24-Okanogan, 25-Pacific, 26-Pend Oreille, 27-Pierce, 28-San Juan, 29-Skagit, 30-Skamania, 31-Snohomish, 32-Spokane, 33-Stevens, 34-Thurston, 35-Wahkiakum, 36-Walla Walla, 37-Whatcom, 38-Whitman, 39-Yakima

3. Print COUNTY NAME of well location (*DO NOT ABBREVIATE*) Benton
4. Well Location: SW 1/4-1/4 of the NE 1/4 Section 2 Township 12N Range 26 EWM or WWM (*circle one*)
5. Total number of borings to be constructed sixteen (16)
6. Approx construction start date March 26, 2008

Latitude and longitude (if available) NOTE: 1/4-1/4, 1/4, section, township and range are REQUIRED.

Lat Degrees _____ Lat Time _____
Long Degrees _____ Long Time _____ Horizontal Collection Method _____

7. Well Site Street Address Hanford, 200 East, SW corner inside C-Tank-farm
8. Tax parcel number N/A
9. Contractor L & I Registration No. DURATFS990K5
10. Well Drilling Company Name Energy Solutions Phone No. (509) 375-9591
11. Well Driller Name Kelly C. Olson License No. 1217
12. SEND THE ENTIRE FORM. The bottom portion of this notice will be validated in our office and sent back to the name and address contained on the address label. This is the proof of notification. Please fill out the portion below CAREFULLY.

NOTE: Please copy the Notification Number (located in the upper and lower right corner) and keep in a safe place. Please reference this number when communicating with the Department of Ecology.

This notification number must be provided to your well driller: S 27644

RETURN NAME AND MAILING ADDRESS

Name Kelly C. Olson
Mailing Address 2345 Stevens dr.
City Richland State Wa. Zip 99352

Client Name _____

Agency Validation
Date

ECY 040-55 (Rev. 10/02)

Notification Number
A 118507

NOTICE OF INTENT TO DECOMMISSION A WELL

WASHINGTON STATE DEPARTMENT OF ECOLOGY

This form *MUST BE RECEIVED by the Department of Ecology 72 HOURS BEFORE you decommission a well.*

Submit one form and required fee (check or money order ONLY) for each job site. Mail this form to the Department of Ecology, Water Resources Program, Well Drilling Unit, P.O. Box 5128, Lacey, WA 98503-5128. Instructions for filling out this form are printed on the back.

NOTE: PLEASE PRINT ALL ANSWERS. PROCESSING YOUR NOTICE OF INTENT MAY BE DELAYED IF ALL FIELDS OUTLINED IN THE *BOXES* ARE NOT FILLED IN COMPLETELY.

1. Property Owner U.S Department of Energy Phone No. (509) 373-4630
   Mailing Address 825 Jadwin Ave. City Richland State Wa Zip 99352

2. Agent (if different from #1): CH2M Hill Phone No. (509) 373-3967
   Mailing Address N/A City Richland State Wa Zip 99352

3. Well Location: SW 1/4-1/4 of the NE 1/4 Section 2 Township 12N Range 26 Circle one EWM or WWM
4. Print COUNTY NAME of well location (DO NOT ABBREVIATE) BENTON
5. Type of well to decommission *(please "x" appropriate circle below)*

O Water Well ($50.00)		Rev. Code: 027-WEL8-02-87-000108
O Resource Protection ($20.00 ea)	How many?	Rev. Code: 027-WEL9-02-87-000109
O Ground Source Heat pump ($20.00 ea)	How many?	Rev. Code: 027-WL10-02-87-000110
O Grounding Well ($20.00 ea)	How many?	Rev. Code: 027-WL10-02-87-000110
● Geotech Soil Boring (No Fee)	How many? 16	
O Soil Sampling (No Fee)	How Many?	
O Environmental Investigation Well (No Fee)	How Many?	

Latitude and longitude (if available) NOTE: 1/4, 1/4, section, township and range are REQUIRED.
Lat Degrees _____ Lat Time _____
Long Degrees _____ Long Time _____ Horizontal Collection Method _____

6. Well Site Street Address Hanford Site, 200 EAST, C TANK FARM
7. Notice of Intent No. of well being decommissioned and Unique Well ID Tag # (If applicable) _____
8. Tax parcel number _____ 9. Approx. decommissioning start date April 15, 2008

10. Contractor L & I Registration No. DURATFS990K5
11. Well Drilling Company Name Energy Solutions Phone No. (509) 375-9591
12. Well Driller Name David E. Skoglie License No. 1580

13. SEND THE ENTIRE FORM. The bottom portion of this notice will be validated in our office and sent back to the name and address contained on the address label. This is the proof of notification. Please fill out the portion below CAREFULLY.

14. NOTE: Please copy the Notification Number (located in the upper and lower right corner) and keep in a safe place. Please reference this number when communicating with the Department of Ecology.

Total Enclosed

_____ **Water Well $50.00**
_____ **Resource Protection Well =$20.00 per Well**

This notification number must be provided to your well driller:
A 118507

RETURN NAME AND MAILING ADDRESS

Client Name _____

Name David E. Skoglie
Mailing Address 2345 Stevens Dr.
City Richland State Wa Zip 99352

Agency Validation
Date

ECY 040-24 (Rev. 7/05)

Variance Request for Direct Push Bore-holes

David E. Skoglie
2345 Stevens Dr.
Richland, Washington 99352

Boring Locations: 200 East Area/C Tank Farm Coordinates SW ¼ NE ¼ S2 12N 26E and
200 West Area/SX Tank Farm Coordinates SW ¼ SE ¼ S12 12N 25E

NOI: Notice of Intent to construct number S27644 and Notice of Intent to decommission number A118507 supporting C Tank Farm characterization.

Notice of Intent to construct number S27649 and Notice of Intent to decommission number A118512 supporting SX Tank Farm characterization.

Description of Activities – Direct Push Characterization (geophysical logging and sampling).

C Tank Farm

A 2.6 inch OD drive point will be used to drive approximately six borings, approximately 18.3 m (60 ft) to 73.1+ m (240+ ft) deep. Geophysical logging will be conducted to determine radiological contamination and moisture content of the adjacent formation. Resisitivity electrodes* may be installed at predetermined locations in some of the boreholes as the borehole is decommissioned. The drive tubing will be removed while the borehole is back-filled with bentonite crumbles. The exception is the area around the resisitivity electrodes, which requires sand. Electrodes will be placed such that there is a minimum 10 foot deep bentonite seal beginning at ground surface and extending into the borehole.

A 2.75 inch OD drive point will be used to drive approximately six borings, ranging from approximately 18.3 m (60 ft) to 73.1+ m (240+ ft) deep. Soil sampling locations will be determined by geophysical logging information. The drive tubing will be removed while the borehole is back-filled with bentonite crumbles.

SX Tank Farm and Vicinity

A 2.6 inch OD drive point will be used to drive approximately twenty borings, approximately 42.7 m (140 ft) deep (top of the lower Cold Creek formation). Geophysical logging will be conducted to determine radiological contamination and moisture content of the adjacent formation. Resisitivity electrodes may be installed at predetermined locations in some of the boreholes as the borehole is decommissioned. The drive tubing will be removed while the borehole is back-filled with bentonite crumbles. The exception is the area around the resisitivity electrode, which requires sand. Electrodes will be placed such that there is a minimum 10 foot deep bentonite seal beginning at ground surface and extending into the borehole.

A 2.75 inch OD drive point will be used to drive approximately twenty borings, approximately 42.7 m (140 ft) deep (top of the lower cold creek formation). Soil sampling locations will be determined by geophysical logging information. The drive tubing will be removed while the bore-hole is back-filled with bentonite crumbles.

Three variances from WAC requirements are requested. These are as follows:

1. A variance from the WAC requirements for depth of a direct push bore-hole (WAC 173-160-451 d) is requested. WAC 173-160-451 (2)(d) states direct push wells shall not be greater than thirty feet in depth unless a variance is obtained. These shallow borings are partially located in previously excavated soil/vadose zone (C and SX Tank Farms and immediate vicinity); interconnection of aquifers is not an issue. Therefore a request to drive tubing greater than 9.1 m (30 ft) using the Hydraulic Hammer Unit (direct push technology) is requested.

   A variance from the WAC requirements for borehole sealing requirements (WAC 173-160-450) is requested. These shallow borings are partially located in previously excavated soil/ vadose zone (C and SX Tank Farms and immediate vicinity); interconnection of aquifers is not an issue. The resisitivity electrodes will need to be in direct contact with sand. Therefore, a request to add sand to specific sections of the bore-holes is requested. Usually, the section of sand is 1.5 m (5 ft) to 2.4 m (8 ft) in length and multiple resisitivity instruments can be placed in a single borehole. Electrodes will be placed such that there is a minimum 10 foot deep bentonite seal beginning at ground surface and extending into the borehole.

   *NOTE 1: Electrodes are generally 2 ft in length by 0.625 inch diameter to allow sufficient area to install and assure a good contact between the probe and the surrounding formation. The sand is tremied into place and a saline solution added to the sand to provide additional assurance of electrical continuity. See drawing (attachment 1) for resisitivity electrode placed in a borehole.

2. A variance from the WAC requirements for decommissioning (WAC 173-160-460) is requested. These shallow borings are partially located in previously excavated soil/vadose zone (C and SX Tank Farms and immediate vicinity); interconnection of aquifers is not an issue.

   Direct push borehole decommissioning requires the casing to be perforated from bottom to land surface and pressure grout the casing. Or withdraw the casing and fill the borehole with cement grout, neat cement, or bentonite as the casing is withdrawn. In some cases the casings will be driven into radiologically contaminated soil. This variance is being requested to leave the radiologically contaminated casing in the soil to prevent contamination of personnel and equipment and by utilizing ALARA principles.

   Upon finding radiologically contaminated casing, the casing would be driven approximately 0.6 m (2 ft) to 1.5 m (5 ft) below ground surface. Either a slurry sealant or a dry bentonite would be placed in the casing to surface. Use of tamping rods, vibration, or other means is advised to prevent bridging of dry bentonite.

Authorization:

J. Caggiano
Washington State Dept. Ecology
Nuclear Waste Program
Richland, WA 99354

Date: 3-11-09

Cheryl Whalen
Cleanup Section Manager
Washington State Dept. Ecology
Nuclear Waste Program
Richland, WA 99354

Date: 3-11-09

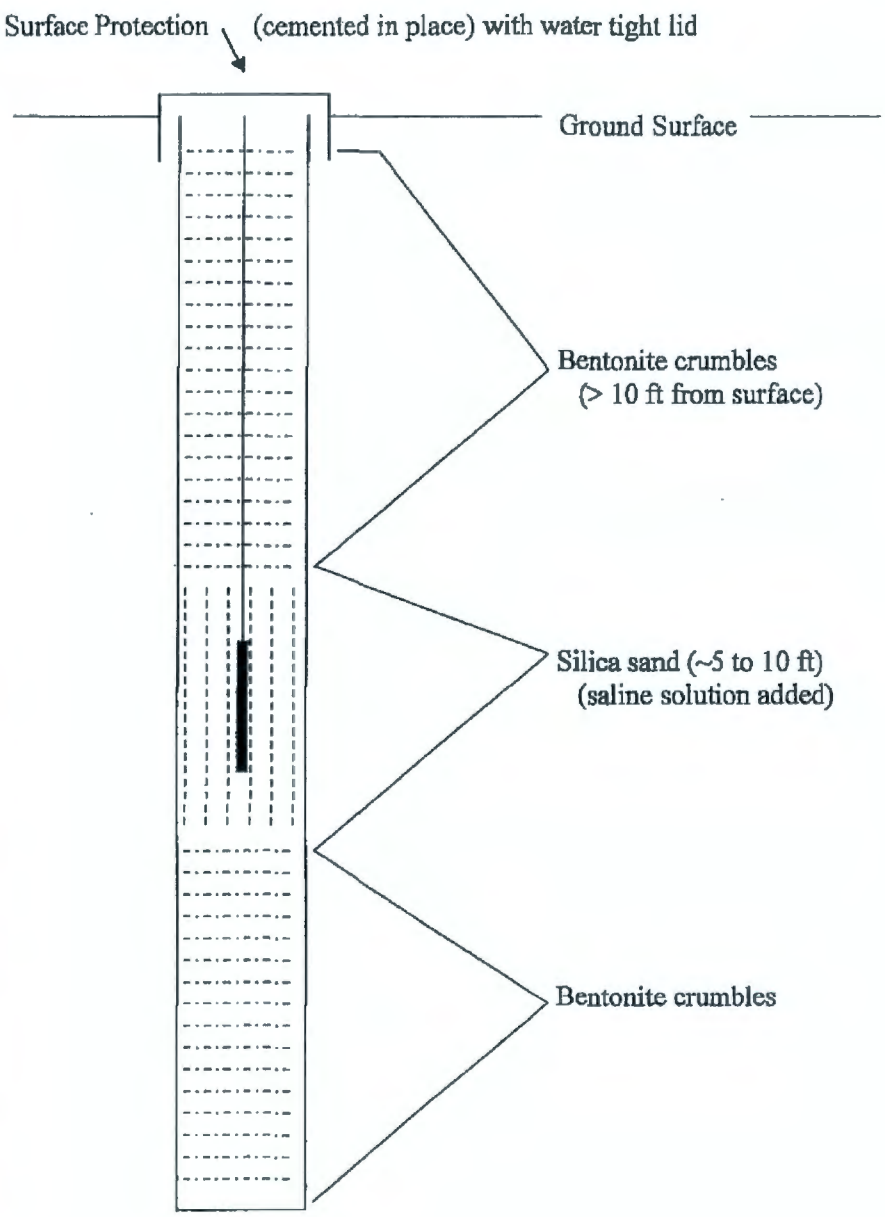
H. Sydnor
WRPS
Richland, WA.

Date: 3-12-09

D. Skoglie
Energy Solutions
Richland, WA.

Date: 03-12-09

RESISITIVITY PROBE INSTALLATION



ENERGYSOLUTIONS

July 23, 2009 MGG-09-5258

State of Washington
Department of Ecology
Nuclear Waste Program
Hanford Project
3100 Port of Benton Boulevard
Richland, Washington 99354

Subject: Water Well Reports

To Whom It May Concern,

Attached are Water Well Report forms addressing decommissioning operations for seven geotechnical borings. These Water Well report forms have been completed with information from field operations (reference Notice of Intent Start Card S27644 and Abandonment Start Card A118507). These geotechnical boring are located on the Hanford Site, 200 East Area, C Tank Farm.

These geotechnical soil borings are designated as C6392, C6400, C6402, C6403, C6404, C6405, and C6406.

The fractional section system topographical location for these geotechnical borings is SW ¼ NE ¼, Section 2, Township 12N, Range 26EWM

If you have any questions, please contact me at 375-9587.

Very truly yours,

M. G. Gardner, Manager
Remediation and Well Services

jmt

Attachment

WRPS	- H. A. Sydnor	S7-66
CHPRC	- S. H. Worley	R3-60
Energy*Solutions*	- K. D. Reynolds	G2-02
	D. E. Skoglie	G2-02
	R. Z. Steffler	G2-02
	MGG File/LB	

2345 Stevens Drive, Suite 240 • Richland, WA 99354
509.371.8006 • Fax: 509.375.9500 • www.energysolutions.com

ENERGYSOLUTIONS

MGG-09-5258

ATTACHMENT

Water Well Report

Consisting of 8 pages
including cover sheet

WATER WELL REPORT

Original & 1st copy – Ecology, 2nd copy – owner, 3rd copy – driller

ECOLOGY

Construction/Decommission *("x" in circle)*

☐ Construction

☒ Decommission *ORIGINAL INSTALLATION*

Notice of Intent Number A118507

PROPOSED USE: ☐ Domestic ☐ Industrial ☐ Municipal ☐ DeWater ☐ Irrigation ☐ Test Well ☒ Other Geotech

TYPE OF WORK: Owner's number of well (if more than one) C6392

☐ New well ☐ Reconditioned *Method:* ☐ Dug ☐ Bored ☒ Driven ☐ Deepened ☐ Cable ☐ Rotary ☐ Jetted

DIMENSIONS: Diameter of well 3.0 inches, drilled 56 ft. Depth of completed well N/A ft.

CONSTRUCTION DETAILS

Casing Installed: ☐ Welded ____" Diam. from ____ ft. to ____ ft.
☐ Liner installed ____" Diam. from ____ ft. to ____ ft.
☒ Threaded 2.6" Diam. From 0 ft. to 56 ft.

Perforations: ☐ Yes ☒ No

Type of perforator used ____

SIZE of perfs ____ in. by ____ in. and no. of perfs ____ from ____ ft. to ____ ft.

Screens: ☐ Yes ☒ No ☐ K-Pac Location ____

Manufacturer's Name ____

Type ____ Model No. ____

Diam. ____ Slot size ____ from ____ ft. to ____ ft.

Diam. ____ Slot size ____ from ____ ft. to ____ ft.

Gravel/Filter packed: ☐ Yes ☒ No Size of gravel/sand ____

Materials placed from ____ ft. to ____ ft.

Surface Seal: ☐ Yes ☒ No To what depth? ____ ft.

Material used in seal ____

Did any strata contain unusable water? ☐ Yes ☐ No

Type of water? ____ Depth of strata ____

Method of sealing strata off ____

~~**PUMP:** Manufacturer's Name ____~~

~~Type: ____ H.P. ____~~

~~**WATER LEVELS:** Land-surface elevation above mean sea level ____ ft.~~

~~Static level ____ ft. below top of well Date ____~~ N/A

~~Artesian pressure ____ lbs. per square inch Date ____~~

~~Artesian water is controlled by ____ (cap, valve, etc.)~~

WELL TESTS: Drawdown is amount water level is lowered below static level

Was a pump test made? ☐ Yes ☒ No If yes, by whom? ____

Yield: ____ gal./min. with ____ ft. drawdown after ____ hrs.

Yield: ____ gal./min. with ____ ft. drawdown after ____ hrs.

Yield: ____ gal./min. with ____ ft. drawdown after ____ hrs.

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test Bailer test ____ gal./min. with ____ ft. drawdown after ____ hrs.

Airtest ____ gal./min. with stem set at ____ ft. for ____ hrs.

Artesian flow ____ g.p.m. Date ____

Temperature of water ____ Was a chemical analysis made? ☐ Yes ☐ No

CURRENT

Notice of Intent No. S27644

Unique Ecology Well ID Tag No. N/A

Water Right Permit No. N/A

Property Owner Name U.S. Department of Energy

Well Street Address 825 Jadwin Ave.

City Richland County Benton

Location SW 1/4-1/4 NE 1/4 Sec 2 Twn 12N R 26

EWM ☒ Or WWM ☐

Lat/Long (s, t, r Still REQUIRED) Lat Deg ____ Min ____ Sec ____ Long Deg ____ Min ____ Sec ____

CONSTRUCTION OR DECOMMISSION PROCEDURE

Formation: Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information. (USE ADDITIONAL SHEETS IF NECESSARY.)

MATERIAL	FROM	TO
Casing was drove utilizing a	0	56.0
hydraulic hammer unit mounted		
on a backhoe.		
Borehole was drove vertical.		
The tubing was back-pulled	56.0	0.0
and boring decommissioned		
with 2 sks bentonite		
crumbles.		
NOTE 1: Samples obtained		
5 - 7 ft bgs;		
14 - 16 ft bgs;		
19.5 - 21.5 ft bgs;		
25 - 27 ft bgs;		
42 - 44 ft bgs;		
56 - 58 ft bgs;		
Reference: Variance for		
Direct PushBorings, dated		
03/11/09.		
NOTE 2: This boring is C6392		
located on the Hanford Site,		
(C Tank Farm)		

Start Date 03/12/09 Completed Date 06/08/09

Tax Parcel No. N/A

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☐ Driller ☒ Engineer ☐ Trainee Driller or trainee License No. 1580

Name (Print Last, First) Skoglie, David

Driller/Engineer/Trainee Signature David E. Skoglie

IF TRAINEE: Driller's License No:

Driller's Signature:

Drilling Company Energy Solutions

Address 2345 Stevens Dr.

City, State, Zip Richland, Washington, 99352

Contractor's Registration No. DURATFS990K5 Date 07/16/09

ECY 050-1-20 (Rev 3/05)

Ecology is an Equal Opportunity Employer

WATER WELL REPORT

Original & 1st copy – Ecology, 2nd copy – owner, 3rd copy – driller

ECOLOGY

Construction/Decommission *("x" in circle)*

☐ Construction

☒ Decommission *ORIGINAL INSTALLATION*

Notice of Intent Number A118507

PROPOSED USE: ☐ Domestic ☐ Industrial ☐ Municipal ☐ DeWater ☐ Irrigation ☐ Test Well ☒ Other Geotech

TYPE OF WORK: Owner's number of well (if more than one) C6400

☐ New well ☐ Reconditioned *Method:* ☐ Dug ☐ Bored ☒ Driven ☐ Deepened ☐ Cable ☐ Rotary ☐ Jetted

DIMENSIONS: Diameter of well 3.0 inches, drilled 132 ft. Depth of completed well N/A ft.

CONSTRUCTION DETAILS

Casing Installed: ☐ Welded ____" Diam. from ____ ft. to ____ ft.
☐ Liner installed ____" Diam. from ____ ft. to ____ ft.
☒ Threaded 2.6" Diam. From 0 ft. to 132 ft.

Perforations: ☐ Yes ☒ No

Type of perforator used ____

SIZE of perfs ____ in. by ____ in. and no. of perfs ____ from ____ ft. to ____ ft.

Screens: ☐ Yes ☒ No ☐ K-Pac Location ____

Manufacturer's Name ____

Type ____ Model No. ____

Diam. ____ Slot size ____ from ____ ft. to ____ ft.

Diam. ____ Slot size ____ from ____ ft. to ____ ft.

Gravel/Filter packed: ☐ Yes ☒ No Size of gravel/sand ____

Materials placed from ____ ft. to ____ ft.

Surface Seal: ☐ Yes ☒ No To what depth? ____ ft.

Material used to seal ____

Did any strata contain unusable water? ☐ Yes ☐ No

Type of water? ____ Depth of strata ____

Method of sealing strata off ____

PUMP: Manufacturer's Name: ____

Type: ____ H.P. ____

WATER LEVELS: Land-surface elevation above mean sea level ____ ft.

Static level ____ ft. below top of well Date N/A

Artesian pressure ____ lbs. per square inch Date ____

Artesian water is controlled by ____ cap, valve, etc.)

WELL TESTS: Drawdown is amount water level is lowered below static level

Was a pump test made? ☐ Yes ☒ No If yes, by whom? ____

Yield: ____ gal./min. with ____ ft. drawdown after ____ hrs.

Yield: ____ gal./min. with ____ ft. drawdown after ____ hrs.

Yield: ____ gal./min. with ____ ft. drawdown after ____ hrs.

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test Bailer test ____ gal./min. with ____ ft. drawdown after ____ hrs.

Airtest gal./min. with stem set at ____ ft. for ____ hrs.

Artesian flow ____ g.p.m. Date ____

Temperature of water ____ Was a chemical analysis made? ☐ Yes ☐ No

CURRENT

Notice of Intent No. S27644

Unique Ecology Well ID Tag No. N/A

Water Right Permit No. N/A

Property Owner Name U.S. Department of Energy

Well Street Address 825 Jadwin Ave.

City Richland County Benton

Location SW 1/4-1/4 NE 1/4 Sec 2 Twn 12N R 26

EWM ☒ Or WWM ☐

Lat/Long (s, t, r Still REQUIRED) Lat Deg ____ Min ____ Sec ____ Long Deg ____ Min ____ Sec ____

CONSTRUCTION OR DECOMMISSION PROCEDURE

Formation: Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information. (USE ADDITIONAL SHEETS IF NECESSARY.)

MATERIAL	FROM	TO
Casing was drove utilizing a	0	132.0
hydraulic hammer unit mounted		
on a backhoe.		
Borehole was drove vertical.		
The tubing was back-pulled	132.0	0.0
and boring decommissioned		
with 4.8 cu ft bentonite		
crumbles.		
NOTE 1: Samples obtained		
5 - 7 ft bgs;		
10 - 12 ft bgs;		
132 - 134 ft bgs.		
Reference: Variance for		
Direct Push Borings, dated		
03/11/09.		
NOTE 2: This boring is C6400		
located on the Hanford Site,		
(C Tank Farm)		

Start Date 05/19/09 Completed Date 06/03/09

Tax Parcel No. N/A

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☐ Driller ☒ Engineer ☐ Trainee Driller or trainee License No. 1580

Name (Print Last, First) Skoglie, David

Driller/Engineer/Trainee Signature David Skoglie

IF TRAINEE: Driller's License No:

Driller's Signature:

Drilling Company Energy Solutions

Address 2345 Stevens Dr.

City, State, Zip Richland, Washington. 99352

Contractor's Registration No. DURATFS990K5 Date 07/16/09

ECY 050-1-20 (Rev 3/05)

Ecology is an Equal Opportunity Employer

WATER WELL REPORT

Original & 1st copy – Ecology, 2nd copy – owner, 3rd copy – driller

ECOLOGY

Construction/Decommission *("x" in circle)*

☐ Construction

☒ Decommission *ORIGINAL INSTALLATION*

Notice of Intent Number A118507

PROPOSED USE: ☐ Domestic ☐ Industrial ☐ Municipal ☐ DeWater ☐ Irrigation ☐ Test Well ☒ Other Geotech

TYPE OF WORK: Owner's number of well (if more than one) C6402

☐ New well ☐ Reconditioned *Method:* ☐ Dug ☐ Bored ☒ Driven ☐ Deepened ☐ Cable ☐ Rotary ☐ Jetted

DIMENSIONS: Diameter of well 3.0 inches, drilled 14 ft. Depth of completed well N/A ft.

CONSTRUCTION DETAILS

Casing Installed: ☐ Welded ____" Diam. from ____ ft. to ____ ft.
☐ Liner installed ____" Diam. from ____ ft. to ____ ft.
☒ Threaded 2.6" Diam. From 0 ft. to 14 ft.

Perforations: ☐ Yes ☒ No

Type of perforator used ____

SIZE of perfs ____ in. by ____ in. and no. of perfs ____ from ____ ft. to ____ ft.

Screens: ☐ Yes ☒ No ☐ K-Pac Location ____

Manufacturer's Name ____

Type ____ Model No. ____

Diam. ____ Slot size ____ from ____ ft. to ____ ft.

Diam. ____ Slot size ____ from ____ ft. to ____ ft.

Gravel/Filter packed: ☐ Yes ☒ No Size of gravel/sand ____

Materials placed from ____ ft. to ____ ft.

Surface Seal: ☐ Yes ☒ No To what depth? ____ ft.

Material used in seal ____

Did any strata contain unusable water? ☐ Yes ☐ No

Type of water? ____ Depth of strata ____

Method of sealing strata off ____

PUMP: Manufacturer's Name ____

Type: ____ H.P. ____

WATER LEVELS: Land-surface elevation above mean sea level ____ ft.

Static level ____ ft. below top of well Date N/A

Artesian pressure ____ lbs. per square inch Date ____

Artesian water is controlled by ____ (cap, valve, etc.)

WELL TESTS: Drawdown is amount water level is lowered below static level

Was a pump test made? ☐ Yes ☒ No If yes, by whom? ____

Yield: ____ gal./min. with ____ ft. drawdown after ____ hrs.

Yield: ____ gal./min. with ____ ft. drawdown after ____ hrs.

Yield: ____ gal./min. with ____ ft. drawdown after ____ hrs.

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test Bailer test ____ gal./min. with ____ ft. drawdown after ____ hrs.

Airtest gal./min. with stem set at ____ ft. for ____ hrs.

Artesian flow ____ g.p.m. Date ____

Temperature of water ____ Was a chemical analysis made? ☐ Yes ☐ No

CURRENT

Notice of Intent No. S27644

Unique Ecology Well ID Tag No. N/A

Water Right Permit No. N/A

Property Owner Name U.S. Department of Energy

Well Street Address 825 Jadwin Ave.

City Richland County Benton

Location SW 1/4-1/4 NE 1/4 Sec 2 Twn 12N R 26 EWM ☒ Or WWM ☐

Lat/Long (s, t, r Still REQUIRED) Lat Deg ____ Min ____ Sec ____ Long Deg ____ Min ____ Sec ____

CONSTRUCTION OR DECOMMISSION PROCEDURE

Formation: Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information. (USE ADDITIONAL SHEETS IF NECESSARY.)

MATERIAL	FROM	TO
Casing was drove utilizing a	0	14.0
hydraulic hammer unit mounted		
on a backhoe.		
Borehole was drove vertical.		
The tubing was back-pulled	14.0	0.0
and boring decommissioned		
with 0.6 cu ft bentonite		
crumbles.		
NOTE 1: Samples obtained		
6 - 8 ft bgs;		
10 - 12 ft bgs;		
14 - 16 ft bgs.		
Reference: Variance for		
Direct Push Borings, dated		
03/11/09.		
NOTE 2: This boring is C6402		
located on the Hanford Site,		
(C Tank Farm)		

Start Date 06/11/09 Completed Date 06/15/09

Tax Parcel No. N/A

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☐ Driller ☒ Engineer ☐ Trainee Driller or trainee License No. 1580

Name (Print Last, First) Skoglie, David

Driller/Engineer/Trainee Signature David E. Skoglie

IF TRAINEE: Driller's License No: ____

Driller's Signature: ____

Drilling Company Energy Solutions

Address 2345 Stevens Dr.

City, State, Zip Richland, Washington, 99352

Contractor's Registration No. DURATFS990K5 Date 07/16/09

ECY 050-1-20 (Rev 3/05)

Ecology is an Equal Opportunity Employer

WATER WELL REPORT

Original & 1st copy – Ecology, 2nd copy – owner, 3rd copy – driller

ECOLOGY

Construction/Decommission *("x" in circle)*

☐ Construction

☒ Decommission *ORIGINAL INSTALLATION*

Notice of Intent Number A118507

PROPOSED USE: ☐ Domestic ☐ Industrial ☐ Municipal ☐ DeWater ☐ Irrigation ☐ Test Well ☒ Other Geotech

TYPE OF WORK: Owner's number of well (if more than one) C6403

☐ New well ☐ Reconditioned *Method:* ☐ Dug ☐ Bored ☒ Driven ☐ Deepened ☐ Cable ☐ Rotary ☐ Jetted

DIMENSIONS: Diameter of well 3.0 inches, drilled 51.3 ft. Depth of completed well N/A ft.

CONSTRUCTION DETAILS

Casing Installed: ☐ Welded ____" Diam. from ____ ft. to ____ ft.
☐ Liner installed ____" Diam. from ____ ft. to ____ ft.
☒ Threaded 2.5" Diam. From 0 ft. to 51.3 ft.

Perforations: ☐ Yes ☒ No

Type of perforator used ____

SIZE of perfs ____in. by ____ in. and no. of perfs ____from ____ft. to ____ft.

Screens: ☐ Yes ☒ No ☐ K-Pac Location ____

Manufacturer's Name ____

Type ____ Model No. ____

Diam. ____ Slot size ____ from ____ ft. to ____ ft.

Diam. ____ Slot size ____ from ____ ft. to ____ ft.

Gravel/Filter packed: ☐ Yes ☒ No Size of gravel/sand ____

Materials placed from ____ ft. to ____ ft.

Surface Seal: ☐ Yes ☒ No To what depth? ____ft.

Material used in seal ____

Did any strata contain unusable water? ☐ Yes ☐ No

Type of water? ____ Depth of strata ____

Method of sealing strata off ____

PUMP: Manufacturer's Name ____

Type: ____ H.P. ____

WATER LEVELS: Land-surface elevation above mean sea level ____ ft.

Static level ____ft. below top of well Date N/A

Artesian pressure ____ lbs. per square inch Date ____

Artesian water is controlled by ____ (cap, valve, etc.)

WELL TESTS: Drawdown is amount water level is lowered below static level

Was a pump test made? ☐ Yes ☒ No If yes, by whom? ____

Yield: ____gal./min. with ____ft. drawdown after ____hrs.

Yield: ____gal./min. with ____ft. drawdown after ____hrs.

Yield: ____gal./min. with ____ft. drawdown after ____hrs.

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test Bailer test ____ gal./min. with ____ft. drawdown after ____hrs.

Airtest gal./min. with stem set at ____ft. for ____hrs.

Artesian flow ____g.p.m. Date ____

Temperature of water ____ Was a chemical analysis made? ☐ Yes ☐ No

CURRENT

Notice of Intent No. S27644

Unique Ecology Well ID Tag No. N/A

Water Right Permit No. N/A

Property Owner Name U.S. Department of Energy

Well Street Address 825 Jadwin Ave.

City Richland County Benton

Location SW 1/4-1/4 NE 1/4 Sec 2 Twn 12N R 26 EWM ☒ Or WWM ☐

Lat/Long (s, t, r Still REQUIRED) Lat Deg ____ Min ____ Sec ____ Long Deg ____ Min ____ Sec ____

CONSTRUCTION OR DECOMMISSION PROCEDURE

Formation: Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information. (USE ADDITIONAL SHEETS IF NECESSARY.)

MATERIAL	FROM	TO
Casing was drove utilizing a	0	51.3
hydraulic hammer unit mounted		
on a backhoe.		
Borehole was drove vertical.		
Geophysical logging (Gamma		
and Moisture) were conducted		
The tubing was back-pulled	51.3	0.0
and boring decommissioned		
with 0.6 cu ft bentonite		
crumbles.		
Reference: Variance for		
Direct Push Borings, dated		
03/11/09.		
NOTE 1: This boring is C6403		
located on the Hanford Site,		
(C Tank Farm).		

Start Date 03/13/09 Completed Date 06/08/09

Tax Parcel No. N/A

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☐ Driller ☒ Engineer ☐ Trainee Driller or trainee License No. 1580

Name (Print Last, First) Skoglie, David

Driller/Engineer/Trainee Signature David E. Skoglie

IF TRAINEE: Driller's License No:

Driller's Signature:

Drilling Company Energy Solutions

Address 2345 Stevens Dr.

City, State, Zip Richland, Washington, 99352

Contractor's Registration No. DURATFS990K5 Date 07/16/09

ECY 050-1-20 (Rev 3/05)

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WATER WELL REPORT

Original & 1st copy – Ecology, 2nd copy – owner, 3rd copy – driller

ECOLOGY

Construction/Decommission *("x" in circle)*

☐ Construction

☒ Decommission *ORIGINAL INSTALLATION*

Notice of Intent Number A118507

PROPOSED USE: ☐ Domestic ☐ Industrial ☐ Municipal ☐ DeWater ☐ Irrigation ☐ Test Well ☒ Other Geotech

TYPE OF WORK: Owner's number of well (if more than one) C6404

☐ New well ☐ Reconditioned *Method:* ☐ Dug ☐ Bored ☒ Driven ☐ Deepened ☐ Cable ☐ Rotary ☐ Jetted

DIMENSIONS: Diameter of well 3.0 inches, drilled 57 ft. Depth of completed well N/A ft.

CONSTRUCTION DETAILS

Casing Installed: ☐ Welded ____" Diam. from ____ ft. to ____ ft.
☐ Liner installed ____" Diam. from ____ ft. to ____ ft.
☒ Threaded 2.6" Diam. From 0 ft. to 57 ft.

Perforations: ☐ Yes ☒ No

Type of perforator used ____

SIZE of perfs ____ in. by ____ in. and no. of perfs ____ from ____ ft. to ____ ft.

Screens: ☐ Yes ☒ No ☐ K-Pac Location ____

Manufacturer's Name ____

Type ____ Model No. ____

Diam. ____ Slot size ____ from ____ ft. to ____ ft.

Diam. ____ Slot size ____ from ____ ft. to ____ ft.

Gravel/Filter packed: ☐ Yes ☒ No Size of gravel/sand ____

Materials placed from ____ ft. to ____ ft.

Surface Seal: ☐ Yes ☒ No To what depth? ____ ft.

Material used in seal ____

Did any strata contain unusable water? ☐ Yes ☐ No

Type of water? ____ Depth of strata ____

Method of sealing strata off ____

~~PUMP: Manufacturer's Name ____~~

~~Type: ____ H.P. ____~~

~~**WATER LEVELS:** Land-surface elevation above mean sea level ____ ft.~~

~~Static level ____ ft. below top of well Date ____~~ N/A

~~Artesian pressure ____ lbs. per square inch Date ____~~

~~Artesian water is controlled by ____ (cap, valve, etc.)~~

WELL TESTS: Drawdown is amount water level is lowered below static level

Was a pump test made? ☐ Yes ☒ No If yes, by whom? ____

Yield: ____ gal./min. with ____ ft. drawdown after ____ hrs.

Yield: ____ gal./min. with ____ ft. drawdown after ____ hrs.

Yield: ____ gal./min. with ____ ft. drawdown after ____ hrs.

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test Bailer test ____ gal./min. with ____ ft. drawdown after ____ hrs.

Airtest gal./min. with stem set at ____ ft. for ____ hrs.

Artesian flow ____ g.p.m. Date ____

Temperature of water ____ Was a chemical analysis made? ☐ Yes ☐ No

CURRENT

Notice of Intent No. S27644

Unique Ecology Well ID Tag No. N/A

Water Right Permit No. N/A

Property Owner Name U.S. Department of Energy

Well Street Address 825 Jadwin Ave.

City Richland County Benton

Location SW1/4-1/4 NE1/4 Sec 2 Twn 12N R 26 EWM ☒ Or WWM ☐

Lat/Long (s, t, r Still REQUIRED) Lat Deg ____ Min ____ Sec ____ Long Deg ____ Min ____ Sec ____

CONSTRUCTION OR DECOMMISSION PROCEDURE

Formation: Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information. (USE ADDITIONAL SHEETS IF NECESSARY.)

MATERIAL	FROM	TO
Casing was drove utilizing a	0	57.0
hydraulic hammer unit mounted		
on a backhoe.		
Borehole was drove vertical.		
The tubing was back-pulled	57.0	0.0
and boring decommissioned		
with 2.1 cu ft bentonite		
crumbles.		
NOTE 1: Samples obtained		
6 - 8 ft bgs;		
10 - 12 ft bgs;		
14 - 17 ft bgs;		
19.5 - 21.5 ft bgs;		
31 - 33 ft bgs;		
42 - 44 ft bgs;		
57 - 59 ft bgs.		
Reference: Variance for		
Direct Push Borings, dated		
03/11/09		
NOTE 2: This boring is C6404		
located on the Hanford Site,		
(C Tank Farm)		

Start Date 05/04/09 Completed Date 06/10/09

Tax Parcel No. N/A

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☐ Driller ☒ Engineer ☐ Trainee Driller or trainee License No. 1580

Name (Print Last, First) Skoglie, David

Driller/Engineer/Trainee Signature David E. Skoglie

IF TRAINEE: Driller's License No:

Driller's Signature:

Drilling Company Energy Solutions

Address 2345 Stevens Dr.

City, State, Zip Richland, Washington, 99352

Contractor's Registration No. DURATFS990K5 Date 07/16/09

ECY 050-1-20 (Rev 3-05)

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WATER WELL REPORT

Original & 1st copy – Ecology, 2nd copy – owner, 3rd copy – driller

ECOLOGY

Construction/Decommission *("x" in circle)*

☐ Construction

☒ Decommission *ORIGINAL INSTALLATION*

Notice of Intent Number A118507

PROPOSED USE: ☐ Domestic ☐ Industrial ☐ Municipal ☐ DeWater ☐ Irrigation ☐ Test Well ☒ Other Geotech

TYPE OF WORK: Owner's number of well (if more than one) C6405

☐ New well ☐ Reconditioned *Method:* ☐ Dug ☐ Bored ☒ Driven ☐ Deepened ☐ Cable ☐ Rotary ☐ Jetted

DIMENSIONS: Diameter of well 3.0 inches, drilled 240 ft. Depth of completed well N/A ft.

CONSTRUCTION DETAILS

Casing Installed: ☐ Welded ____" Diam. from ____ ft. to ____ ft. ☐ Liner installed ____" Diam. from ____ ft. to ____ ft. ☒ Threaded 2.5" Diam. From 0 ft. to 240 ft.

Perforations: ☐ Yes ☒ No

Type of perforator used ____

SIZE of perfs ____ in. by ____ in. and no. of perfs ____ from ____ ft. to ____ ft.

Screens: ☐ Yes ☒ No ☐ K-Pac Location ____

Manufacturer's Name ____

Type ____ Model No. ____

Diam. ____ Slot size ____ from ____ ft. to ____ ft.

Diam. ____ Slot size ____ from ____ ft. to ____ ft.

Gravel/Filter packed: ☐ Yes ☒ No Size of gravel/sand ____

Materials placed from ____ ft. to ____ ft.

Surface Seal: ☐ Yes ☒ No To what depth? ____ ft.

Material used in seal ____

Did any strata contain unusable water? ☐ Yes ☐ No

Type of water? ____ Depth of strata ____

Method of sealing strata off ____

~~**PUMP:** Manufacturer's Name ____~~

~~Type: ____ H.P. ____~~

~~**WATER LEVELS:** Land-surface elevation above mean sea level ____ ft.~~

~~Static level ____ ft. below top of well Date N/A~~

~~Artesian pressure ____ lbs. per square inch Date ____~~

~~Artesian water is controlled by ____ (cap, valve, etc.)~~

WELL TESTS: Drawdown is amount water level is lowered below static level

Was a pump test made? ☐ Yes ☒ No If yes, by whom? ____

Yield: ____ gal./min. with ____ ft. drawdown after ____ hrs.

Yield: ____ gal./min. with ____ ft. drawdown after ____ hrs.

Yield: ____ gal./min. with ____ ft. drawdown after ____ hrs.

(Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test Bailer test ____ gal./min. with ____ ft. drawdown after ____ hrs.

Airtest gal./min. with stem set at ____ ft. for ____ hrs.

Artesian flow ____ g.p.m. Date ____

Temperature of water ____ Was a chemical analysis made? ☐ Yes ☐ No

CURRENT

Notice of Intent No. S27644

Unique Ecology Well ID Tag No. N/A

Water Right Permit No. N/A

Property Owner Name U.S. Department of Energy

Well Street Address 825 Jadwin Ave.

City Richland County Benton

Location SW1/4-1/4 NE1/4 Sec 2 Twn 12N R 26 EWM ☒ Or WWM ☐

Lat/Long (s, t, r Still REQUIRED) Lat Deg ____ Min ____ Sec ____ Long Deg ____ Min ____ Sec ____

CONSTRUCTION OR DECOMMISSION PROCEDURE

Formation: Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information. (USE ADDITIONAL SHEETS IF NECESSARY.)

MATERIAL	FROM	TO
Casing was drove utilizing a hydraulic hammer unit mounted on a backhoe.	0	240.0
Borehole was drove vertical.		
Geophysical logging (Gamma and Moisture) were conducted		
The tubing was back-pulled and boring decommissioned with 9.6 sks bentonite crumbles.	240.0	0.0
Moisture resistivity probes were placed at a depth of 138 and 30 ft bgs. Sand was placed around the probes.		
Surface Protection was placed on 04/27/09.		
Reference: Variance for Direct Push Borings, dated 03/11/09		
NOTE 1: This boring is C6405 located on the Hanford Site, (C Tank Farm).		

Start Date 02/23/09 Completed Date 04/27/09

Tax Parcel No. N/A

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☐ Driller ☒ Engineer ☐ Trainee Driller or trainee License No. 1580

Name (Print Last, First) Skoglie, David

Driller/Engineer/Trainee Signature David E. Skoglie

IF TRAINEE: Driller's License No:

Driller's Signature:

Drilling Company Energy Solutions

Address 2345 Stevens Dr.

City, State, Zip Richland, Washington, 99352

Contractor's Registration No DURATFS990K5 Date 07/16/09

ECY 050-1-20 (Rev 3/05)

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WATER WELL REPORT

Original & 1st copy – Ecology, 2nd copy – owner, 3rd copy – driller

ECOLOGY

Construction/Decommission *("x" in circle)*

☐ Construction

☒ Decommission *ORIGINAL INSTALLATION*

Notice of Intent Number A118507

PROPOSED USE: ☐ Domestic ☐ Industrial ☐ Municipal ☐ DeWater ☐ Irrigation ☐ Test Well ☒ Other Geotech

TYPE OF WORK: Owner's number of well (if more than one) C6406

☐ New well ☐ Reconditioned *Method:* ☐ Dug ☐ Bored ☒ Driven ☐ Deepened ☐ Cable ☐ Rotary ☐ Jetted

DIMENSIONS: Diameter of well 3.0 inches, drilled 59 ft.
Depth of completed well N/A ft.

CONSTRUCTION DETAILS

Casing Installed: ☐ Welded ____" Diam. from ____ ft. to ____ ft.
☐ Liner installed ____" Diam. from ____ ft. to ____ ft.
☒ Threaded 2.6" Diam. From 0 ft. to 59 ft.

Perforations: ☐ Yes ☒ No
Type of perforator used ____
SIZE of perfs ____ in. by ____ in. and no. of perfs ____ from ____ ft. to ____ ft.

Screens: ☐ Yes ☒ No ☐ K-Pac Location ____
Manufacturer's Name ____
Type ____ Model No. ____
Diam. ____ Slot size ____ from ____ ft. to ____ ft.
Diam. ____ Slot size ____ from ____ ft. to ____ ft.

Gravel/Filter packed: ☐ Yes ☒ No Size of gravel/sand ____
Materials placed from ____ ft. to ____ ft.

Surface Seal: ☐ Yes ☒ No To what depth? ____ ft.
Material used in seal ____
Did any strata contain unusable water? ☐ Yes ☐ No
Type of water? ____ Depth of strata ____
Method of sealing strata off ____

PUMP: Manufacturer's Name ____
Type: ____ H.P. ____

WATER LEVELS: Land-surface elevation above mean sea level ____ ft.
Static level ____ ft. below top of well Date N/A
Artesian pressure ____ lbs. per square inch Date ____
Artesian water is controlled by ____ (cap, valve, etc.)

WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes ☒ No If yes, by whom? ____
Yield: ____ gal. min. with ____ ft. drawdown after ____ hrs.
Yield: ____ gal./min. with ____ ft. drawdown after ____ hrs.
Yield: ____ gal./min. with ____ ft. drawdown after ____ hrs.

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test Bailer test ____ gal. min. with ____ ft. drawdown after ____ hrs.
Airtest gal. min. with stem set at ____ ft. for ____ hrs.
Artesian flow ____ g.p.m. Date ____
Temperature of water ____ Was a chemical analysis made? ☐ Yes ☐ No

CURRENT

Notice of Intent No. S27644
Unique Ecology Well ID Tag No. N/A
Water Right Permit No. N/A
Property Owner Name U.S. Department of Energy
Well Street Address 825 Jadwin Ave.
City Richland County Benton
Location SW1/4-1/4 NE1/4 Sec 2 Twn 12N R 26 EWM ☒ Or WWM ☐

Lat/Long (s, t, r Still REQUIRED) Lat Deg ____ Min ____ Sec ____
Long Deg ____ Min ____ Sec ____

CONSTRUCTION OR DECOMMISSION PROCEDURE

Formation: Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information. (USE ADDITIONAL SHEETS IF NECESSARY.)

MATERIAL	FROM	TO
Casing was drove utilizing a	0	59.0
hydraulic hammer unit mounted		
on a backhoe.		
Borehole was drove vertical.		
The tubing was back-pulled	59.0	0.0
and boring decommissioned		
with 2.2 cu ft bentonite		
crumbles.		
NOTE 1: Samples obtained		
5 - 7 ft bgs;		
10 - 12 ft bgs;		
14 - 16 ft bgs;		
18 - 20 ft bgs;		
26 - 28 ft bgs;		
54.5 - 56.5 ft bgs;		
59 - 61 ft bgs.		
Reference: Variance for		
Direct Push Borings, dated		
03/11/09.		
NOTE 2: This boring is C6406		
located on the Hanford Site,		
(C Tank Farm).		

Start Date 06/03/09 Completed Date 06/09/09

Tax Parcel No. N/A

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☐ Driller ☒ Engineer ☐ Trainee Driller or trainee License No. 1580
Name (First Last, First) Skoglie, David
Driller/Engineer/Trainee Signature David E. Skoglie
IF TRAINEE: Driller's License No:
Driller's Signature:

Drilling Company Energy Solutions
Address 2345 Stevens Dr.
City, State, Zip Richland, Washington, 99352
Contractor's Registration No. DURATFS990K5 Date 07/16/09

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APPENDIX G

SAFETY DOCUMENTS

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ENERGYSOLUTIONS

Date: 03/13/09 **Time:** 1400 **Location:** C Farm	**Inspectors:** Zane
Activity: Logging	**Report #:** WRPS-RWZ-09-001

TOPIC	**Yes**	**No**	**N/A**
Daily Inspections			
Daily inspections are performed and documented.			X
Weekly safety meetings are conducted and documented.			X
Signs, Signals and Barricades			
Hazard signs posted, such as noise, PPE, chemical	X		
Radiological signs posted (where required).	X		
Hearing protection signs posted (where required).	X		
Industrial Hygiene			
Heat/cold stress – issues.			X
Illumination is adequate.			X
Dust control measures are adequate.			X
Sanitation (cleanliness of general work area, lunch areas, port-o-lets) adequate.	X		
Vermin/Insects	X		
Hazard Communication Program			
An MSDS is located at the workplace and is accessible.			X
The MSDS is updated and legible.			X
Containers are labeled.	X		
A list of hazardous materials is available; quantities included if required.			X
Hazardous materials stored properly (such as Flammables, combustibles, etc.) have labels, stored in approved container/cabinet, and used properly.	X		
Personal Protective Equipment			
PPE is provided for all employees.	X		
PPE is properly maintained and used.	X		
Hard hats are worn.	X		
Approved safety glasses are worn.	X		

Proper foot protection is worn.	X		
Proper work clothing is worn.	X		
Respirator program is implemented as required.			X
Hearing protection is worn, when required.			X
Radiation Protection			
All radiation areas are posted and legible.	X		
A valid RWP is available covering the scope of work currently performed.	X		
Radiation monitoring coverage meets the RWP requirements.	X		
Proper PPE is used.	X		
Fire Protection			
Exits are marked and clear of obstacles.	X		
Fire extinguishers are provided and have documented monthly inspections.	X		
Flammable/combustibles are stored in approved containers.	X		
Approved containers are properly stored.	X		
Temporary heaters are located away from combustibles or flammables			X
Tools			
PPE is used as required.	X		
Hand tools kept in good condition.			X
Electrical tools are in a safe configuration.	X		
Jaws of pipe wrenches are free of dirt buildup, pipe dope or grease, which can cause the wrench to slip.			X
Electrical			
All electrical installations are in a safe configuration.	X		
GFCI's are used on temporary circuits.	X		
GFCI's are used on all portable electrical hand-held tools.	X		
Cords are protected from damage.	X		
Equipment is grounded as required.	X		
Lockout/tagout practices are followed.			X
Extension cords are not "daisy-chained".	X		
Heavy Equipment			
Operators are trained to operate heavy equipment.			X
Monthly inspections on equipment are documented.			X
All heavy equipment is inspected daily by the operator.			X
Overhead utilities are protected or removed when required.			X
A fire extinguisher is in the cab.			X
Hearing protection is worn, when required.			X
Seatbelts are worn.			X

Defective equipment is tagged and not used.			X
Housekeeping			
Walkways, corridors, and work areas in general are kept clear of material and debris.	X		
At the end of each shift, a general cleanup of all work areas is performed.	X		
Cords and hose used are stored and maintained properly.	X		
Lunch areas are clean and sanitary.	X		
Vehicles free of debris and maintained in a sanitary condition.	X		
Solid waste and recycling containers are closed and secured.	X		
Material Handling and Storage			
Material is stored properly.	X		
Proper lifting techniques are observed.	X		
Pipe and well casings are not stored higher than 5 ft.	X		
COMMENTS:			
Those sections marked with N/A were not being conducted or applicable during the inspection.			

ENERGYSOLUTIONS

Date: 04/30/09 **Time:** 1000 **Location:** C Farm	**Inspectors:** Zane
Activity: Sampling	**Report #:** WRPS-RWZ-09-003

TOPIC	Yes	No	N/A
Daily Inspections			
Daily inspections are performed and documented.			X
Weekly safety meetings are conducted and documented.	X		
Signs, Signals and Barricades			
Hazard signs posted, such as noise, PPE, chemical	X		
Radiological signs posted (where required).	X		
Hearing protection signs posted (where required).	X		
Industrial Hygiene			
Heat/cold stress – issues.			X
Illumination is adequate.			X
Dust control measures are adequate.			X
Sanitation (cleanliness of general work area, lunch areas, port-o-lets) adequate.	X		
Vermin/Insects	X		
Hazard Communication Program			
An MSDS is located at the workplace and is accessible.			X
The MSDS is updated and legible.			X
Containers are labeled.	X		
A list of hazardous materials is available; quantities included if required.			X
Hazardous materials stored properly (such as Flammables, combustibles, etc.) have labels, stored in approved container/cabinet, and used properly.	X		
Personal Protective Equipment			
PPE is provided for all employees.	X		
PPE is properly maintained and used.	X		
Hard hats are worn.	X		
Approved safety glasses are worn.	X		

Proper foot protection is worn.	X		
Proper work clothing is worn.	X		
Respirator program is implemented as required.			X
Hearing protection is worn, when required.	X		
Radiation Protection			
All radiation areas are posted and legible.	X		
A valid RWP is available covering the scope of work currently performed.	X		
Radiation monitoring coverage meets the RWP requirements.	X		
Proper PPE is used.	X		
Fire Protection			
Exits are marked and clear of obstacles.	X		
Fire extinguishers are provided and have documented monthly inspections.	X		
Flammable/combustibles are stored in approved containers.	X		
Approved containers are properly stored.	X		
Temporary heaters are located away from combustibles or flammables			X
Tools			
PPE is used as required.	X		
Hand tools kept in good condition.	X		
Electrical tools are in a safe configuration.	X		
Jaws of pipe wrenches are free of dirt buildup, pipe dope or grease, which can cause the wrench to slip.	X		
Electrical			
All electrical installations are in a safe configuration.	X		
GFCI's are used on temporary circuits.	X		
GFCI's are used on all portable electrical hand-held tools.	X		
Cords are protected from damage.	X		
Equipment is grounded as required.	X		
Lockout/tagout practices are followed.			X
Extension cords are not "daisy-chained".	X		
Heavy Equipment			
Operators are trained to operate heavy equipment.	X		
Monthly inspections on equipment are documented.			X
All heavy equipment is inspected daily by the operator.			X
Overhead utilities are protected or removed when required.			X
A fire extinguisher is in the cab.			X
Hearing protection is worn, when required.	X		
Seatbelts are worn.			X

Defective equipment is tagged and not used.			X
Housekeeping			
Walkways, corridors, and work areas in general are kept clear of material and debris.	X		
At the end of each shift, a general cleanup of all work areas is performed.	X		
Cords and hose used are stored and maintained properly.	X		
Lunch areas are clean and sanitary.	X		
Vehicles free of debris and maintained in a sanitary condition.	X		
Solid waste and recycling containers are closed and secured.	X		
Material Handling and Storage			
Material is stored properly.	X		
Proper lifting techniques are observed.	X		
Pipe and well casings are not stored higher than 5 ft.	X		

COMMENTS:

Those sections marked with N/A were not being conducted or applicable during the inspection.

Job site looked great, personnel were wearing PPE as required, and safe work practices observed. One great example of project personnel taking ownership of safety at this work site was when the RCTs (Paul and Jeff) noticed that the warning tape on the guy wires (to the entrance tent) had weathered/fallen off and created a hazard for personnel walking into them. They acquired some warning tape and corrected the hazard immediately.

An issue that will be arising soon is heat stress in the sample tent. We need to set up AC to avoid work delays when temperatures go up. NCO (Scott) is finding out if one is available (will find out on Monday) and RCT (Paul) has discussed with his supervision what needs to be done for setting this up in a CA (Rad Engineer Approval).

ENERGYSOLUTIONS

Date: 05/29/09 **Time:** 1000 **Location:** C Farm	**Inspectors:** Zane
Activity: Retrieving Casing	**Report #:** WRPS-RWZ-09-004

TOPIC	**Yes**	**No**	**N/A**
Daily Inspections			
Daily inspections are performed and documented.	X		
Weekly safety meetings are conducted and documented.	X		
Signs, Signals and Barricades			
Hazard signs posted, such as noise, PPE, chemical	X		
Radiological signs posted (where required).	X		
Hearing protection signs posted (where required).	X		
Industrial Hygiene			
Heat/cold stress – issues.	X		
Illumination is adequate.			X
Dust control measures are adequate.			X
Sanitation (cleanliness of general work area, lunch areas, port-o-lets) adequate.	X		
Vermin/Insects	X		
Hazard Communication Program			
An MSDS is located at the workplace and is accessible.	X		
The MSDS is updated and legible.	X		
Containers are labeled.	X		
A list of hazardous materials is available; quantities included if required.	X		
Hazardous materials stored properly (such as Flammables, combustibles, etc.) have labels, stored in approved container/cabinet, and used properly.	X		
Personal Protective Equipment			
PPE is provided for all employees.	X		
PPE is properly maintained and used.	X		
Hard hats are worn.	X		
Approved safety glasses are worn.	X		

Proper foot protection is worn.	X		
Proper work clothing is worn.	X		
Respirator program is implemented as required.			X
Hearing protection is worn, when required.	X		
Radiation Protection			
All radiation areas are posted and legible.	X		
A valid RWP is available covering the scope of work currently performed.	X		
Radiation monitoring coverage meets the RWP requirements.	X		
Proper PPE is used.	X		
Fire Protection			
Exits are marked and clear of obstacles.	X		
Fire extinguishers are provided and have documented monthly inspections.	X		
Flammable/combustibles are stored in approved containers.	X		
Approved containers are properly stored.	X		
Temporary heaters are located away from combustibles or flammables			X
Tools			
PPE is used as required.	X		
Hand tools kept in good condition.	X		
Electrical tools are in a safe configuration.	X		
Jaws of pipe wrenches are free of dirt buildup, pipe dope or grease, which can cause the wrench to slip.	X		
Electrical			
All electrical installations are in a safe configuration.	X		
GFCI's are used on temporary circuits.	X		
GFCI's are used on all portable electrical hand-held tools.	X		
Cords are protected from damage.	X		
Equipment is grounded as required.	X		
Lockout/tagout practices are followed.			X
Extension cords are not "daisy-chained".	X		
Heavy Equipment			
Operators are trained to operate heavy equipment.	X		
Monthly inspections on equipment are documented.	X		
All heavy equipment is inspected daily by the operator.	X		
Overhead utilities are protected or removed when required.			X
A fire extinguisher is in the cab.	X		
Hearing protection is worn, when required.	X		
Seatbelts are worn.			X

Defective equipment is tagged and not used.			X
Housekeeping			
Walkways, corridors, and work areas in general are kept clear of material and debris.	X		
At the end of each shift, a general cleanup of all work areas is performed.	X		
Cords and hose used are stored and maintained properly.	X		
Lunch areas are clean and sanitary.	X		
Vehicles free of debris and maintained in a sanitary condition.	X		
Solid waste and recycling containers are closed and secured.	X		
Material Handling and Storage			
Material is stored properly.	X		
Proper lifting techniques are observed.	X		
Pipe and well casings are not stored higher than 5 ft.	X		
COMMENTS:			
Those sections marked with N/A were not being conducted or applicable during the inspection.			