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ATTACHMENT NOT INCLUDED

REDACTED VERSION

# OPERATION AND MAINTENANCE REPORT
# SECOND QUARTER 2014

## DELATTE METALS SUPERFUND SITE
## AGENCY INTEREST NO. 2328

DATE SUBMITTED:
AUGUST 18, 2014

9791712

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# SECOND QUARTER 2014
# AGENCY INTEREST NO. 2328

**PREPARED FOR**

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**AUGUST 18, 2014**

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| D | DATA VALIDATION PACKAGE |
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## 1.0 INTRODUCTION AND BACKGROUND

SEMS, Inc. (SEMS) was selected by the Louisiana Department of Environmental Quality (LDEQ) for the continued Operations and Maintenance (O&M) of the Delatte Metals Superfund Site in Tangipahoa Parish, Ponchatoula, Louisiana, in accordance with the bid specifications associated with state solicitation number 3000002194 and purchase order number 2000060454. The Delatte Metals Superfund Site is currently under periodic O&M, including groundwater and surface water sampling to determine if constituents of concern (COCs) remediated at the site are in a declining condition and to ensure that COCs are not migrating horizontally past the permeable reactive barrier (PRB) or vertically into lower water bearing zones. This report summarizes SEMS' performance of site activities associated with the onsite and offsite water supply wells during the current quarter. A map showing the locations of the onsite and offsite water supply wells is presented as **Figure 1**. A brief status and history of the site are provided below.

The physical location of the site is approximately 5.5 miles south-southeast of Hammond, Louisiana, 1.5 miles southeast of Ponchatoula, Louisiana, and adjacent to the new Delatte Recycling, LLC (19113 Weinberger Road, Ponchatoula, Louisiana). The site lies to the north of Weinberger Road, in a rural area with numerous residences within a one-mile radius of the site. The latitude and longitude for the site are 30°25'16"N and 90°24'39"W, respectively. The site is bounded to the south by Weinberger Road followed by residences, to the north and east by drainage ditches and residences, and to the west by Selser's Creek and residences.

According to previous reports, the 19-acre Delatte Metals Superfund Site includes the Delatte Metals, Inc. (DMI) facility and the abandoned North Ponchatoula Battery facility. DMI began business as the Delatte and Fuscia Battery Company in the early 1960's and continued as Delatte Metals, Inc. from the early 1980's until closing in 1993. Its operations included the dismantling of lead-acid batteries and smelting of recovered lead plates into ingots. The Ponchatoula Battery Company moved its operations to a site adjacent to the Delatte and Fuscia Battery Company between 1972 and 1978 and performed identical lead salvage operations and generated the same types of wastes until closing in 1981.

During LDEQ and EPA investigations, discharge from the facilities showed a pH range from 0.55 to 2 standard units (s.u.). Analytical samples from on-site soil and groundwater samples indicated the presence of heavy metals including lead, arsenic, and cadmium. An observed release of lead and cadmium to Selser's Creek was documented by the analytical data from the sediment samples collected at three probable points of entry.

Remedial action (RA) operations were implemented at the site between November of 2002 and September of 2003. During the RA, the principle threat wastes were excavated, immobilized, and transported off-site for disposal. A permeable reactive barrier wall (PRB) was installed to neutralize the acidity of the shallow water-bearing zone and limit the migration of dissolved metals. Following the RA, an O&M program was initiated to confirm the effectiveness of the selected remedy. The O&M program initially included groundwater sampling of 31 monitor and water supply wells to verify the metal concentrations and pH in the site groundwater. The O&M program was modified in September 2013 to include sampling of 44 monitor and water supply wells and five (5) surface water sample locations. This report summarizes the current quarterly site activities pertaining to the onsite and offsite water supply wells only. Data collected by SEMS from the 39 monitor wells and five (5) surface water sample locations included in the O&M program is reported to the LDEQ semi-annually and is not included in this quarterly report.

Three distinct and local water bearing zones (WBZ) were identified at the site during previous investigations. The three WBZ are located at the site from ground surface to approximately 100 feet below ground surface (ft.-bgs).

- The First WBZ is generally found between 5 and 15 ft.-bgs. This zone is semi-confined on its sides and is overlain by sandy/silty clay across the northern section of the site. During the Remedial Investigation (RI), a clay unit was encountered underneath this First WBZ. Currently 22 monitor wells are screened in this zone. This WBZ was previously classified according to RECAP as a Class 3B aquifer.

- The Second WBZ encountered at the site generally consists of intermittent layers of gray, tan, and orange clayey silt. At various locations, this WBZ is typically encountered

between 15 and 40 ft.-bgs. The Second WBZ appears to be confined and relatively continuous across the site. Currently 13 monitor wells are screened in this zone. This WBZ was previously classified according to RECAP as a Class 2C aquifer.

- The Third WBZ encountered at the site consists of light brown to gray silty sand and sand. During the RI, this Third WBZ was encountered between 58 and 62 ft.-bgs, extending to the maximum depth of the site borings (100 ft.-bgs). The Third WBZ appears to be confined and continuous across the site. There are currently four monitor wells screened in this zone. This WBZ was previously classified according to RECAP as a Class 1B aquifer.

Underneath the three local WBZs identified at the site are three regional aquifers: The Shallow Aquifer (also known as the Upland Terrace Aquifer), the Ponchatoula Aquifer (which is subdivided into two units: the Upper and Lower Ponchatoula Aquifers), and the Tchefuncte Aquifer. The five (5) onsite and offsite water supply wells are screened below the Third WBZ and a summary of the water supply well characteristics is provided as Table 1.

## 2.0 CHRONOLOGY OF EVENTS

A chronology of events is as follows:

- January 16, 2014 – SEMS submitted a draft of the revised Quality Assurance Project Plan (QAPP) and a draft of the revised O&M Manual to the LDEQ for review.
- February 7, 2014 – SEMS submitted the Operation and Maintenance Report – Fourth Quarter 2013 to the LDEQ for approval.
- March 10, 2014 – SEMS mobilized to the site and performed fourth quarter 2013 O&M activities.
- March 13, 2013 – SEMS mobilized to the site to return the areas of the PRB to grade. Five loads (120 cubic yards) of silty-clay fill material was imported to the site and applied to the low-lying areas of the PRB.
- May 12, 2014 – SEMS submitted the Operation and Maintenance Report – First

Quarter 2014 to the LDEQ for approval.

- June 2 through 5, 2014 – SEMS mobilized to the site and performed second quarter 2014 O&M activities.

## 3.0 OPERATION AND MAINTENANCE ACTIVITIES

Operation and maintenance activities include well inspection, PRB inspection, review of institutional controls, groundwater monitoring, and surface water monitoring. The frequency of sample collection and reporting varies at each sample location. Monitor wells screened in the First and Second WBZ are sampled and reported on a semi-annual basis. Monitor wells screened in the Third WBZ are sampled on an annual basis and the results are included in the semi-annual reports. Surface water is sampled and reported on a semi-annual basis. The onsite and offsite water supply wells are sampled and reported on a quarterly basis. Only the data concerning the onsite and offsite water supply wells is included in this quarterly report. The sampling and reporting schedule for each sample location is provided in **Table 2**.

SEMS mobilized to the site and performed O&M activities, including the quarterly sampling of the five (5) onsite and offsite water supply wells, on June 2 through 5, 2014. Sampling of monitor wells screened in the First and Second WBZs, sampling of surface waters, inspection of the wells and the PRB and review of the institutional controls were also performed during this period. Details of activities performed at the site are summarized below.

### 3.1 ACCESS TO WELLS

Clearing of the wells was performed prior to sampling to provide access to the wells.

### 3.2 WELL INSPECTION

The water supply wells were inspected during the groundwater sampling event for damage. **Table 1** includes a listing of the water supply wells at the site and **Figure 1** shows the locations of the wells. The Well Inspection Checklist is included with the field data in Attachment A. No deficiencies were noticed during this sampling event.

## 3.3 PERMEABLE REACTIVE BARRIER (PRB) INSPECTION

The grass cover of the PRB was mowed by the LDEQ Contractor prior to the current sampling event. SEMS inspected the condition of the PRB during the current sampling event and noted the following:

- No cracks or erosion are visible in the PRB.
- Very little evidence of subsidence is apparent in the PRB following the placement of fill material in March of 2014. A low-lying area measuring approximately 20 feet by 40 feet north of wells BA-05 and BA-05A will require additional fill when site conditions in the backfield are conducive to the use of trucks and heavy machinery.

The condition of the PRB will continue to be monitored quarterly.

## 3.4 REVIEW OF INSTITUTIONAL CONTROLS

Inspections were made of deed files 650403, 674854, and 674853 online at the Tangipahoa website (www.tangiclerk.org) for the institutional controls limiting site reuse to an industrial scenario at the Tangipahoa Parish Clerk of Court. A review of these files showed that they are still on record with the Tangipahoa Parish Clerk of Court.

## 3.5 GROUNDWATER MONITORING, SAMPLING, AND ANALYTICAL PROCEDURES

The five (5) onsite and offsite water supply wells were sampled during the quarterly groundwater sampling event. The locations of the water supply wells are shown on **Figure 1**.

Groundwater was purged from the water supply wells by opening the valves and allowing the water to flow for a period of 20 minutes. After 20 minutes elapsed, the sample was collected for laboratory analysis. Samples were placed in laboratory-supplied, pre-preserved containers and placed in a cooler with ice. Instantaneous water quality parameters were measured in the field and

recorded on the field forms. The water quality parameters are summarized on **Table 3**. The samples were transported to Pace Analytical Services (Pace) in St. Rose, Louisiana for analysis. The samples were shipped accompanied by proper chain-of-custody documentation.

Quality Assurance/Quality Control (QA/QC) samples were collected during the quarterly sampling event in accordance with the O&M Manual. A summary of QA/QC samples collected during the current quarter is included in the field data sheets presented in **Attachment A**.

Groundwater samples were analyzed for Total Metals including arsenic, cadmium, lead, manganese, nickel, and zinc via method SW6020 or SW6010. Summaries of groundwater analytical data are provided in **Table 4** and are further discussed in Section 4.0. A copy of the laboratory reports and chain-of-custody documentation are included in **Attachment B**.

The personal protective equipment and other disposable material that contacted the site groundwater are contained in a 55-gallon metal drum and stored at the site south of the "North Well" water supply well. Copies of drum disposal manifests for this quarter, if applicable, are included in **Attachment A**.

It should be noted that additional drums and investigation-derived waste that are generated by the United States Geological Survey (USGS) are located adjacent to the drum storage area. The USGS will maintain their drums from their groundwater sampling events.

## 4.0 ANALYTICAL DATA REVIEW

### 4.1 CURRENT PERIOD CONSTITUENT CONCENTRATION

Site Cleanup levels for pH and lead are available in the QAPP prepared for the EPA in September 28, 2004. The Site Cleanup level for lead is 0.015 mg/L. The Site Cleanup level for pH is 7.0 standard units. Since a pH of exactly 7.0 s.u. is not practically obtainable, SEMS recommends that the EPA acceptable range for drinking water, 6.5-8.5 s.u., be utilized as a practicable alternative pH compliance standard for the water supply wells. According to the LDEQ, the LDEQ RECAP Screening Standards (SS) should be used for comparison to the other site COCs.

Below is a brief summary of all COCs exceeding the applicable site limiting standards:

The following onsite and offsite water supply wells were outside their EPA acceptable pH range:

- North Well and South Well were above the EPA acceptable pH range of 6.5-8.5 s.u. with a maximum pH reading of 8.62 s.u. in the South Well.

No onsite or offsite water supply wells exhibited arsenic, cadmium, lead, manganese, nickel, or zinc concentrations above RECAP SS or EPA Site Cleanup levels during the current sampling event.

Analytical results for this quarter are summarized in **Table 4**. Isoconcentration maps prepared for the onsite and offsite water supply wells are presented as **Figures 2** through **8**. Following a review of the water supply well isoconcentration maps, only pH was found to not be horizontally delineated to its applicable limiting standard.

## 4.2 HISTORICAL GROUNDWATER MONITORING TRENDS

A historical summary of the groundwater analytical data from the past eight quarters is presented in **Table 5**. Historical data trend graphs that show pH, arsenic, cadmium, lead, manganese, nickel, and zinc concentrations over time are presented in **Attachment C**. For graphing purposes, the reporting limit was used in place of all non-detected concentrations. The historical data trend graphs were completed in Excel and a linear regression trend line was generated by Excel using the previous eight quarters of data for each COC.

Those onsite and offsite water supply wells exhibiting constituent concentrations above the site cleanup levels or RECAP SS for at least two of the previous eight quarters are reviewed in the trend evaluation. The concentration graphs and linear regression analyses for the water supply wells indicate the following trends:

**pH:** Above 8.5 s.u. and increasing: and North Well

Above 8.5 s.u. and decreasing: WW-04, (b) (6) Well and South Well

**Lead, Arsenic, Manganese, Nickel, Cadmium, and Zinc:** No exceedances observed for any two of the previous eight quarters sampled.

**Offsite Water Supply Well Long-Term Trends**

Three offsite water supply wells, WW-04, WW-09 and the (b) (6) Well, have demonstrated pH measurements exceeding site cleanup maximum level of 8.5 s.u.; therefore, a trend evaluation was conducted using the complete historical pH data set for the offsite water supply wells. The available data evaluated for water wells WW-04 and WW-09 range from 2006 to present. The available data evaluated for the (b) (6) Well ranges from 2008 to present. These additional graphs are presented in **Attachment C.**

The trend analysis for water supply well WW-04 shows an overall increasing trend for the historical data since 2006 and a slightly decreasing trend over the most recent eight quarters with concentrations consistently above the maximum pH cleanup level. The (b) (6) well data show that, although the most recent eight quarters demonstrate a decreasing trend, the complete historical data set since 2008 continues to illustrate an overall slightly increasing trend. Water well WW-09 shows generally decreasing pH trends over both the historical and recent data sets with a stabilizing trend over most recent eight quarters. There have been no exceedances over the pH cleanup level at either the (b) (6) Well or WW-09 during the four most recent quarterly monitoring events.

The cause for the changes in the pH at these water wells is unknown. The groundwater in the Third WBZ generally flows to the east.

## 4.3 QUALITY ASSURANCE/QUALITY CONTROL AND UNUSUAL FINDINGS

A summary of QA/QC samples collected during the current quarter is included in the field data sheets presented in Attachment A. QA/QC samples include at least one duplicate for every 10 samples, one matrix spike for every 20 samples, and one matrix spike duplicate for every 20 samples. One duplicate sample, (Duplicate #1 at WW-04), was collected during the current quarter. All QA/QC duplicate sample analytical results were reported within a factor of 10 of the

original analytical sample results. All data sets were accepted. Full laboratory analytical reports are included in **Attachment B**. Each laboratory analytical report includes laboratory QA/QC documentation.

The analytical data was reviewed by TerraBase Incorporated (TerraBase), a third party data validator. TerraBase reviewed a minimum of ten percent of the samples analyzed for the current quarter, including the WW-09 sample. A discussion of the data validation of other samples that were collected during the current quarter but are reported semi-annually is provided in the Operation and Maintenance Report – First Semi-Annual Period 2014 that was submitted to the LDEQ concurrently with this report. The following changes were made to this report as a result of the data validation:

- Pace reported the WW-09 manganese result as 18.1 mg/L and the validated result was 18.1 mg/L with a J flag.

The tables and graphs have been updated to reflect these changes. No major discrepancies were found in the data validation report, which is included in Attachment D. The Level IV analytical report is attached to this report with a compact disk (CD) in an electronic format as requested by LDEQ.

No unusual findings were noted.

## 5.0 CONCLUSIONS AND RECOMMENDATIONS

The following conclusions and recommendations are based on evaluation of data presented within this groundwater monitoring report.

- SEMS recommends continuing with quarterly O&M of the onsite and offsite water supply wells.

# TABLES

**TABLE 1**
**WATER SUPPLY WELL DATA**
**DELATTE METALS SUPERFUND SITE**
**PONCHATOULA, LOUISIANA**
**AGENCY INTEREST NO. 2328**

| Well ID | Address | Depth (feet) | Date Installed |
|---|---|---|---|
| WW-04* | 39229 Keaghey Road<br>Ponchatoula, LA 70454 | Unknown | Unknown |
| WW-09* | 39233 Keaghey Road<br>Ponchatoula, LA70454 | 60 | 10/94 |
| North Well | 19119 Weinberger Road<br>Ponchatoula, LA 70454 | Unknown | Unknown |
| South Well | 19113 Weinberger Road<br>Ponchatoula, LA 70454 | Unknown | Unknown |
| (b) (6) Well** | Keaghey Road<br>Ponchatoula, LA70454 | Unknown | Unknown |

Notes: Water Well
*Designations for water wells WW-04 and WW-09 were obtained from the Delatte Metals Remedial Investigation Report (Tetra Tech 2000)
**Designation was named in field based on current owner's name

TABLE 2
SAMPLING AND REPORTING SCHEDULE

Delatte Metals Superfund Site
Ponchatoula, Louisiana
Agency Interest No. 2328



| Sample ID | Sample Collection Frequency | Reporting Frequency | Analyses Required |
|---|---|---|---|
| First Water-Bearing Zone Monitoring Wells | | | |
| DW-1 | Semi-Annual | Semi-Annual | Total and Dissolved Metals*, Sulfates, Sulfides |
| DW-2 | Semi-Annual | Semi-Annual | Total and Dissolved Metals* |
| DW-3 | Semi-Annual | Semi-Annual | Total and Dissolved Metals*, Sulfates, Sulfides |
| MW-1 | Semi-Annual | Semi-Annual | Total and Dissolved Metals*, Sulfates, Sulfides |
| MW-2 | Semi-Annual | Semi-Annual | Total and Dissolved Metals*, Sulfates, Sulfides |
| MW-6 | Semi-Annual | Semi-Annual | Total and Dissolved Metals* |
| PW-4 | Semi-Annual | Semi-Annual | Total and Dissolved Metals* |
| BA-03 | Semi-Annual | Semi-Annual | Total and Dissolved Metals* |
| BA-09 | Semi-Annual | Semi-Annual | Total and Dissolved Metals*, Sulfates, Sulfides |
| GSGP-3 | Semi-Annual | Semi-Annual | Total and Dissolved Metals* |
| GSGP-6 | Semi-Annual | Semi-Annual | Total and Dissolved Metals* |
| GSGP-15 | Semi-Annual | Semi-Annual | Total and Dissolved Metals* |
| GSGP-18 | Semi-Annual | Semi-Annual | Total and Dissolved Metals* |
| GSGP-19 | Semi-Annual | Semi-Annual | Total and Dissolved Metals* |
| GSGP-22 | Semi-Annual | Semi-Annual | Total and Dissolved Metals*, Sulfates, Sulfides |
| TEPA-1H | Semi-Annual | Semi-Annual | Total and Dissolved Metals*, Sulfates, Sulfides |
| TEPA-6H | Semi-Annual | Semi-Annual | Total and Dissolved Metals*, Sulfates, Sulfides |
| TEPA-9H | Semi-Annual | Semi-Annual | Total and Dissolved Metals*, Sulfates, Sulfides |
| TEPA-P6 | Semi-Annual | Semi-Annual | Total and Dissolved Metals*, Sulfates, Sulfides |
| TEPA-P7D | Semi-Annual | Semi-Annual | Total and Dissolved Metals*, Sulfates, Sulfides |
| TEPA-P9 | Semi-Annual | Semi-Annual | Total and Dissolved Metals*, Sulfates, Sulfides |
| TEPA-P10 | Semi-Annual | Semi-Annual | Total and Dissolved Metals*, Sulfates, Sulfides |

Notes: 1) * All monitoring wells will be sampled for total metals. Monitoring wells will be sampled for dissolved metals as needed based upon turbidity readings in the field. All surface water samples will be sampled for both total and dissolved metals.

2) ** Monitoring wells in the 3rd WBZ will be sampled annually and the results will be included in the semi-annual report.

**TABLE 2**
**SAMPLING AND REPORTING SCHEDULE**

**Delatte Metals Superfund Site**
**Ponchatoula, Louisiana**
**Agency Interest No. 2328**



| Sample ID | Sample Collection Frequency | Reporting Frequency | Analyses Required |
|---|---|---|---|
| **Second Water-Bearing Zone Monitoring Wells** | | | |
| DW-4 | Semi-Annual | Semi-Annual | Total and Dissolved Metals* |
| MW-A | Semi-Annual | Semi-Annual | Total and Dissolved Metals* |
| MW-3 | Semi-Annual | Semi-Annual | Total and Dissolved Metals* |
| MW-4 | Semi-Annual | Semi-Annual | Total and Dissolved Metals* |
| BA-01 | Semi-Annual | Semi-Annual | Total and Dissolved Metals* |
| BA-05 | Semi-Annual | Semi-Annual | Total and Dissolved Metals* |
| BA-09A | Semi-Annual | Semi-Annual | Total and Dissolved Metals* |
| BC-03 | Semi-Annual | Semi-Annual | Total and Dissolved Metals* |
| BC-17 | Semi-Annual | Semi-Annual | Total and Dissolved Metals* |
| BC-19 | Semi-Annual | Semi-Annual | Total and Dissolved Metals* |
| BC-21R | Semi-Annual | Semi-Annual | Total and Dissolved Metals* |
| BC-25 | Semi-Annual | Semi-Annual | Total and Dissolved Metals* |
| **Third-Water-Bearing Zone Monitoring Wells** | | | |
| BA-03A | Annual | Semi-Annual** | Total and Dissolved Metals* |
| BA-05A | Annual | Semi-Annual** | Total and Dissolved Metals* |
| BB-01 | Annual | Semi-Annual** | Total and Dissolved Metals* |
| BA-01A | Annual | Semi-Annual** | Total and Dissolved Metals* |
| **Water Supply Wells** | | | |
| WW-04 | Quarterly | Quarterly | Total Metals |
| WW-09 | Quarterly | Quarterly | Total Metals |
| North Well | Quarterly | Quarterly | Total Metals |
| South Well | Quarterly | Quarterly | Total Metals |
| (b) (6) Well | Quarterly | Quarterly | Total Metals |
| **Surface Water** | | | |
| CA-41 | Semi-Annual | Semi-Annual | Total and Dissolved Metals* |
| CA-51 | Semi-Annual | Semi-Annual | Total and Dissolved Metals* |
| CL-05 | Semi-Annual | Semi-Annual | Total and Dissolved Metals* |
| CL-19 | Semi-Annual | Semi-Annual | Total and Dissolved Metals* |
| Bridge | Semi-Annual | Semi-Annual | Total and Dissolved Metals* |

Notes: 1) * All monitoring wells will be sampled for total metals. Monitoring wells will be sampled for dissolved metals as needed based upon turbidity readings in the field. All surface water samples will be sampled for both total and dissolved metals.

2) ** Monitoring wells in the 3rd WBZ will be sampled annually and the results will be included in the semi-annual report.

**TABLE 3**
**GROUNDWATER SAMPLING SUMMARY**
**DELATTE METALS SUPERFUND SITE**
**PONCHATOULA, LOUISIANA**
**AGENCY INTEREST NO. 2328**
**(Past 8 Quarters)**

| Monitoring/ Sample Well No. & Date | Groundwater Elevation | | | Groundwater Quality Data | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TOC Elevation (ft-NGVD) | Depth to Water (feet) | Corrected GW Elev. (ft-NGVD) | Temperature (°C) | Specific Conductivity (mS/cm) | Dissolved Oxygen (mg/L) | pH (Standard Units) | ORP (mV) | Turbidity (NTU) |
| **WATER WELLS** | | | | | | | | | |
| (b) (6) Well | | | | | | | | | |
| August-12 | NA | NA | NA | 21.69 | 0.279 | 2.47 | 8.11 | -163 | 3.7 |
| December-12 | NA | NA | NA | 19.08 | 0.258 | 2.41 | 8.46 | -186 | 4 |
| February-13 | NA | NA | NA | 19.45 | 0.273 | 1.90 | 8.62 | -52 | 8.5 |
| June-13 | NA | NA | NA | 23.70 | 0.287 | 2.17 | 9.30 | -235 | 1.4 |
| August-13 | NA | NA | NA | 21.11 | 0.291 | 2.87 | 8.20 | -173 | 0.0 |
| December-13 | NA | NA | NA | 18.88 | 0.292 | 2.19 | 7.87 | -175 | 2.5 |
| March-14 | NA | NA | NA | 21.54 | 0.295 | 2.89 | 8.21 | -62 | 2.0 |
| June-14 | NA | NA | NA | 22.33 | .289 | 2.06 | 7.02 | -143 | 1.3 |
| WW-04 | | | | | | | | | |
| August-12 | NA | NA | NA | 21.84 | 0.284 | 1.75 | 8.47 | -180 | 7.2 |
| December-12 | NA | NA | NA | 19.06 | 0.265 | 1.71 | 8.41 | -219 | 5 |
| February-13 | NA | NA | NA | 19.30 | 0.293 | 1.53 | 9.11 | -111 | 5.1 |
| June-13 | NA | NA | NA | 24.50 | 0.292 | 1.70 | 9.84 | -281 | 0.7 |
| August-13 | NA | NA | NA | 22.28 | 0.306 | 3.03 | 8.50 | -193 | 0.0 |
| December-13 | NA | NA | NA | 17.84 | 0.297 | 3.99 | 9.09 | -239 | 1.5 |
| March-14 | NA | NA | NA | 20.90 | 0.300 | 2.21 | 8.59 | -114 | 2.7 |
| June-14 | NA | NA | NA | 21.01 | .300 | 5.82 | 8.29 | -223 | .6 |
| WW-09 | | | | | | | | | |
| August-12 | NA | NA | NA | 24.41 | 0.275 | 4.44 | 7.81 | -162 | 5.0 |
| December-12 | NA | NA | NA | 14.94 | 0.260 | 3.55 | 7.69 | -179 | 8 |
| February-13 | NA | NA | NA | 17.95 | 0.274 | 7.64 | 8.32 | -31 | 3.9 |
| June-13 | NA | NA | NA | 23.99 | 0.288 | 4.64 | 8.87 | -236 | 0.6 |
| August-13 | NA | NA | NA | 22.08 | 0.281 | 6.22 | 7.62 | -162 | 0.0 |
| December-13 | NA | NA | NA | 16.19 | 0.184 | 4.85 | 7.98 | -68 | 4.0 |
| March-14 | NA | NA | NA | 19.99 | 0.297 | 4.25 | 8.17 | -57 | 1.6 |
| June-14 | NA | NA | NA | 22.31 | .297 | 5.93 | 7.49 | -148 | 1.2 |
| North Well | | | | | | | | | |
| August-12 | NA | NA | NA | 24.24 | 0.282 | 1.16 | 8.88 | -256 | 1.2 |
| December-12 | NA | NA | NA | 21.22 | 0.269 | 1.64 | 8.52 | 377 | 0 |
| February-13 | NA | NA | NA | 21.23 | 0.291 | 2.18 | 8.65 | 97 | 0.0 |
| June-13 | NA | NA | NA | 23.05 | 0.285 | 1.94 | 9.00 | -246 | 0.3 |
| August-13 | NA | NA | NA | 23.05 | 0.290 | 2.11 | 8.20 | 14 | 0.0 |
| December-13 | NA | NA | NA | 20.44 | 0.293 | 1.00 | 8.82 | 242 | 1.8 |
| March-14 | NA | NA | NA | 22.90 | 0.316 | 1.83 | 9.10 | -77 | 3.5 |
| June-14 | NA | NA | NA | 22.77 | .293 | 1.77 | 8.61 | -232 | 0.0 |
| South Well | | | | | | | | | |
| August-12 | NA | NA | NA | 22.95 | 0.236 | 1.66 | 9.33 | -230 | 2.8 |
| December-12 | NA | NA | NA | 20.06 | 0.260 | 2.13 | 9.23 | -111 | 0 |
| February-13 | NA | NA | NA | 18.80 | 0.302 | 1.75 | 8.15 | -80 | 2.6 |
| June-13 | NA | NA | NA | 23.77 | 0.294 | 2.63 | 9.06 | -231 | 0.8 |
| August-13 | NA | NA | NA | 21.95 | 0.292 | 2.14 | 8.93 | -176 | 0.0 |
| December-13 | NA | NA | NA | 19.37 | 0.294 | 2.39 | 9.60 | -156 | 1.9 |
| March-14 | NA | NA | NA | 21.09 | 0.297 | 1.81 | 8.37 | -80 | 2.1 |
| June-14 | NA | NA | NA | 22.40 | .301 | 3.17 | 8.62 | 67 | .1 |

Notes: 1) Top-of-casing (TOC) elevation - (depth to fluid) = Corrected GROUNDWATER (GW) elevation
2) Additional quarters will be added as sampling events continue

Abbrev.: NA = Not Applicable mg/L = milligrams per Liter NF = Not Found
NM = Not Measured NS = Not Sampled

# TABLE 4
## CURRENT QUARTER GROUNDWATER ANALYTICAL SUMMARY
## TOTAL METALS

**Delatte Metals Superfund Site**
**Ponchatoula, Louisiana**
**Agency Interest No. 2328**

| Line # | COC/CAS | Method | Sample ID | Media | Lab Sample Identification | Sample Date | Option Used | Limiting Standard mg/L | Reporting Limit mg/L | Sample Result mg/L | QA/QC Flag | Exceed Limiting Standard |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Total Arsenic/7440-38-2 | EPA 6020 | WW-09 | Groundwater | 205003049 | 6/5/2014 | RECAP SS | 0.01 | 0.001 | < 0.001 | | No |
| 2 | Total Cadmium/7440-43-9 | EPA 6020 | WW-09 | Groundwater | 205003049 | 6/5/2014 | RECAP SS | 0.005 | 0.001 | < 0.001 | | No |
| 3 | Total Lead/7439-92-1 | EPA 6020 | WW-09 | Groundwater | 205003049 | 6/5/2014 | EPA Site Cleanup | 0.015 | 0.001 | < 0.001 | | No |
| 4 | Total Manganese/7439-96-5 | EPA 6020 | WW-09 | Groundwater | 205003049 | 6/5/2014 | RECAP SS | 0.51 | 0.001 | 0.0181 | | No |
| 5 | Total Nickel/7440-02-0 | EPA 6020 | WW-09 | Groundwater | 205003049 | 6/5/2014 | RECAP SS | 0.073 | 0.001 | < 0.001 | | No |
| 6 | Total Zinc/7440-66-6 | EPA 6020 | WW-09 | Groundwater | 205003049 | 6/5/2014 | RECAP SS | 1.1 | 0.005 | < 0.005 | | No |
| 7 | Total Arsenic/7440-38-2 | EPA 6020 | SOUTH WELL | Groundwater | 205003019 | 6/3/2014 | RECAP SS | 0.01 | 0.001 | < 0.001 | | No |
| 8 | Total Cadmium/7440-43-9 | EPA 6020 | SOUTH WELL | Groundwater | 205003019 | 6/3/2014 | RECAP SS | 0.005 | 0.001 | < 0.001 | | No |
| 9 | Total Lead/7439-92-1 | EPA 6020 | SOUTH WELL | Groundwater | 205003019 | 6/3/2014 | EPA Site Cleanup | 0.015 | 0.001 | < 0.001 | | No |
| 10 | Total Manganese/7439-96-5 | EPA 6020 | SOUTH WELL | Groundwater | 205003019 | 6/3/2014 | RECAP SS | 0.51 | 0.001 | 0.0037 | | No |
| 11 | Total Nickel/7440-02-0 | EPA 6020 | SOUTH WELL | Groundwater | 205003019 | 6/3/2014 | RECAP SS | 0.073 | 0.001 | < 0.001 | | No |
| 12 | Total Zinc/7440-66-6 | EPA 6020 | SOUTH WELL | Groundwater | 205003019 | 6/3/2014 | RECAP SS | 1.1 | 0.005 | 0.0115 | | No |
| 13 | Total Arsenic/7440-38-2 | EPA 6020 | WW-04 | Groundwater | 205003008 | 6/2/2014 | RECAP SS | 0.01 | 0.001 | < 0.001 | | No |
| 14 | Total Cadmium/7440-43-9 | EPA 6020 | WW-04 | Groundwater | 205003008 | 6/2/2014 | RECAP SS | 0.005 | 0.001 | < 0.001 | | No |
| 15 | Total Lead/7439-92-1 | EPA 6020 | WW-04 | Groundwater | 205003008 | 6/2/2014 | EPA Site Cleanup | 0.015 | 0.001 | < 0.001 | | No |
| 16 | Total Manganese/7439-96-5 | EPA 6020 | WW-04 | Groundwater | 205003008 | 6/2/2014 | RECAP SS | 0.51 | 0.001 | 0.0031 | | No |
| 17 | Total Nickel/7440-02-0 | EPA 6020 | WW-04 | Groundwater | 205003008 | 6/2/2014 | RECAP SS | 0.073 | 0.001 | < 0.001 | | No |
| 18 | Total Zinc/7440-66-6 | EPA 6020 | WW-04 | Groundwater | 205003008 | 6/2/2014 | RECAP SS | 1.1 | 0.005 | < 0.005 | | No |
| 19 | Total Arsenic/7440-38-2 | EPA 6020 | NORTH WELL | Groundwater | 205003020 | 6/3/2014 | RECAP SS | 0.01 | 0.001 | < 0.001 | | No |
| 20 | Total Cadmium/7440-43-9 | EPA 6020 | NORTH WELL | Groundwater | 205003020 | 6/3/2014 | RECAP SS | 0.005 | 0.001 | < 0.001 | | No |
| 21 | Total Lead/7439-92-1 | EPA 6020 | NORTH WELL | Groundwater | 205003020 | 6/3/2014 | EPA Site Cleanup | 0.015 | 0.001 | < 0.001 | | No |
| 22 | Total Manganese/7439-96-5 | EPA 6020 | NORTH WELL | Groundwater | 205003020 | 6/3/2014 | RECAP SS | 0.51 | 0.001 | 0.0033 | | No |
| 23 | Total Nickel/7440-02-0 | EPA 6020 | NORTH WELL | Groundwater | 205003020 | 6/3/2014 | RECAP SS | 0.073 | 0.001 | < 0.001 | | No |
| 24 | Total Zinc/7440-66-6 | EPA 6020 | NORTH WELL | Groundwater | 205003020 | 6/3/2014 | RECAP SS | 1.1 | 0.005 | < 0.005 | | No |
| 25 | Total Arsenic/7440-38-2 | EPA 6020 | (b) (6) WELL | Groundwater | 205003051 | 6/2/2014 | RECAP SS | 0.01 | 0.001 | 0.0015 | | No |
| 26 | Total Cadmium/7440-43-9 | EPA 6020 | (b) (6) WELL | Groundwater | 205003051 | 6/2/2014 | RECAP SS | 0.005 | 0.001 | < 0.001 | | No |
| 27 | Total Lead/7439-92-1 | EPA 6020 | (b) (6) WELL | Groundwater | 205003051 | 6/2/2014 | EPA Site Cleanup | 0.015 | 0.001 | 0.0011 | | No |
| 28 | Total Manganese/7439-96-5 | EPA 6020 | (b) (6) WELL | Groundwater | 205003051 | 6/2/2014 | RECAP SS | 0.51 | 0.001 | 0.0416 | | No |
| 29 | Total Nickel/7440-02-0 | EPA 6020 | (b) (6) WELL | Groundwater | 205003051 | 6/2/2014 | RECAP SS | 0.073 | 0.001 | < 0.001 | | No |
| 30 | Total Zinc/7440-66-6 | EPA 6020 | (b) (6) WELL | Groundwater | 205003051 | 6/2/2014 | RECAP SS | 1.1 | 0.005 | < 0.005 | | No |

# TABLE 5
## HISTORICAL GROUNDWATER MONITORING SUMMARY
## DELATTE METALS SUPERFUND SITE
## PONCHATOULA, LOUSISANA
## AGENCY INTEREST NO. 2328

**Monitoring/Sampling Period: Past 8 Quarters**

| | Potentiometric Data | | | Groundwater Analytical Data | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Total Metals | | | | | | Dissolved Metals | | | | | |
| Monitoring/ Sample Well No. & Date | TOC Elevation (ft-NGVD) | Depth to Water (feet) | Corrected GW Elev. (ft-NGVD) | pH Standard Unit | Arsenic (mg/L) | Cadmium (mg/L) | Lead (mg/L) | Manganese (mg/L) | Nickel (mg/L) | Zinc (mg/L) | Arsenic (mg/L) | Cadmium (mg/L) | Lead (mg/L) | Manganese (mg/L) | Nickel (mg/L) | Zinc (mg/L) |
| **WATER WELLS** | | | | | | | | | | | | | | | | |
| **South Well** | | | | | | | | | | | | | | | | |
| August-12 | NA | NA | NA | 9.33 | < 0.000724 | < 0.001 | < 0.001 | 0.0039 J | < 0.002 | < 0.013 | NA | NA | NA | NA | NA | NA |
| December-12 | NA | NA | NA | 9.23 | < 0.004 | 0.000652 J | 0.000244 J | 0.00559 | 0.000412 J | 0.021 | NA | NA | NA | NA | NA | NA |
| February-13 | NA | NA | NA | 8.15 | < 0.005 | < 0.005 | < 0.001 | < 0.01 | < 0.01 | < 0.02 | NA | NA | NA | NA | NA | NA |
| June-13 | NA | NA | NA | 9.06 | 0.00155 J | < 0.002 | 0.00282 | 0.00448 | 0.000334 J | < 0.01 | NA | NA | NA | NA | NA | NA |
| August-13 | NA | NA | NA | 8.93 | 0.00026 J | < 0.00011 | < 0.000033 | 0.0041 | 0.00024 J | 0.0084 | NA | NA | NA | NA | NA | NA |
| December-13 | NA | NA | NA | 9.60 | < 0.001 | < 0.001 | < 0.001 | 0.00385 | < 0.001 | 0.0144 | NA | NA | NA | NA | NA | NA |
| March-14 | NA | NA | NA | 8.37 | < 0.001 | < 0.001 | < 0.001 | 0.0026 | < 0.001 | < 0.005 | NA | NA | NA | NA | NA | NA |
| June-14 | NA | NA | NA | 8.62 | <0.0010 | <0.0010 | <0.0010 | 0.0037 | <0.0010 | < 0.005 | NA | NA | NA | NA | NA | NA |
| **SITE CLEANUP or LDEQ RECAP SS** | | | | **6.5-8.5** | **0.010** | **0.005** | **0.015** | **0.51** | **0.073** | **1.1** | **0.010** | **0.005** | **0.015** | **0.51** | **0.073** | **1.1** |

Notes:

1) Top-of-casing (TOC) elevation - (depth to fluid) = Corrected GROUNDWATER (GW) elevation

2) Site specific cleanup standards were found in previous reports for Lead and pH only. The additional screening standards are from the LDEQ RECAP Screening Standards (SS), which were provided by the LDEQ.

3) The Site Cleanup Standard for pH = 7.0 s.u.; however EPA Drinking Water Standards for pH = 6.5-8.5 s.u. and the EPA Storm Water Discharge Standards for pH=6.0-9.0 s.u are being used for comparison purposes.

4) Bold Values Exceed Site Cleanup or RECAP SS

5) Reporting Limits from the analytical reports are used for non-detect results

Abrev.: NA = Not Applicable mg/L= milligrams per Liter NF = Not Found

NM = Not Measured NS=Not Sampled J = Flagged by lab - An estimated value between the MDL and PQL is provided.

D= Surrogate Recovery Unreportable due to Dilution B/V = Analyte Detected in the associated Method Blank above Rep. Limit

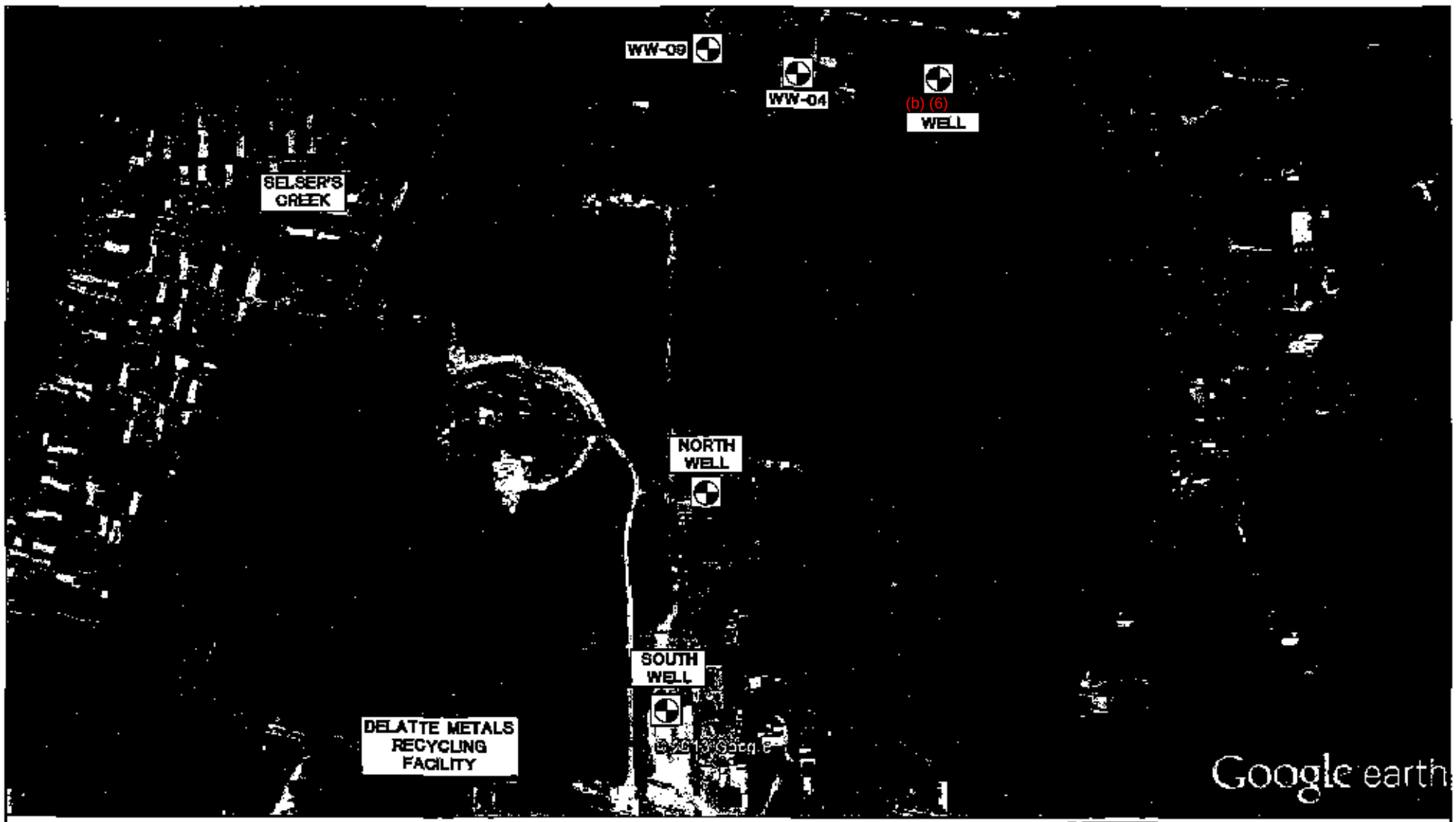
N = Recovery in the Matrix Spike and Matrix Spike Duplicate exceeded the control limit acceptance criteria E= Concentrations Exceeding Calibration Rand of Instrument

# TABLE 5
## HISTORICAL GROUNDWATER MONITORING SUMMARY
## DELATTE METALS SUPERFUND SITE
## PONCHATOULA, LOUSISANA
## AGENCY INTEREST NO. 2328

**Monitoring/Sampling Period: Past 8 Quarters**

| | Potentiometric Data | | | Groundwater Analytical Data | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Total Metals | | | | | | Dissolved Metals | | | | | |
| Monitoring/ Sample Well No. & Date | TOC Elevation (ft-NGVD) | Depth to Water (feet) | Corrected GW Elev. (ft-NGVD) | pH Standard Unit | Arsenic (mg/L) | Cadmium (mg/L) | Lead (mg/L) | Manganese (mg/L) | Nickel (mg/L) | Zinc (mg/L) | Arsenic (mg/L) | Cadmium (mg/L) | Lead (mg/L) | Manganese (mg/L) | Nickel (mg/L) | Zinc (mg/L) |
| **WATER WELLS** | | | | | | | | | | | | | | | | |
| (b) (6) Well | | | | | | | | | | | | | | | | |
| August-12 | NA | NA | NA | 8.11 | < 0.004 | 0.000106 J | 0.00226 | 0.0233 | 0.000572 J | 0.0425 | NA | NA | NA | NA | NA | NA |
| December-12 | NA | NA | NA | 8.46 | < 0.004 | 0.00064 J | 0.00133 | 0.0243 | 0.00217 | 0.00498 J | NA | NA | NA | NA | NA | NA |
| February-13 | NA | NA | NA | 8.62 | < 0.005 | < 0.001 | 0.0012 | 0.0243 | < 0.01 | < 0.02 | NA | NA | NA | NA | NA | NA |
| June-13 | NA | NA | NA | 9.30 | 0.00261 J | < 0.002 | 0.00137 | 0.0227 | 0.000366 J | 0.00302 J | NA | NA | NA | NA | NA | NA |
| August-13 | NA | NA | NA | 8.20 | 0.002 J | < 0.00053 | 0.00033 J | 0.0259 | < 0.00098 | 0.0085 J | NA | NA | NA | NA | NA | NA |
| December-13 | NA | NA | NA | 7.87 | 0.00157 J | < 0.001 | 0.00145 | 0.0233 | < 0.001 J | < 0.005 J | NA | NA | NA | NA | NA | NA |
| March-14 | NA | NA | NA | 8.21 | 0.0016 | < 0.001 | 0.0013 | 0.0218 | < 0.001 | < 0.005 | NA | NA | NA | NA | NA | NA |
| June-14 | NA | NA | NA | 7.02 | 0.0015 | <0.0010 | 0.0011 | 0.0416 | <0.0010 | < 0.005 | NA | NA | NA | NA | NA | NA |
| **WW-04** | | | | | | | | | | | | | | | | |
| August-12 | NA | NA | NA | 8.47 | < 0.004 | 0.0000906 J | 0.000568 J | 0.00319 | < 0.002 | 0.00376 J | NA | NA | NA | NA | NA | NA |
| December-12 | NA | NA | NA | 8.41 | < 0.004 | 0.000638 J | 0.00604 | 0.004 | 0.000482 J | 0.0174 | NA | NA | NA | NA | NA | NA |
| February-13 | NA | NA | NA | 9.11 | < 0.005 | < 0.001 | < 0.001 | < 0.01 | < 0.01 | < 0.02 | NA | NA | NA | NA | NA | NA |
| June-13 | NA | NA | NA | 9.84 | 0.00133 J | < 0.002 | 0.000825 J | 0.00282 | < 0.002 | 0.00749 J | NA | NA | NA | NA | NA | NA |
| August-13 | NA | NA | NA | 8.50 | 0.0062 | < 0.00053 | < 0.00017 | 0.0035 J | < 0.00098 | 0.006 J | NA | NA | NA | NA | NA | NA |
| December-13 | NA | NA | NA | 9.09 | < 0.001 | < 0.001 | < 0.001 | 0.00315 | < 0.001 | < 0.005 | NA | NA | NA | NA | NA | NA |
| March-14 | NA | NA | NA | 8.59 | < 0.001 | < 0.001 | < 0.001 | 0.0018 | < 0.001 | < 0.005 | NA | NA | NA | NA | NA | NA |
| June-14 | NA | NA | NA | 8.29 | <0.0010 | <0.0010 | <0.0010 | 0.0031 | <0.0010 | < 0.005 | NA | NA | NA | NA | NA | NA |
| **WW-09** | | | | | | | | | | | | | | | | |
| August-12 | NA | NA | NA | 7.81 | < 0.004 | 0.000102 J | 0.00104 | 0.018 | 0.00177 J | 0.00823 J | NA | NA | NA | NA | NA | NA |
| December-12 | NA | NA | NA | 7.69 | < 0.004 | 0.000639 J | 0.00044 J | 0.0193 | 0.000976 J | 0.00452 J | NA | NA | NA | NA | NA | NA |
| February-13 | NA | NA | NA | 8.32 | < 0.005 | < 0.001 | < 0.001 | 0.0179 | < 0.01 | < 0.02 | NA | NA | NA | NA | NA | NA |
| June-13 | NA | NA | NA | 8.87 | 0.00129 J | < 0.002 | 0.00158 | 0.0177 | < 0.002 | 0.00172 J | NA | NA | NA | NA | NA | NA |
| August-13 | NA | NA | NA | 7.62 | 0.00054 J | < 0.00053 | < 0.00017 | 0.0182 | < 0.00098 | < 0.004 | NA | NA | NA | NA | NA | NA |
| December-13 | NA | NA | NA | 7.98 | < 0.001 | < 0.001 | < 0.001 | 0.0178 | < 0.001 | < 0.005 | NA | NA | NA | NA | NA | NA |
| March-14 | NA | NA | NA | 8.17 | < 0.001 | < 0.001 | < 0.001 | 0.0165 | 0.0041 | < 0.005 | NA | NA | NA | NA | NA | NA |
| June-14 | NA | NA | NA | 7.49 | <0.0010 | <0.0010 | <0.0010 | 0.0181 | <0.0010 | < 0.005 | NA | NA | NA | NA | NA | NA |
| **North Well** | | | | | | | | | | | | | | | | |
| August-12 | NA | NA | NA | 8.88 | < 0.004 | 0.000117 J | 0.00205 | 0.00676 | 0.00028 J | 0.00529 J | NA | NA | NA | NA | NA | NA |
| December-12 | NA | NA | NA | 8.52 | < 0.004 | 0.000653 J | 0.0009 J | 0.00452 | < 0.002 | 0.00306 J | NA | NA | NA | NA | NA | NA |
| February-13 | NA | NA | NA | 8.65 | < 0.005 | < 0.001 | 0.001 | < 0.01 | < 0.01 | < 0.02 | NA | NA | NA | NA | NA | NA |
| June-13 | NA | NA | NA | 9.00 | 0.00136 J | < 0.002 | 0.00121 | 0.00299 | < 0.002 | 0.00411 J | NA | NA | NA | NA | NA | NA |
| August-13 | NA | NA | NA | 8.20 | 0.0004 J | < 0.00011 | 0.00091 J | 0.0039 | < 0.0002 | 0.0058 | NA | NA | NA | NA | NA | NA |
| December-13 | NA | NA | NA | 8.82 | < 0.001 | < 0.001 | < 0.001 | 0.00366 | < 0.001 | < 0.005 | NA | NA | NA | NA | NA | NA |
| March-14 | NA | NA | NA | 9.10 | < 0.001 | < 0.001 | < 0.001 | 0.002 | < 0.001 | < 0.005 | NA | NA | NA | NA | NA | NA |
| June-14 | NA | NA | NA | 8.61 | <0.0010 | <0.0010 | <0.0010 | 0.0033 | <0.0010 | < 0.005 | NA | NA | NA | NA | NA | NA |
| **SITE CLEANUP or LDEQ RECAP SS** | | | | **6.5-8.5** | **0.010** | **0.005** | **0.015** | **0.51** | **0.073** | **1.1** | **0.010** | **0.005** | **0.015** | **0.51** | **0.073** | **1.1** |

# FIGURES




REFERENCE: MAP TAKEN FROM GOOGLE EARTH

**LEGEND**

WATER SUPPLY WELL

N

330 0 330

APPROXIMATE SCALE IN FEET

| DRAWN BY: | LDG | CHECKED BY | | DRAWING NO. |
|---|---|---|---|---|
| | 01/06/14 | APPROVED BY | | WW |

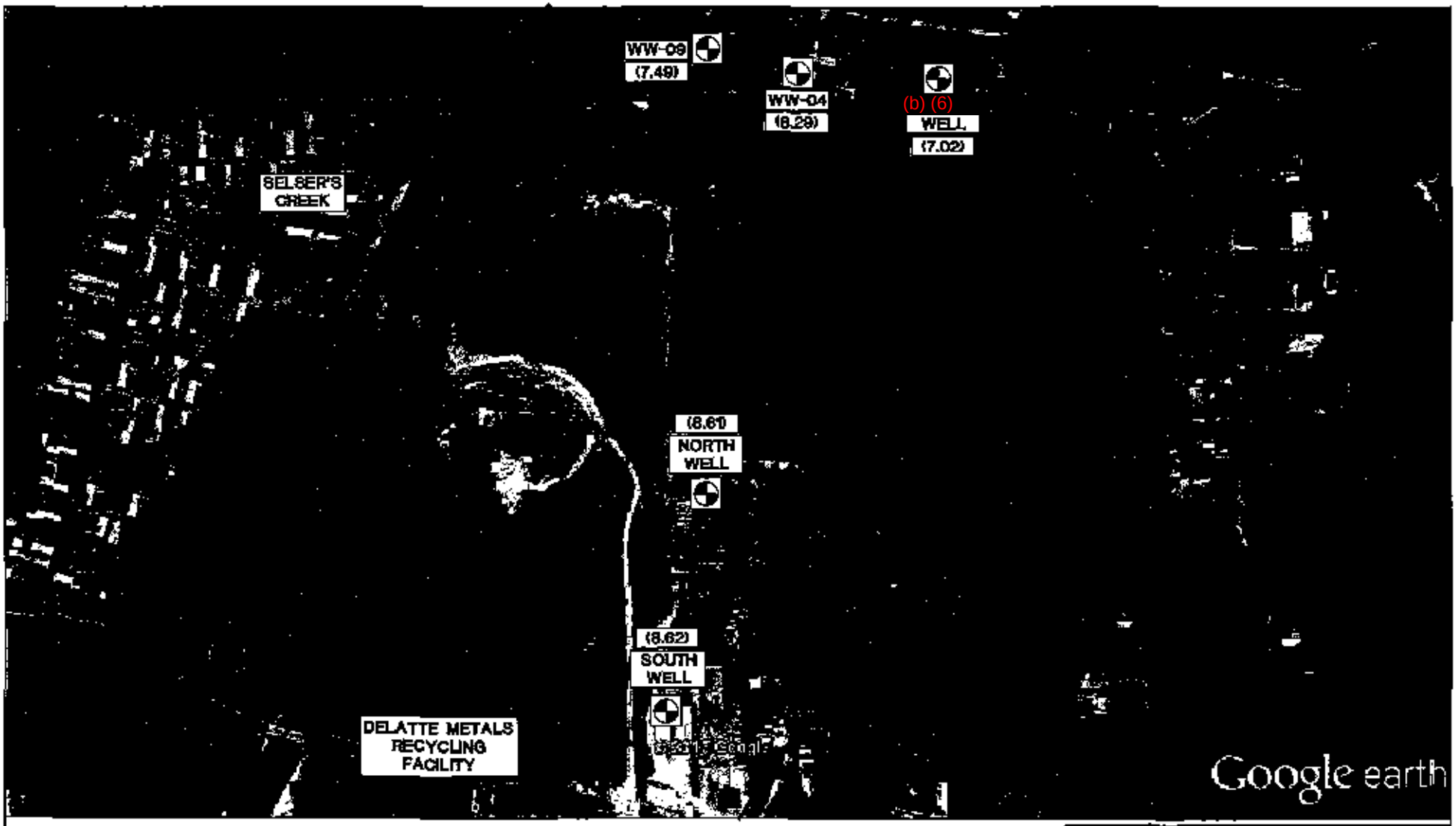
**FIGURE 1**

**WATER WELL LOCATION MAP**

DELATTE METALS SUPERFUND SITE
PONCHATOULA, LOUISIANA
AGENCY INTEREST NO. 2328

PREPARED FOR:
**LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY**

SEMS Inc.




REFERENCE: MAP TAKEN FROM GOOGLE EARTH

**LEGEND**

| | |
|---|---|
| ⊕ | WATER SUPPLY WELL |
| —8.50— | pH CONTOUR |
| (8.62) | pH LEVEL IN STANDARD UNIT |

NOTE:
THE EPA CLEANUP LEVEL FOR pH IS 7.0 S.U. THE EPA ACCEPTABLE RANGE FOR DRINKING WATER, 6.5–8.5 S.U. IS USED HERE.

N

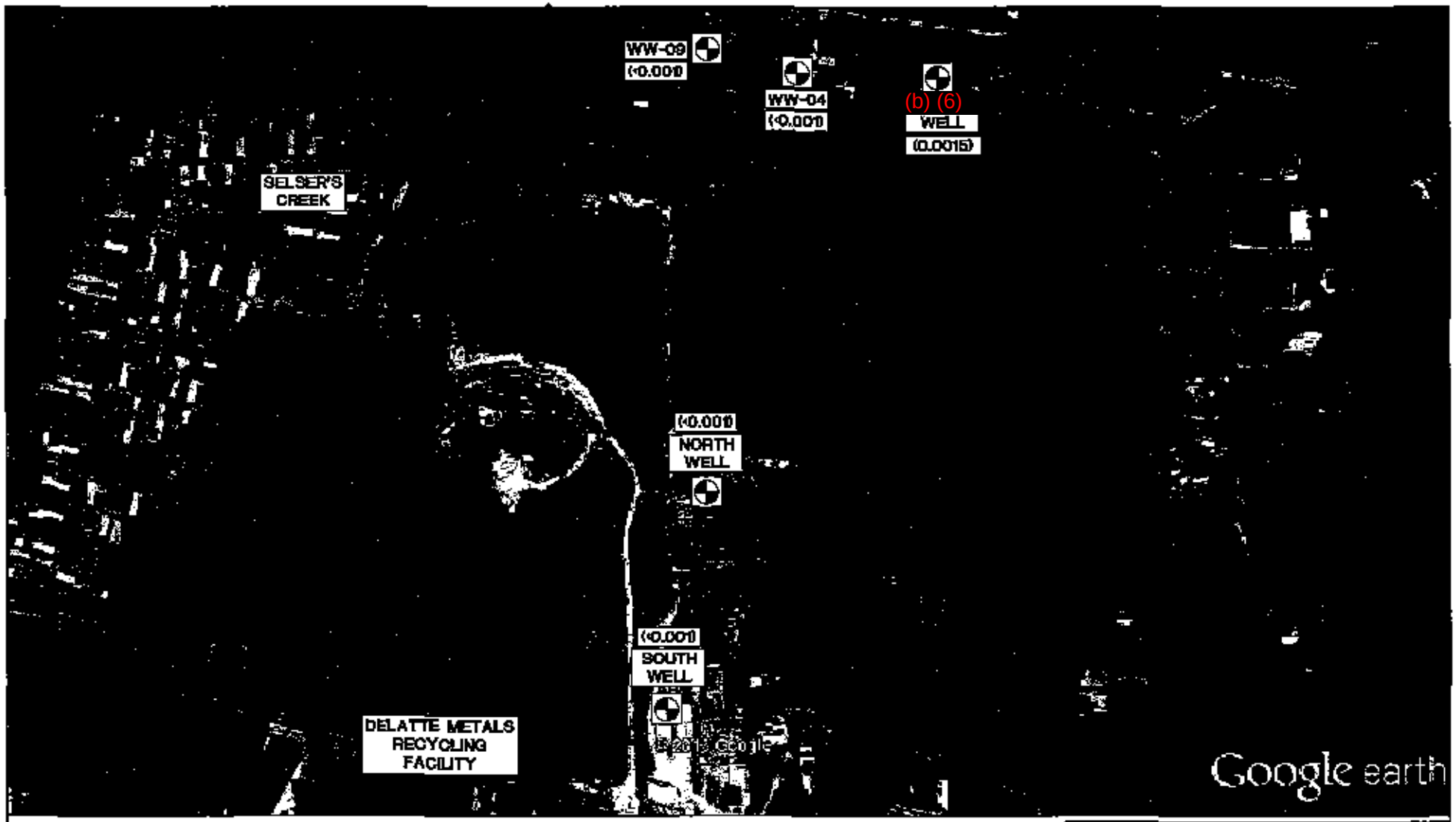
330 0 330
APPROXIMATE SCALE IN FEET

| DRAWN BY: | LDG | CHECKED BY | | DRAWING NO. |
|---|---|---|---|---|
| | 08/18/14 | APPROVED BY | | 2014/QTR/001 |

**FIGURE 2**
**WATER WELL pH CONTOUR MAP (SECOND QUARTER 2014)**

DELATTE METALS SUPERFUND SITE
PONCHATOULA, LOUISIANA
AGENCY INTEREST NO. 2328
PREPARED FOR:
**LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY**

SEMS Inc.




REFERENCE: MAP TAKEN FROM GOOGLE EARTH

**LEGEND**

| | |
|---|---|
| ⊕ | WATER SUPPLY WELL |
| mg/L | MILLIGRAMS PER LITER |
| (<0.001) | ARSENIC CONCENTRATION IN mg/L |

330 0 330
APPROXIMATE SCALE IN FEET

NOTES:
1) NO SITE CLEANUP STANDARDS WERE FOUND FOR ARSENIC. SEMS USED LDEQ RECAP SCREENING STANDARD OF 0.01 mg/L.
2) NO WELLS SAMPLED EXCEEDED LDEQ RECAP SCREENING STANDARD FOR ARSENIC.

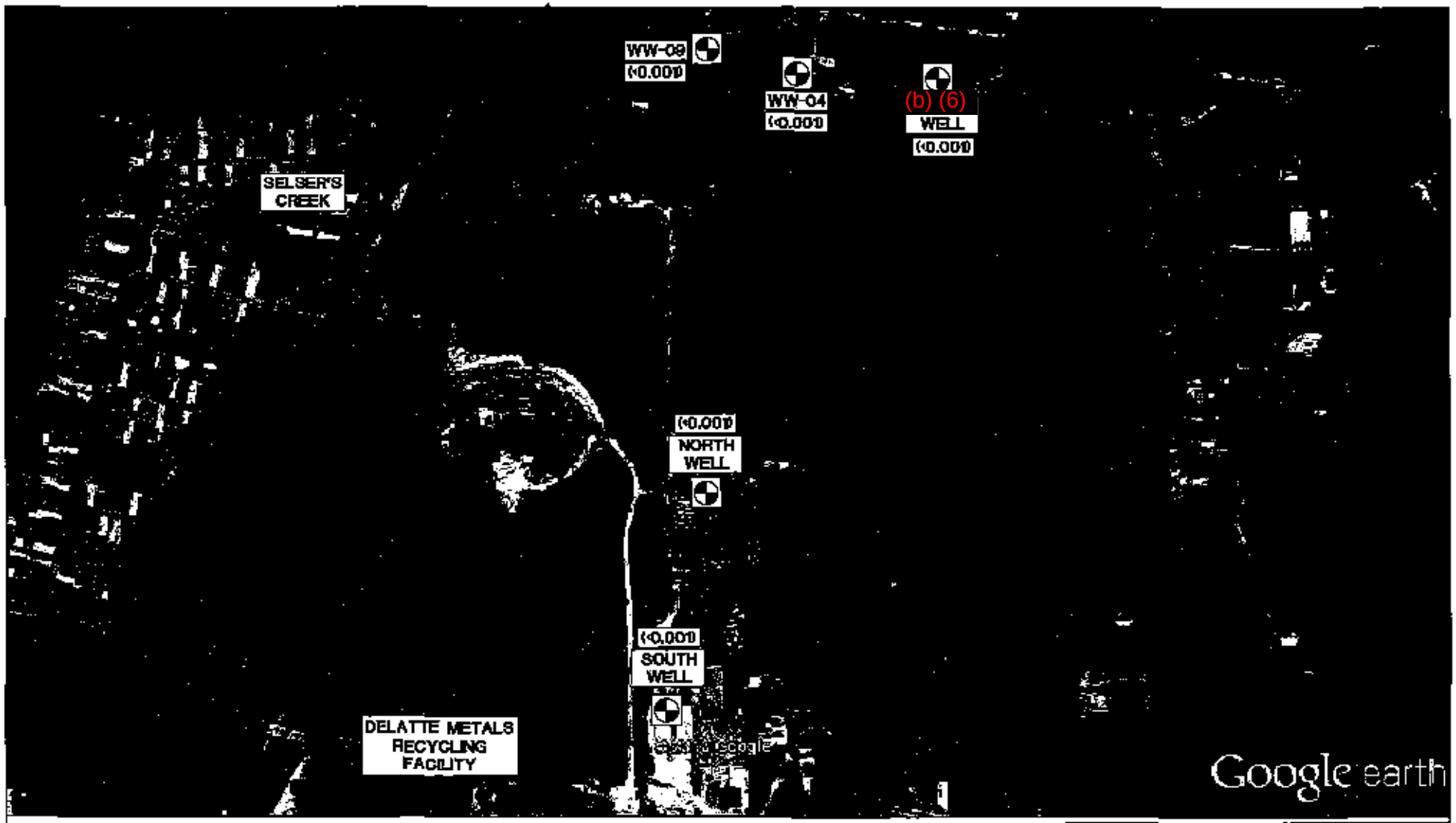
N

| DRAWN BY: | LDG | CHECKED BY | | DRAWING NO. |
|---|---|---|---|---|
| | 08/18/14 | APPROVED BY | | QTR/002 |

**FIGURE 3**
**WATER WELL**
**ARSENIC ISOCONCENTRATION MAP**
**(SECOND QUARTER 2014)**

DELATTE METALS SUPERFUND SITE
PONCHATOULA, LOUISIANA
AGENCY INTEREST NO. 2328
PREPARED FOR:
**LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY**

SEMS Inc.




REFERENCE: MAP TAKEN FROM GOOGLE EARTH

**LEGEND**

| | |
|---|---|
| ⊕ | WATER SUPPLY WELL |
| mg/L | MILLIGRAMS PER LITER |
| (<0.001) | CADMIUM CONCENTRATION IN mg/L |

330 0 330
APPROXIMATE SCALE IN FEET

NOTES:
1) NO SITE CLEANUP STANDARDS WERE FOUND FOR CADMIUM. SEMS USED LDEQ RECAP SCREENING STANDARD OF 0.005 mg/L.
2) NO WELLS SAMPLED EXCEEDED LDEQ RECAP SCREENING STANDARD FOR CADMIUM.

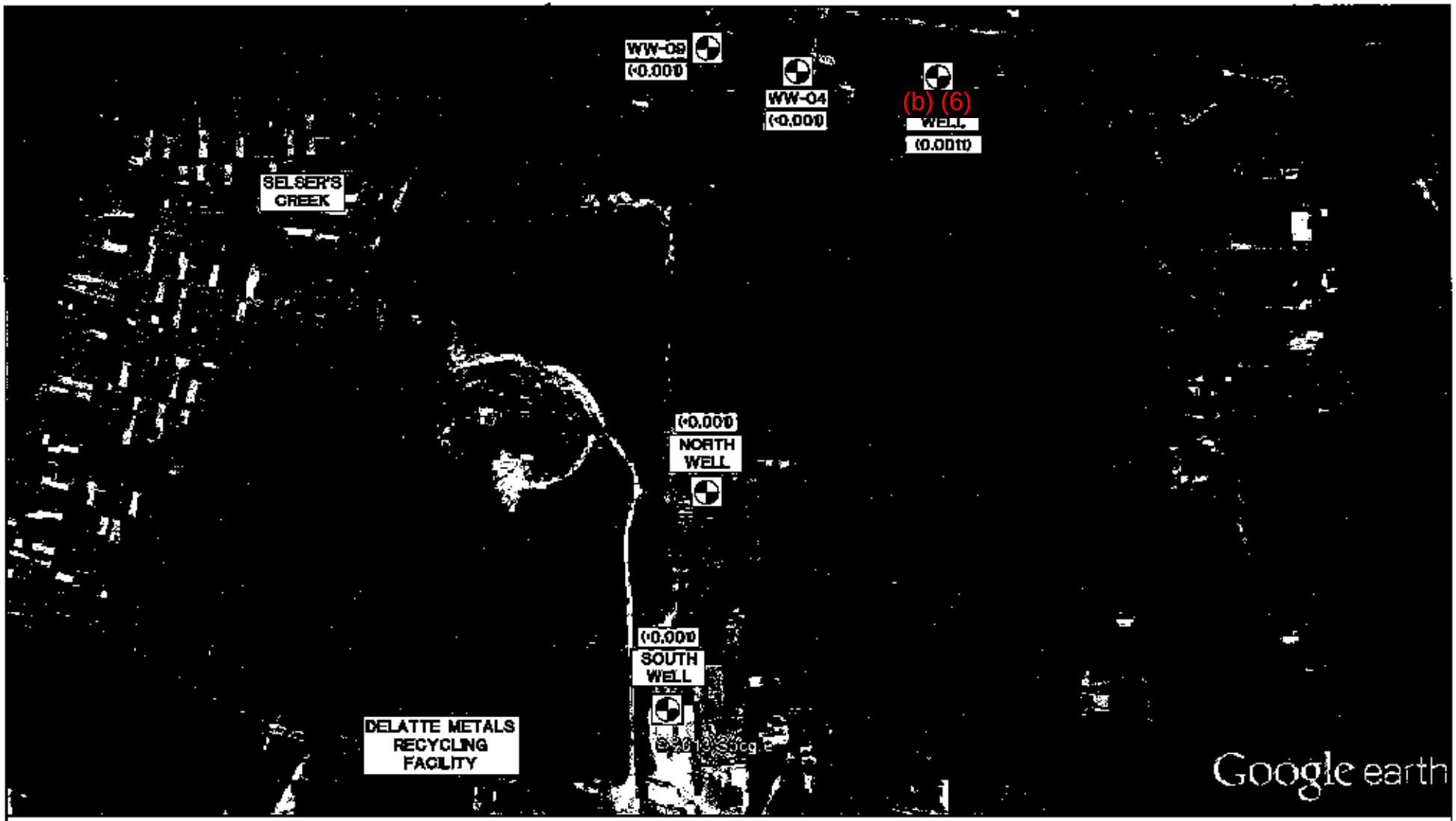
N

| DRAWN BY: | LDG | CHECKED BY | | DRAWING NO. |
|---|---|---|---|---|
| | 08/18/14 | APPROVED BY | | QTR/003 |

**FIGURE 4**
**WATER WELL**
**CADMIUM ISOCONCENTRATION MAP**
**(SECOND QUARTER 2014)**

DELATTE METALS SUPERFUND SITE
PONCHATOULA, LOUISIANA
AGENCY INTEREST NO. 2328
PREPARED FOR:
**LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY**

SEMS Inc.




REFERENCE: MAP TAKEN FROM GOOGLE EARTH

**LEGEND**

| | |
|---|---|
| ⊕ | WATER SUPPLY WELL |
| mg/L | MILLIGRAMS PER LITER |
| (<0.001) | LEAD CONCENTRATION IN mg/L |

330 0 330
APPROXIMATE SCALE IN FEET

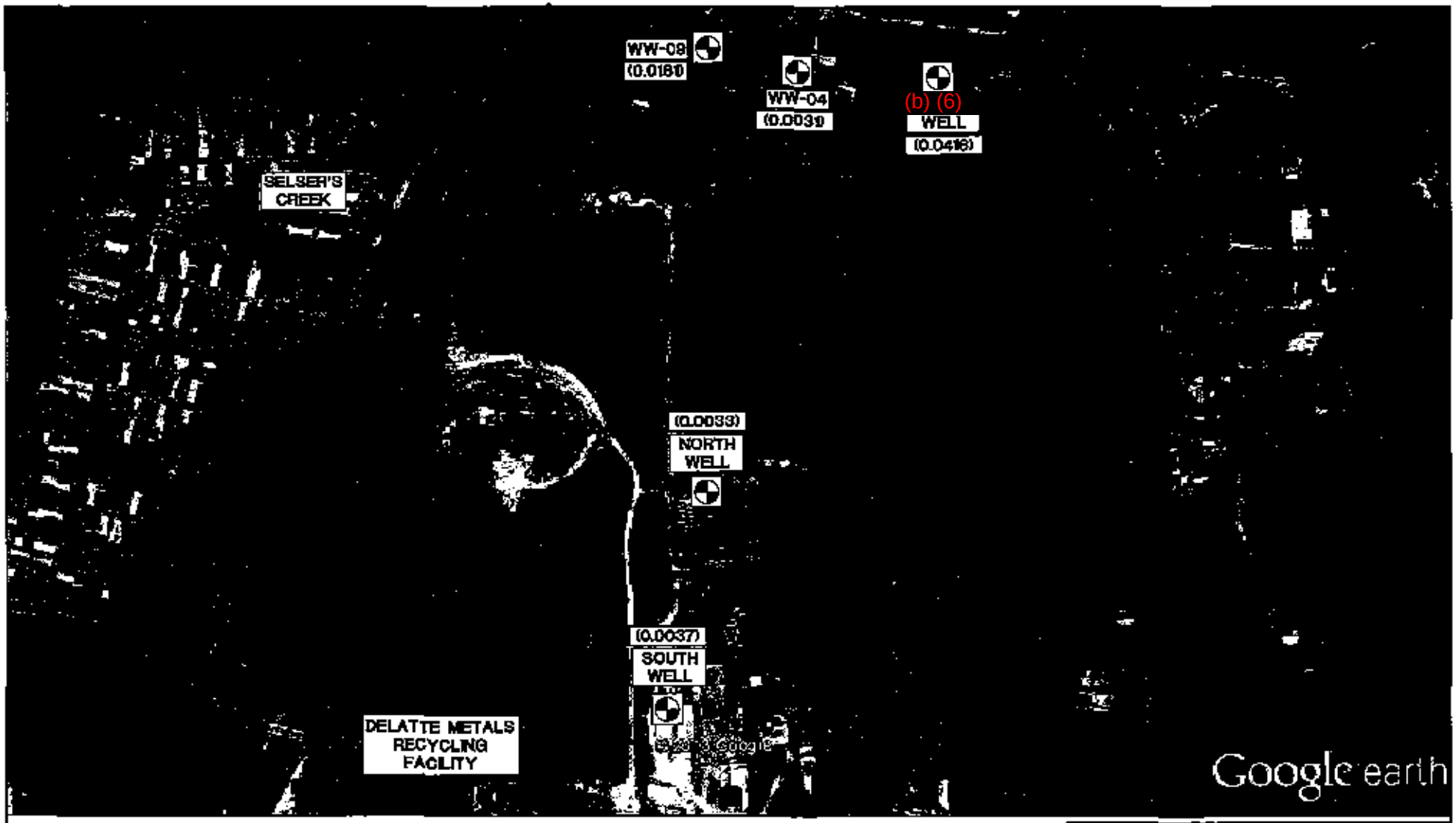
NOTES:
1) THE EPA SITE CLEANUP STANDARD FOR LEAD IS 0.015 mg/L.
2) NO WELLS SAMPLED EXCEEDED THE EPA SITE CLEANUP STANDARD.

N

| DRAWN BY: | LDG | CHECKED BY | | DRAWING NO. |
|---|---|---|---|---|
| | 08/18/14 | APPROVED BY | | QTR/004 |

**FIGURE 5**
**WATER WELL**
**LEAD ISOCONCENTRATION MAP**
**(SECOND QUARTER 2014)**
DELATTE METALS SUPERFUND SITE
PONCHATOULA, LOUISIANA
AGENCY INTEREST NO. 2328
PREPARED FOR:
**LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY**

SEMS Inc.




REFERENCE: MAP TAKEN FROM GOOGLE EARTH

**LEGEND**

| | |
|---|---|
| ⊕ | WATER SUPPLY WELL |
| mg/L | MILLIGRAMS PER LITER |
| (0.0181) | MANGANESE CONCENTRATION IN mg/L |

330 0 330
APPROXIMATE SCALE IN FEET

NOTES:
1) NO SITE CLEANUP STANDARDS WERE FOUND FOR MANGANESE. SEMS USED LDEQ RECAP SCREENING STANDARD OF 0.51 mg/L.
2) NO WELLS SAMPLED EXCEEDED LDEQ RECAP SCREENING STANDARD FOR MANGANESE.

N

| DRAWN BY: | LDG | CHECKED BY | | DRAWING NO. |
|---|---|---|---|---|
| | 08/18/14 | APPROVED BY | | QTR/005 |

**FIGURE 6**
**WATER WELL MANGANESE ISOCONCENTRATION MAP (SECOND QUARTER 2014)**
DELATTE METALS SUPERFUND SITE
PONCHATOULA, LOUISIANA
AGENCY INTEREST NO. 2328
PREPARED FOR:
**LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY**

SEMS Inc.

REFERENCE: MAP TAKEN FROM GOOGLE EARTH

**LEGEND**

| | |
|---|---|
| ⊕ | WATER SUPPLY WELL |
| mg/L | MILLIGRAMS PER LITER |
| (<0.001) | NICKEL CONCENTRATION IN mg/L |

330 0 330
APPROXIMATE SCALE IN FEET

NOTES:
1) NO SITE CLEANUP STANDARDS WERE FOUND FOR NICKEL. SEMS USED LDEQ RECAP SCREENING STANDARD OF 0.073 mg/L.
2) NO WELLS SAMPLED EXCEEDED LDEQ RECAP SCREENING STANDARD FOR NICKEL.

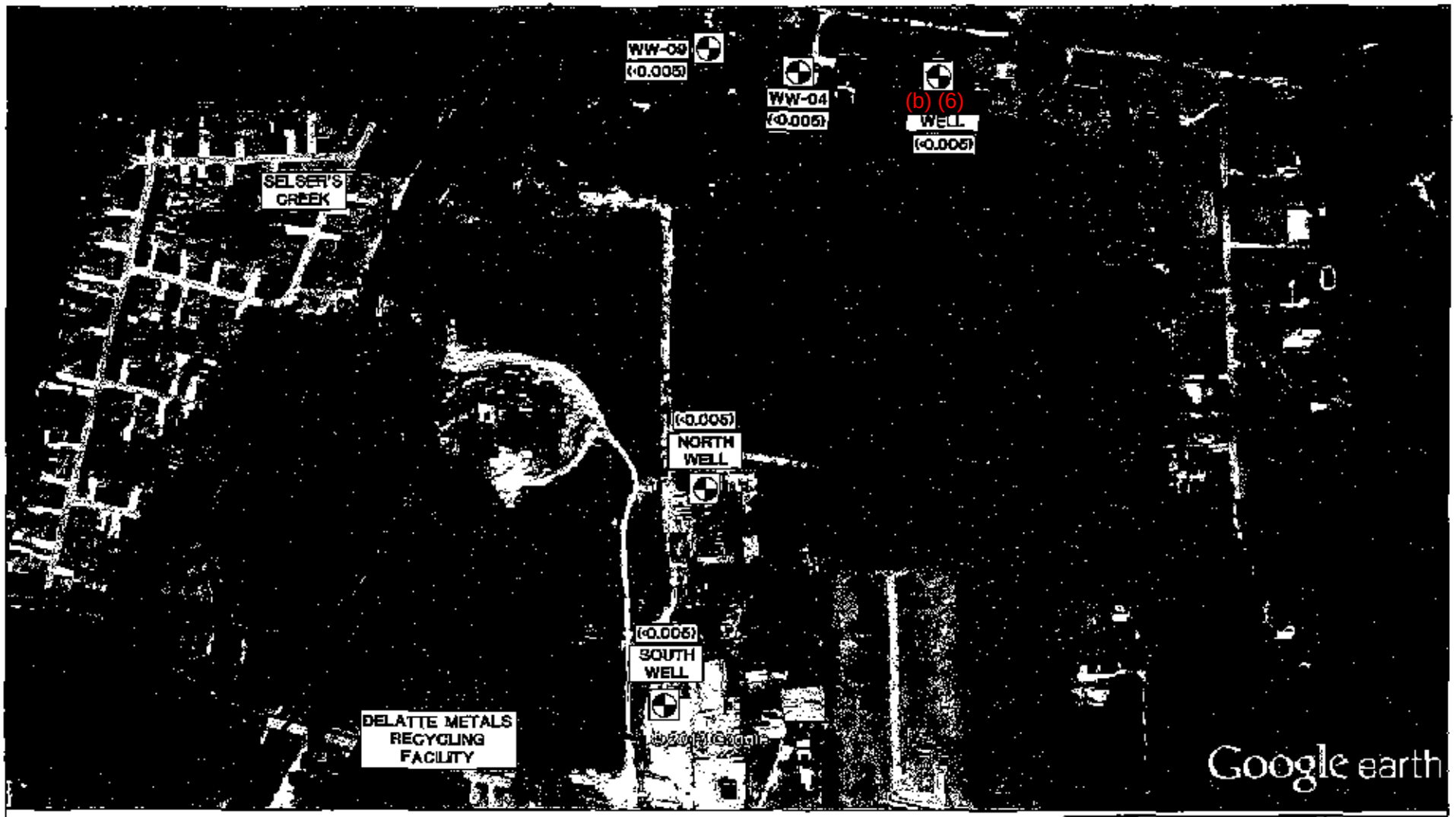
N

| DRAWN BY: | LDG | CHECKED BY | | DRAWING NO. |
|---|---|---|---|---|
| | 08/18/14 | APPROVED BY | | QTR/006 |

**FIGURE 7**
**WATER WELL**
**NICKEL ISOCONCENTRATION MAP**
**(SECOND QUARTER 2014)**

DELATTE METALS SUPERFUND SITE
PONCHATOULA, LOUISIANA
AGENCY INTEREST NO. 2328
PREPARED FOR:
**LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY**

SEMS Inc.




REFERENCE: MAP TAKEN FROM GOOGLE EARTH

**LEGEND**

| | |
|---|---|
| ⊕ | WATER SUPPLY WELL |
| mg/L | MILLIGRAMS PER LITER |
| (<0.005) | ZINC CONCENTRATION IN mg/L |

330 0 330
APPROXIMATE SCALE IN FEET

NOTES:
1) NO SITE CLEANUP STANDARDS WERE FOUND FOR ZINC. SEMS USED LDEQ RECAP SCREENING STANDARD OF 1.1 mg/L.
2) NO WELLS SAMPLED EXCEEDED LDEQ RECAP SCREENING STANDARD FOR ZINC.

N

| DRAWN BY: | LDG | CHECKED BY | | DRAWING NO. |
|---|---|---|---|---|
| | 08/18/14 | APPROVED BY | | QTR/007 |

**FIGURE 8**
**WATER WELL**
**ZINC ISOCONCENTRATION MAP**
**(SECOND QUARTER 2014)**

DELATTE METALS SUPERFUND SITE
PONCHATOULA, LOUISIANA
AGENCY INTEREST NO. 2328

PREPARED FOR:
**LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY**

SEMS Inc.

# ATTACHMENT A

# FIELD DATA SHEETS & WASTE MANIFESTS

# DELATTE METALS SUPERFUND SITE OPERATION AND MAINTENANCE ACTIVITY LOG



## PROJECT GENERAL INFORMATION

Client: LDEQ

Date: 6/2/14 to 6/5/14

Facility #: Delatte Metals Superfund Site

Activities: Notify facility of arrival. Inspect facility monitoring wells and PRB for integrity. Gauge, and sample appropriate wells.

Address: Weinberger Road, Ponchatoula, LA

Project #: 207-0029

## SEMS ACTIVITY DOCUMENTATION (Continued On Back)

| Time (Military) | Notes & Observations |
|---|---|
| Arrived : (Varied) | Notified facility personnel of arrival : YES NO  Have H&S plan : YES NO |
| | Potentiometric data collection procedures: Locate monitoring wells, open to allow for water level equilibration, inspect/document well integrity, measure total well depth, measure depth-to-water (to 0.00'). Measure wells from least contaminated to most contaminated.<br><br>Well purging procedures: Use low flow micro purge methods and monitor water quality characteristics. When water quality characteristics stabilize record characteristics and collect sample. Transport purge water to on-site 55-gallon drums for containment and disposal.<br><br>Groundwater sample collection procedures: Collect samples with dedicated well equipment by low flow micro purge methods after water quality characteristics have stabilized. Transfer samples to a proper container (on ice) for transport to the designated lab for analyses. Ship samples for overnight delivery, with completed chain-of-custody documentation. Sample wells in the same order as they were purged. |
| Departed : (Varied) | |

## SEMS EQUIPMENT & MATERIALS USED

| Task | Description | Accounting Code | Unit | Quantity |
|---|---|---|---|---|
| 03 | Operation, maintenance and related activities per well. | | well | 40 |
| 04 | Surface Water sampling activities per well | | well | 5 |
| 09 | Well Labels | | each | — |
| 10 | Well Locks | | each | — |
| 11 | Concrete Pad | | each | — |
| 12 | Well cover | | each | — |
| 13. | Repainting | | each (well) | — |
| 14 | Post Replacement | | each | — |
| 15 | Clearing Access to wells | | each (clearing event) | 1 |

## SEMS PERSONNEL INFORMATION

Employee Name: Nick Rodriguez

Employee Signature: [signature]

SEMS, Inc.

# DELATTE METALS SUPERFUND SITE OPERATION AND MAINTENANCE ACTIVITY LOG



SEMS EQUIPMENT & MATERIALS USED

| Task | Description | Accounting Code | Unit | Quantity |
|---|---|---|---|---|
| | | | | |
| 16 | Characterization / profiling related to disposal | | Each profile | 2 |
| 17 | Disposal of Decon Water and Purgewater - Haz | | gallon | |
| 18 | Disposal of Decon Water and Purgewater - Nonhaz | | gallon | |
| 19 | Disposal of PPE, Haz | | drum | |
| 20 | Disposal of PPE, Nonhaz | | drum | |
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Employee Name: Nick Rockhorst Employee Signature:

SEMS, Inc.

# Delatte Metals O&M QA/QC Checklist



SEMS Project #: 207-0029
Field Crew: Nick Rodehuser
Larry Brand

MS/MSD (Every 20 Samples)
Field Duplicate (Every 10 Samples)

| MS/ MSD | Field Duplicate | Sample ID on COC | Sample Location ID of Original Sample (Field Duplicate) | Date | Time | Notes |
|---|---|---|---|---|---|---|
| X | | MS-GSGP-03 | GSGP-03 | 6/2/14 | 910 | |
| X | | MSD-GSGP-03 | GSGP-03 | 6/2/14 | 910 | |
| | X | Duplicate#1 | WW-04 | 6/2/14 | 1140 | |
| | X | Duplicate#2 | BC-07 | 6/3/14 | 906 | |
| X | | MS-PW-04 | PW-04 | 6/3/14 | 1603 | |
| X | | MSD-PW-04 | PW-04 | 6/3/14 | 1603 | |
| | X | Duplicate#3 | DW-03 | 6/4/14 | 841 | Sulfate & Sulfide |
| ~~X~~ NR | ~~X~~ | ~~Duplicate#4~~ | ~~BA-03~~ | ~~6/4/14~~ | | NR |
| | X | Duplicate#4 | TEPA-P9 | 6/4/14 | 1426 | Sulfate & Sulfide |
| X | | MS-MW-02 | MW-02 | 6/4/14 | 1330 | Sulfate & Sulfide |
| X | | MSD-MW-02 | MW-02 | 6/4/14 | 1330 | Sulfate & Sulfide |
| | X | Duplicate#5 | BA-09A | 6/5/14 | 948 | |
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# Delatte Metals O&M PRB Inspection Checklist



SEMS Project #: 207-0029
Field Crew: Nick Rodeheaver
Larry Braud

Date Inspected 6/3/2014

| Is the soil overlying the PRB cracked, eroded, or show any other pathways that could allow for surface water to enter the subsurface? | |
|---|---|
| PRB Cleared | Yes, ~~during~~ after previous sampling event. |
| PRB Accessible | Yes, Access road is intact. |
| PRB Cracks Identified | None. |
| PRB Erosion Identified | None |
| Photos Taken | None |

NOTES:

~~Patch~~ Area of low-lying soil North of BA-05 & BA-05A (Approx 20'x40') requires fill. Stagnant water prevents use of heavy equipment. Will add fill when possible.

PRB=Permeable reactive barrier

# Delatte Metals O&M Well Inspection Checklist



SEMS Project #: 207-0029
Field Crew: Nick Rodeberg
Larry Brant

| Well No. | Date Inspected | Wells Labeled | Wells Locked | Post Condition | Paint Needed | Pad Condition | Well Access | Standing/ Ponded Water | Collision Damage | Frost Heaving | Casing Degradation | Well Subsidence | Photos Taken | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GSGP-03 | 6/2/14 | ← | NA (flush mount) | NA | → | Good | ✓ | X | X | X | X | X | X | |
| (b) (6) [redacted] Well | | NA | NA | NA | NA | NA | ✓ | X | X | X | X | X | X | |
| WW-04 | | NA | NA | NA | NA | NA | ✓ | X | X | X | X | X | X | |
| BC-03 | | ✓ | ✓ | ✓ | X | ✓ | ✓ | X | X | X | X | X | X | |
| BC-07 | 6/2/14 | ✓ | ✓ | ✓ | X | ✓ | ✓ | X | X | X | X | X | X | |
| DW-04 | | ✓ | ✓ | ✓ | X | ✓ | ✓ | X | X | X | X | X | X | |
| BC-19 | | ✓ | ✓ | ✓ | X | ✓ | ✓ | X | X | X | X | X | X | |
| BC-25 | 6/2/14 | ✓ | ✓ | ✓ | X | ✓ | ✓ | X | X | X | X | X | X | |
| MW-03 | | ✓ | ✓ | ✓ | X | ✓ | ✓ | X | X | X | X | X | X | |
| MW-06 | | ✓ | ✓ | ✓ | X | ✓ | ✓ | X | X | X | X | X | X | |
| GSGP-18 | | ✓ | ✓ | ✓ | X | ✓ | ✓ | X | X | X | X | X | X | |
| GSGP-19 | | ✓ | ✓ | ✓ | X | ✓ | ✓ | X | X | X | X | X | X | |

# Delatte Metals O&M Well Inspection Checklist



SEMS Project #: 207-0029
Field Crew: Nick Galchorsr
Lacey Brown

| Well No. | Date Inspected | Wells Labeled | Wells Locked | Post Condition | Paint Needed | Pad Condition | Well Access | Standing/ Ponded Water | Collision Damage | Frost Heaving | Casing Degradation | Well Subsidence | Photos Taken | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BB-01 | 6/3/14 | ✓ | ✓ | ✓ | X | X | ✓ | X | X | X | X | X | X | |
| South Well | | NA | NA | NA | NA | NA | ✓ | X | X | X | X | X | X | |
| BC-17 | | ✓ | ✓ | ✓ | X | X | ✓ | X | X | X | X | X | X | |
| North Well | | NA | NA | NA | NA | NA | ✓ | X | X | X | X | X | ✓ | |
| BC-21R | | ✓ | ✓ | ✓ | X | X | ✓ | X | X | X | X | X | X | |
| BA-01A | | ✓ | ✓ | ✓ | X | X | ✓ | X | X | X | X | X | X | |
| BA-01 | | ✓ | ✓ | ✓ | X | X | ✓ | X | X | X | X | X | X | |
| PW-04 | | ✓ | ✓ | ✓ | X | X | ✓ | X | X | X | X | X | X | |
| GSGP-15 | | ✓ | ✓ | ✓ | X | X | ✓ | X | X | X | X | X | X | |
| DW-03 | 6/4/14 | ✓ | ✓ | ✓ | X | ✓ | ✓ | X | X | X | X | X | X | |
| GSGP-22 | | ✓ | ✓ | NA | X | ✓ | ✓ | X | X | X | X | X | X | |
| TEPA-99 | | ✓ | NA | NA | NA | NA | ✓ | X | X | X | X | X | X | |

# Delatte Merals O&M Well Inspection Checklist



SEMS Project #: 207-0029
Field Crew: Nick Rockhorst
Larry Brown

| Well No. | Date Inspected | Wells Labeled | Wells Locked | Post Condition | Paint Needed | Pad Condition | Well Access | Standing/ Ponded Water | Collision Damage | Frost Heaving | Casing Degradation | Well Subsidence | Photos Taken | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BA-05 | 6/3/14 | ✓ | ✓ | ✓ | X | ✓ | ✓ | X | X | X | X | X | ✓ | |
| BA-05A | | ✓ | ✓ | ✓ | X | ✓ | ✓ | X | X | X | X | X | X | |
| DW-02 | | ✓ | ✓ | ✓ | X | ✓ | ✓ | X | X | X | X | X | X | |
| MW-A | | ✓ | ✓ | ✓ | X | ✓ | ✓ | X | X | X | X | X | X | |
| DW-01 | 6/4/14 | ✓ | ✓ | ✓ | X | ✓ | ✓ | ✓ | X | X | X | X | X | |
| BA-03 | | ✓ | ✓ | ✓ | X | ✓ | ✓ | X | X | X | X | X | X | |
| BA-08A | | ✓ | ✓ | ✓ | X | ✓ | ✓ | X | X | X | X | X | X | |
| MW-02 | | ✓ | ✓ | ✓ | X | ✓ | ✓ | X | X | X | X | X | X | |
| TEPA-P10 | | ✓ | NA | NA | NA | NA | ✓ | X | X | X | X | X | X | |
| TEPA-P9 | | ✓ | NA | NA | NA | NA | ✓ | X | X | X | X | X | X | |
| TEPA-P7D | | ✓ | NA | NA | NA | NA | ✓ | X | X | X | X | X | X | |
| TEPA-P6 | | ✓ | NA | NA | NA | NA | ✓ | X | X | X | X | X | X | |

# Delatte Metals O&M Well Inspection Checklist



SEMS Project #: 207-0029
Field Crew: Nick Rodebaugh
Larry Branch

| Well No. | Date Inspected | Wells Labeled | Wells Locked | Post Condition | Paint Needed | Pad Condition | Well Access | Standing/ Ponded Water | Collision Damage | Frost Heaving | Casing Degradation | Well Subsidence | Photos Taken | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TEPA-1H | 6/4/14 | ✓ | NA | NA | NA | NA | ✓ | X | X | X | X | X | X | |
| TEPA-6H | | ✓ | NA | NA | NA | NA | ✓ | X | X | X | X | X | X | |
| MW-01 | | ✓ | NA | NA | NA | NA | ✓ | X | X | X | X | X | X | |
| BA-09 | 6/5/14 | ✓ | ✓ | ✓ | X | ✓ | ✓ | X | X | X | X | X | X | |
| BA-09A | | ✓ | ✓ | ✓ | X | ✓ | ✓ | X | X | X | X | X | X | |
| GSGP-6 | | ✓ | ✓ | ✓ | X | ✓ | ✓ | X | X | X | X | X | X | |
| MW-4 | | ✓ | ✓ | ✓ | X | ✓ | ✓ | X | X | X | X | X | X | |
| WW-09 | | NA | NA | NA | NA | NA | ✓ | X | X | X | X | X | X | |
| | | | | | | | | | | | | | | |
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# TAILGATE SAFETY MEETING

## GENERAL INFORMATION

Company SEMS, Inc.

Date 6/2/2014 Time 8:30 Job Number 207-0029

Customer LDEQ - Delatte Metals Superfund Address

Job Location 19113 Weinberger Road, Pónchatoula, LA

Type of Work Groundwater / Surface Water Sampling

Protective Clothing/Equipment Level D - Safety toe shoes, long pants, nitrile gloves

## SAFETY TOPICS

Chemical Hazards low pH and high metals concentrations in groundwater

Physical Hazards heat stress, wasps, snakes, ticks, dogs on Youngblood property, heavy lifting

Emergency Procedures First Aid, Call 911 and proceed to hospital. Meet at front entrance if problems occur.

Hospital/Clinic North Oaks Hospital Phone (985) 345-2700

Hospital Address 15790 Paul Vega Dr. Hammond, LA

Special Equipment

Other

## ATTENDEES

| NAME PRINTED | SIGNATURE |
|---|---|
| Larry Brand | L Brand |
| Nick Rodebaugh | [illegible] |
| SITE SUPERVISOR | SIGNATURE |

# TAILGATE SAFETY MEETING

## GENERAL INFORMATION

Company: SEMS, Inc.

Date: 6/3/2014 Time: 8:20 Job Number: 207-0029

Customer: LDEQ - Delatte Metals Superfund Address:

Job Location: 19113 Weinberger Road, Ponchatoula, LA

Type of Work: Groundwater Sampling

Protective Clothing/Equipment: Level D - Safety toe shoes, long pants, nitrile gloves

## SAFETY TOPICS

Chemical Hazards: low pH and high metals concentrations in groundwater

Physical Hazards: heat stress, wasps, snakes, ticks, dogs on Youngblood property, heavy lifting

Emergency Procedures: First Aid, Call 911 and proceed to hospital. Meet at front entrance if problems occur.

Hospital/Clinic: North Oaks Hospital Phone: (985) 345-2700

Hospital Address: 15790 Paul Vega Dr. Hammond, LA

Special Equipment:

Other:

## ATTENDEES

| NAME PRINTED | SIGNATURE |
|---|---|
| Larry Brand | [illegible] |
| Nick Rodehorst | [illegible] |
| SITE SUPERVISOR | SIGNATURE |

# TAILGATE SAFETY MEETING

## GENERAL INFORMATION

Company SEMS, Inc.

Date 6/4/2014 Time 8:00 AM Job Number 207-0029

Customer LDEQ - Delatte Metals Superfund Address

Job Location 19113 Weinberger Road, Ponchatoula, LA

Type of Work

Protective Clothing/Equipment Level D - Safety toe shoes, long pants, nitrile gloves

## SAFETY TOPICS

Chemical Hazards low pH and high metals concentrations in groundwater

Physical Hazards heat stress, wasps, snakes, ticks, dogs on Youngblood property, heavy lifting

Emergency Procedures First Aid, Call 911 and proceed to hospital. Meet at front entrance if problems occur.

Hospital/Clinic North Oaks Hospital Phone (985) 345-2700

Hospital Address 15790 Paul Vega Dr. Hammond, LA

Special Equipment

Other

## ATTENDEES

| NAME PRINTED | SIGNATURE |
|---|---|
| Larry Brand | L Brand |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| Nick Rockhold | |
| SITE SUPERVISOR | SIGNATURE |

# TAILGATE SAFETY MEETING

## GENERAL INFORMATION

Company SEMS, Inc.

Date 6/5/2014 Time 8:30 Job Number 207-0029

Customer LDEQ - Delatte Metals Superfund Address

Job Location 19113 Weinberger Road, Ponchatoula, LA

Type of Work

Protective Clothing/Equipment Level D - Safety toe shoes, long pants, nitrile gloves

## SAFETY TOPICS

Chemical Hazards low pH and high metals concentrations in groundwater

Physical Hazards heat stress, wasps, snakes, ticks, dogs on Youngblood property, heavy lifting

Emergency Procedures First Aid, Call 911 and proceed to hospital. Meet at front entrance if problems occur.

Hospital/Clinic North Oaks Hospital Phone (985) 345-2700

Hospital Address 15790 Paul Vega Dr. Hammond, LA

Special Equipment

Other

## ATTENDEES

| NAME PRINTED | SIGNATURE |
|---|---|
| Larry Brand | [signature] |
| | |
| | |
| | |
| | |
| | |
| | |
| Nick Rodeheaver | [signature] |
| SITE SUPERVISOR | SIGNATURE |

LOW-FLOW GROUNDWATER SAMPLING LOG

Project: Delatte Metals Superfund Site
Project No.: 207-0029
Site Location: Ponchatoula, Louisiana
Monitor Well No.: (b) (6) [redacted] Well
Date Purged/Sampled: 6/2/14 Sampled By: NB/LB

## MONITOR WELL INFORMATION

Total Depth of Monitor Well (TD): UNK ft.
Static Depth to Groundwater (DTW): UNK ft.
Screen Length (SL) from Boring Logs: UNK ft.
Depth to Top of Well Screen (TD-SL): UNK ft.
Height of Water Column (H=TD-DTW): UNK ft.

Purge Flow Rate: _____ mL/min
Volume Purged: _____ gallons
Date/Time of Sample: 6/2/14 @1130 Time

## WELL CASING VOLUME CALCULATIONS

☐ 2" Well (H x 0.163 gal/ft) _____ gal. (1 well volume) _____ gal. (3 well volumes)
☒ 4" Well (H x 0.653 gal/ft) _____ gal. (1 well volume) _____ gal. (3 well volumes)
☐ Other: _____

## PURGING METHOD

☐ Peristaltic Pump
☐ Low-flow Submersible Pump
☒ Water Well
☐ Other (Specify)

## METHOD OF SAMPLE COLLECTION

☐ Peristaltic Pump
☐ Low-flow Submersible Pump
☐ Bailer ☐ Dedicated ☐ Disposable
☒ Other (Specify) Let water flow for 15 minutes

## LOW-FLOW MONITORING PARAMETERS -143

| Time | Flow Rate | Temp. | Specific Conductivity | Dissolved Oxygen | pH | ORP | Turbidity | DTW |
|---|---|---|---|---|---|---|---|---|
| hr/min | mL/min | °C | mS/cm | mg/L | Standard Units | mV | NTU or FTU | feet |
| Targets | 100 - 500 mL/min | +/- 1°C | +/- 3% | +/- 10% | +/- 0.1 | +/- 10% | +/- 10% (if >10 NTU or FTU) | <0.3 ft. or Top of Screen |
| 11:30 | — | 22.33 | 0.289 | 2.06 | 7.02 | -143 | 1.3 | — |
| | | | | | | | | |
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Notes: 1. Well is stable if 3 consecutive measurements of as many as 3 indicators are within their target ranges.
2. Take measurements every 3 to 5 minutes.

| Total Metals Collected | X | Dissolved Metals Collected | | Sulfates Collected | | Sulfides Collected | |
|---|---|---|---|---|---|---|---|

SHEET 1 OF 1

(b) (6) [redacted]

Dup. #1

# LOW-FLOW GROUNDWATER SAMPLING LOG

**Project:** Delatte Metals Superfund Site
**Project No.:** 207-0029
**Site Location:** Ponchatoula, Louisiana
**Monitor Well No.:** WW-04
**Date Purged/Sampled:** 6/2/14 **Sampled By:** VR / LB

## MONITOR WELL INFORMATION

Total Depth of Monitor Well (TD): UNK ft.
Static Depth to Groundwater (DTW): UNK ft.
Screen Length (SL) from Boring Logs: UNK ft.
Depth to Top of Well Screen (TD-SL): UNK ft.
Height of Water Column (H=TD-DTW): UNK ft.

**Purge Flow Rate:** _____ mL/min
**Volume Purged:** _____ gallons
**Date/Time of Sample:** 6/2/14 @ 1140 Time

## WELL CASING VOLUME CALCULATIONS

☐ 2" Well (H x 0.163 gal/ft) _____ gal. (1 well volume) _____ gal. (3 well volumes)
☒ 4" Well (H x 0.653 gal/ft) _____ gal. (1 well volume) _____ gal. (3 well volumes)
☐ Other: _____

## PURGING METHOD

☐ Peristaltic Pump
☐ Low-flow Submersible Pump
☒ Water Well
☐ Other (Specify)

## METHOD OF SAMPLE COLLECTION

☐ Peristaltic Pump
☐ Low-flow Submersible Pump
☐ Bailer ☐ Dedicated ☐ Disposable
☒ Other (Specify) Let water flow for 15 minutes

## LOW-FLOW MONITORING PARAMETERS

| Time | Flow Rate | Temp. | Specific Conductivity | Dissolved Oxygen | pH | ORP | Turbidity | DTW |
|---|---|---|---|---|---|---|---|---|
| hr/min | mL/min | °C | mS/cm | mg/L | Standard Units | mV | NTU or FTU | feet |
| Targets | 100 - 500 mL/min | +/- 1°C | +/- 3% | +/- 10% | +/- 0.1 | +/- 10% | +/- 10% (if >10 NTU or FTU) | <0.3 ft. or Top of Screen |
| 1140 | — | 81.01 | 0.300 | 5.82 | 8.29 | -223 | 0.6 | — |
| | | | | | | | | |
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Notes: 1. Well is stable if 3 consecutive measurements of as many as 3 indicators are within their target ranges.
2. Take measurements every 3 to 5 minutes.

| Total Metals Collected | X | Dissolved Metals Collected | | Sulfates Collected | | Sulfides Collected | |
|---|---|---|---|---|---|---|---|

SHEET 1 OF 1

LOW-FLOW GROUNDWATER SAMPLING LOG

**Project:** Delatte Metals Superfund Site
**Project No.:** 207-0029
**Site Location:** Ponchatoula, Louisiana
**Monitor Well No.:** South Well
**Date Purged/Sampled:** 6/3/2014 **Sampled By:** NB/CB

## MONITOR WELL INFORMATION

Total Depth of Monitor Well (TD): UNK ft.
Static Depth to Groundwater (DTW): UNK ft.
Screen Length (SL) from Boring Logs: UNK ft.
Depth to Top of Well Screen (TD-SL): UNK ft.
Height of Water Column (H=TD-DTW): UNK ft.

**Purge Flow Rate:** _____ mL/min
**Volume Purged:** _____ gallons
**Date/Time of Sample:** 6/3/14@1040 Time

## WELL CASING VOLUME CALCULATIONS

☐ 2" Well (H x 0.163 gal/ft) _____ gal. (1 well volume) _____ gal. (3 well volumes)
☒ 4" Well (H x 0.653 gal/ft) _____ gal. (1 well volume) _____ gal. (3 well volumes)
☐ Other: _____

## PURGING METHOD

☐ Peristaltic Pump
☐ Low-flow Submersible Pump
☒ Water Well
☐ Other (Specify)

## METHOD OF SAMPLE COLLECTION

☐ Peristaltic Pump
☐ Low-flow Submersible Pump
☐ Bailer ☐ Dedicated ☐ Disposable
☒ Other (Specify) Let water flow for 15 minutes

## LOW-FLOW MONITORING PARAMETERS

| Time | Flow Rate | Temp. | Specific Conductivity | Dissolved Oxygen | pH | ORP | Turbidity | DTW |
|---|---|---|---|---|---|---|---|---|
| hr/min | mL/min | °C | mS/cm | mg/L | Standard Units | mV | NTU or FTU | feet |
| Targets | 100 - 500 mL/min | +/- 1°C | +/- 3% | +/- 10% | +/- 0.1 | +/- 10% | +/- 10% (If >10 NTU or FTU) | <0.3 ft. or Top of Screen |
| 10:40 | — | 22.40 | 0.301 | 3.17 mg/L | 8.62 | 67 | 0.1 | — |
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Notes: 1. Well is stable if 3 consecutive measurements of as many as 3 indicators are within their target ranges.
2. Take measurements every 3 to 5 minutes.

| Total Metals Collected | ☒ | Dissolved Metals Collected | | Sulfates Collected | | Sulfides Collected | |
|---|---|---|---|---|---|---|---|

SHEET 1 OF 1

LOW-FLOW GROUNDWATER SAMPLING LOG

**Project:** Delatte Metals Superfund Site
**Project No.:** 207-0029
**Site Location:** Ponchatoula, Louisiana
**Monitor Well No.:** North Well
**Date Purged/Sampled:** 6/3/2014 **Sampled By:** NB/LB

## MONITOR WELL INFORMATION

Total Depth of Monitor Well (TD): UNK ft.
Static Depth to Groundwater (DTW): UNK ft.
Screen Length (SL) from Boring Logs: UNK ft.
Depth to Top of Well Screen (TD-SL): UNK ft.
Height of Water Column (H=TD-DTW): UNK ft.

**Purge Flow Rate:** _____ mL/min
**Volume Purged:** _____ gallons
**Date/Time of Sample:** 6/3/14 @1057 Time

## WELL CASING VOLUME CALCULATIONS

☐ 2" Well (H x 0.163 gal/ft) _____ gal. (1 well volume) _____ gal. (3 well volumes)
☒ 4" Well (H x 0.653 gal/ft) _____ gal. (1 well volume) _____ gal. (3 well volumes)
☐ Other: _____

## PURGING METHOD

☐ Peristaltic Pump
☐ Low-flow Submersible Pump
☒ Water Well
☐ Other (Specify)

## METHOD OF SAMPLE COLLECTION

☐ Peristaltic Pump
☐ Low-flow Submersible Pump
☐ Bailer ☐ Dedicated ☐ Disposable
☒ Other (Specify) Let water flow for 15 minutes

## LOW-FLOW MONITORING PARAMETERS

| Time | Flow Rate | Temp. | Specific Conductivity | Dissolved Oxygen | pH | ORP | Turbidity | DTW |
|---|---|---|---|---|---|---|---|---|
| hr/min | mL/min | °C | mS/cm | mg/L | Standard Units | mV | NTU or FTU | feet |
| Targets | 100 - 500 mL/min | +/- 1°C | +/- 3% | +/- 10% | +/- 0.1 | +/- 10% | +/- 10% (if >10 NTU or FTU) | <0.3 ft. or Top of Screen |
| 1057 | — | 22.77 | 0.293 | 1.77 | 8.61 | -232 | 0.0 | — |
| | | | | | | | | |
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Notes: 1. Well is stable if 3 consecutive measurements of as many as 3 indicators are within their target ranges.
2. Take measurements every 3 to 5 minutes.

| Total Metals Collected | X | Dissolved Metals Collected | | Sulfates Collected | | Sulfides Collected | |
|---|---|---|---|---|---|---|---|

SHEET 1 OF 1

LOW-FLOW GROUNDWATER SAMPLING LOG

**Project:** Delatte Metals Superfund Site
**Project No.:** 207-0029
**Site Location:** Ponchatoula, Louisiana
**Monitor Well No.:** WW-09
**Date Purged/Sampled:** 6/5/14 **Sampled By:** NR/LTB

## MONITOR WELL INFORMATION

Total Depth of Monitor Well (TD): 60 ft.
Static Depth to Groundwater (DTW): UNK ft.
Screen Length (SL) from Boring Logs: UNK ft.
Depth to Top of Well Screen (TD-SL): UNK ft.
Height of Water Column (H=TD-DTW): UNK ft.

**Purge Flow Rate:** _____ mL/min
**Volume Purged:** _____ gallons
**Date/Time of Sample:** 6/5/14 @ 1110 Time

## WELL CASING VOLUME CALCULATIONS

☐ 2" Well (H x 0.163 gal/ft) _____ gal. (1 well volume) _____ gal. (3 well volumes)
☒ 4" Well (H x 0.653 gal/ft) _____ gal. (1 well volume) _____ gal. (3 well volumes)
☐ Other: _____

## PURGING METHOD

☐ Peristaltic Pump
☐ Low-flow Submersible Pump
☒ Water Well
☐ Other (Specify)

## METHOD OF SAMPLE COLLECTION

☐ Peristaltic Pump
☐ Low-flow Submersible Pump
☐ Bailer ☐ Dedicated ☐ Disposable
☒ Other (Specify) Let water flow for 15 minutes

## LOW-FLOW MONITORING PARAMETERS

| Time | Flow Rate | Temp. | Specific Conductivity | Dissolved Oxygen | pH | ORP | Turbidity | DTW |
|---|---|---|---|---|---|---|---|---|
| hr/min | mL/min | °C | mS/cm | mg/L | Standard Units | mV | NTU or FTU | feet |
| Targets | 100 - 500 mL/min | +/- 1°C | +/- 3% | +/- 10% | +/- 0.1 | +/- 10% | +/- 10% (if>10 NTU or FTU) | <0.3 ft. or Top of Screen |
| 1110 | — | 22.31 | 0.297 | 5.93 | 7.49 | -148 | 1.2 | — |
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Notes: 1. Well is stable if 3 consecutive measurements of as many as 3 indicators are within their target ranges.
2. Take measurements every 3 to 5 minutes.

| Total Metals Collected | X | Dissolved Metals Collected | | Sulfates Collected | | Sulfides Collected | |
|---|---|---|---|---|---|---|---|

SHEET 1 OF 1

Pace Analytical
www.pacelabs.com

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: of

| Section A Required Client Information: | | Section B Required Project Information: | | Section C Invoice Information: | |
|---|---|---|---|---|---|
| Company: | SEMS Inc | Report To: | Nick Rodenhorst | Attention: | Brian Sullivan |
| Address: | 3801 N. Causeway Blvd. | Copy To: | Brian Sullivan | Company Name: | SEMS, Inc |
| | Metairie, LA 70002 | | | Address: | 3801 N. Causeway Blvd. |
| Email To: | nrodehorst@semsinc.com | Purchase Order No.: | | Pace Quote Reference: | 9893 |
| Phone: / Fax: | | Project Name: | Delatte Metals | Pace Project Manager: | Randy Shackelford |
| Requested Due Date/TAT: | 10 WD | Project Number: | 84383 | Pace Profile #: | |

**REGULATORY AGENCY**

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: LA

**Requested Analysis Filtered (Y/N)**

Section D Required Client Information

Valid Matrix Codes

| MATRIX | CODE |
|---|---|
| DRINKING WATER | DW |
| WATER | WT |
| WASTE WATER | WW |
| PRODUCT | P |
| SOIL/SOLID | SL |
| OIL | OIL |
| WIPE | WP |
| AIR | AR |
| OTHER | OT |
| TISSUE | TS |

**SAMPLE ID**
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED: COMPOSITE START DATE | COMPOSITE START TIME | COMPOSITE END/GRAB DATE | COMPOSITE END/GRAB TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test Y/N | Total Metals | Dissolved Metals | Sulfate | Sulfide | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
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| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS |
|---|---|---|---|---|---|---|---|
| Metals = As,Cd,Pb,Mn,Ni,Zn | | | | | | | |
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SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

| Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N) |
|---|---|---|---|
| | | | |

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 2 of

**Section A** Required Client Information:

Company: SEMS Inc
Address: 3801 N. Causeway Blvd.
Metairie, LA 70002
Email To: nrodenhorst@semsinc.com
Phone: Fax:
Requested Due Date/TAT: 10 WD

**Section B** Required Project Information:

Report To: Nick Rodenhorst
Copy To: Brian Sullivan
Purchase Order No.:
Project Name: Delatte Metals
Project Number: 84383

**Section C** Invoice Information:

Attention: Brian Sullivan
Company Name: SEMS, Inc
Address: 3801 N. Causeway Blvd.
Pace Quote Reference: 9893
Pace Project Manager: Randy Shackelford
Pace Profile #:

REGULATORY AGENCY
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: LA

Requested Analysis Filtered (Y/N)

**Section D** Required Client Information

Valid Matrix Codes

| MATRIX | CODE |
|---|---|
| DRINKING WATER | DW |
| WATER | WT |
| WASTE WATER | WW |
| PRODUCT | P |
| SOIL/SOLID | SL |
| OIL | OL |
| WIPE | WP |
| AIR | AR |
| OTHER | OT |
| TISSUE | TS |

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED COMPOSITE START DATE | COLLECTED COMPOSITE START TIME | COLLECTED COMPOSITE END/GRAB DATE | COLLECTED COMPOSITE END/GRAB TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test Y/N | Total Metals | Dissolved Metals | Sulfate | Sulfide | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
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| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS |
|---|---|---|---|---|---|---|---|
| Metals = As,Cd,Pb,Mn,Ni,Zn | | | | | | | |

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER:
SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Pace Analytical

# CHAIN-OF-CUSTODY / Analytical Request Document

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Page: of

**Section A** Required Client Information:

| | |
|---|---|
| Company: | SEMS Inc |
| Address: | 3801 N. Causeway Blvd. |
| | Metairie, LA 70002 |
| Email To: | nrodehorst@semsinc.com |
| Phone: | Fax: |
| Requested Due Date/TAT: | 10 WD |

**Section B** Required Project Information:

| | |
|---|---|
| Report To: | Nick Rodenhorst |
| Copy To: | Brian Sullivan |
| Purchase Order No.: | |
| Project Name: | Delatte Metals |
| Project Number: | 84383 |

**Section C** Invoice Information:

| | |
|---|---|
| Attention: | Brian Sullivan |
| Company Name: | SEMS, Inc |
| Address: | 3801 N. Causeway Blvd. |
| Pace Quote Reference: | 9893 |
| Pace Project Manager: | Randy Shackelford |
| Pace Profile #: | |

**REGULATORY AGENCY**

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: LA

**Section D** Required Client Information

Valid Matrix Codes

| MATRIX | CODE |
|---|---|
| DRINKING WATER | DW |
| WATER | WT |
| WASTE WATER | WW |
| PRODUCT | P |
| SOIL/SOLID | SL |
| OIL | OL |
| WIPE | WP |
| AIR | AR |
| OTHER | OT |
| TISSUE | TS |

**SAMPLE ID** (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED: COMPOSITE START DATE | COMPOSITE START TIME | COMPOSITE END/GRAB DATE | COMPOSITE END/GRAB TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test ↓ (Y/N) | Total Metals | Dissolved Metals | Sulfate | Sulfide | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
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| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS |
|---|---|---|---|---|---|---|---|
| Metals = As,Cd,Pb,Mn,Ni,Zn | | | | | | | |
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SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

| Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N) |
|---|---|---|---|
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*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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# CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 1 of 1

**Section A** Required Client Information:

| | |
|---|---|
| Company: | SEMS Inc |
| Address: | 3801 N. Causeway Blvd. |
| | Metairie, LA 70002 |
| Email To: | nrodehorst@semsinc.com |
| Phone: | Fax: |
| Requested Due Date/TAT: | 10 WD |

**Section B** Required Project Information:

| | |
|---|---|
| Report To: | Nick Rodenhorst |
| Copy To: | Brian Sullivan |
| Purchase Order No.: | |
| Project Name: | Delatte Metals |
| Project Number: | 84383 |

**Section C** Invoice Information:

| | |
|---|---|
| Attention: | Brian Sullivan |
| Company Name: | SEMS, Inc |
| Address: | 3801 N. Causeway Blvd. |
| Pace Quote Reference: | 9893 |
| Pace Project Manager: | Randy Shackelford |
| Pace Profile #: | |

**REGULATORY AGENCY**

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: LA

**Section D** Required Client Information

Valid Matrix Codes

| MATRIX | CODE |
|---|---|
| DRINKING WATER | DW |
| WATER | WT |
| WASTE WATER | WW |
| PRODUCT | P |
| SOIL/SOLID | SL |
| OIL | OL |
| WIPE | WP |
| AIR | AR |
| OTHER | OT |
| TISSUE | TS |

Requested Analysis Filtered (Y/N)

| ITEM # | SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED COMPOSITE START DATE | COLLECTED COMPOSITE START TIME | COLLECTED COMPOSITE END/GRAB DATE | COLLECTED COMPOSITE END/GRAB TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test Y/N | Total Metals | Dissolved Metals | Sulfate | Sulfide | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
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| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS |
|---|---|---|---|---|---|---|---|
| Metals = As,Cd,Pb,Mn,Ni,Zn | | | | | | | |
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SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

| Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N) |
|---|---|---|---|
| | | | |

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Please print or type.

| NON HAZARDOUS WASTE MANIFEST | 1. Generator ID Number | 2. Page 1 of 1 | 3. Emergency Response Phone | 4. WM - 130801 |
|---|---|---|---|---|

5. Generator's Name and Mailing Address
Delatte Metals Superfund Site
LDEQ, 602 North Fifth Street
Baton Rouge, LA 70802
Generator's Phone: 225-219-3689

Generator's Site Address (If different than mailing address)
Delatte Metals Superfund Site
1911 Weinberger Rd.
Ponchatoula, LA 70454

6. Transporter 1 Company Name: STRANCO — U.S. EPA ID Number:

7. Transporter 2 Company Name: — U.S. EPA ID Number:

8. Designated Facility Name and Site Address: Woodside RDF, 29340 Woodside Dr., Walker, LA 70785 — U.S. EPA ID Number:

Facility's Phone:

| 9a. HM | 9b. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any)) | 10. Containers No. | 10. Containers Type | 11. Total Quantity | 12. Unit Wt./Vol. | 13. Waste No. | | |
|---|---|---|---|---|---|---|---|---|
| | 1. Purgewater (Profile # 951190 LA) | - | Drum | 3 | 55 gal | 902 | 50% | |
| | 2. Sampling Debris (Profile # 951195 LA) | - | Drum | 1 | 55 gal | 902 | 10% | |
| | 3. | | | | | | | |
| | 4. | | | | | | | |

14. Special Handling Instructions and Additional Information
Bill to SEM Inc. (Attn: Nick Moschoret)

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable and national governmental regulations and is (are) not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law.

Generator's/Offeror's Printed/Typed Name: BRIAN SULIVAN / STAS — Signature: [signature] — Month 7 Day 1 Year 14

Transporter Acknowledgement of Receipt of Materials

16. Transporter 1 Printed/Typed Name: Curtis Hill — Signature: [signature] — Month 7 Day 1 Year 14

17. Transporter 2 Printed/Typed Name: — Signature: — Month Day Year

18. Discrepancy Comments

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

19. Management Method Codes

| 1. | 2. | 3. | 4. |
|---|---|---|---|
| | | | |

20. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: [signature] — Signature: [signature] — Month Day Year

# ATTACHMENT B

# LABORATORY ANALYTICAL REPORT

Pace Analytical Services, Inc.
1000 Riverbend Blvd. - Suite F
New Orleans, LA 70087
(504)469-0333

July 03, 2014

Nick Rodehorst
SEMS
3801 N. Causeway Blvd
Metairie, LA 70002

RE: Project: Delatte Metals
Pace Project No.: 205003

Dear Nick Rodehorst:
Enclosed are the analytical results for sample(s) received by the laboratory on June 05, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

William Shackelford
william.shackelford@pacelabs.com
Project Manager

Enclosures

cc: Larry Braud, SEMS
Lab Data, SEMS, Inc.
Brian Sullivan, SEMS



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New Orleans, LA 70087
(504)469-0333

# CERTIFICATIONS

Project: Delatte Metals
Pace Project No.: 205003

**New Orleans Certification IDs**
California Env. Lab Accreditation Program Branch: 11277CA
Florida Department of Health (NELAC): E87595
Illinois Environmental Protection Agency: 0025721
Kansas Department of Health and Environment (NELAC): E-10266
Louisiana Dept. of Environmental Quality (NELAC/LELAP): 02006
Oklahoma Department of Environmental Quality: 2010-139
Oregon Environmental Laboratory Accreditation: LA200001
Pennsylvania Dept. of Env Protection (NELAC): 68-04202
Texas Commission on Env. Quality (NELAC): T104704405-09-TX
U.S. Dept. of Agriculture Foreign Soil Import: P330-10-00119
Washington Department of Ecology: C2078

**Kansas Certification IDs**
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097



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## SAMPLE SUMMARY

Project: Delatte Metals
Pace Project No.: 205003

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|---|---|---|---|---|
| 205003001 | CA-41 | Water | 06/02/14 09:45 | 06/05/14 15:25 |
| 205003002 | CA-51 | Water | 06/02/14 09:30 | 06/05/14 15:25 |
| 205003003 | GSGP-03 | Water | 06/02/14 09:10 | 06/05/14 15:25 |
| 205003004 | BRIDGE | Water | 06/02/14 10:15 | 06/05/14 15:25 |
| 205003005 | CL-05 | Water | 06/02/14 10:50 | 06/05/14 15:25 |
| 205003006 | CL-19 | Water | 06/02/14 11:10 | 06/05/14 15:25 |
| 205003008 | WW-04 | Water | 06/02/14 11:40 | 06/05/14 15:25 |
| 205003009 | BC-03 | Water | 06/02/14 12:53 | 06/05/14 15:25 |
| 205003010 | MW-06 | Water | 06/02/14 13:51 | 06/05/14 15:25 |
| 205003011 | GSGP-18 | Water | 06/02/14 14:15 | 06/05/14 15:25 |
| 205003012 | GSGP-19 | Water | 06/02/14 14:34 | 06/05/14 15:25 |
| 205003013 | MW-03 | Water | 06/02/14 15:01 | 06/05/14 15:25 |
| 205003014 | BC-25 | Water | 06/02/14 15:19 | 06/05/14 15:25 |
| 205003015 | DUPLICATE #1 | Water | 06/02/14 11:40 | 06/05/14 15:25 |
| 205003016 | BC-07 | Water | 06/03/14 09:06 | 06/05/14 15:25 |
| 205003017 | DW-04 | Water | 06/03/14 09:42 | 06/05/14 15:25 |
| 205003018 | BC-19 | Water | 06/03/14 10:06 | 06/05/14 15:25 |
| 205003019 | SOUTHWELL | Water | 06/03/14 10:40 | 06/05/14 15:25 |
| 205003020 | NORTHWELL | Water | 06/03/14 10:57 | 06/05/14 15:25 |
| 205003021 | BC-17 | Water | 06/03/14 11:36 | 06/05/14 15:25 |
| 205003022 | BC-21R | Water | 06/03/14 13:09 | 06/05/14 15:25 |
| 205003023 | BA-01 | Water | 06/03/14 13:57 | 06/05/14 15:25 |
| 205003024 | DW-02 | Water | 06/03/14 14:21 | 06/05/14 15:25 |
| 205003025 | BA-05 | Water | 06/03/14 14:52 | 06/05/14 15:25 |
| 205003026 | MW-A | Water | 06/03/14 15:15 | 06/05/14 15:25 |
| 205003027 | GSGP-15 | Water | 06/03/14 15:44 | 06/05/14 15:25 |
| 205003028 | PW-04 | Water | 06/03/14 16:03 | 06/05/14 15:25 |
| 205003029 | DUPLICATE #2 | Water | 06/03/14 09:06 | 06/05/14 15:25 |
| 205003030 | DW-03 | Water | 06/04/14 08:41 | 06/05/14 15:25 |
| 205003031 | GSGP-22 | Water | 06/04/14 09:06 | 06/05/14 15:25 |
| 205003032 | TEPA-9H (9G) | Water | 06/04/14 09:30 | 06/05/14 15:25 |
| 205003033 | DW-01 | Water | 06/04/14 10:03 | 06/05/14 15:25 |
| 205003034 | MW-01 | Water | 06/04/14 10:33 | 06/05/14 15:25 |
| 205003035 | TEPA-6H | Water | 06/04/14 11:01 | 06/05/14 15:25 |
| 205003036 | BA-03 | Water | 06/04/14 12:52 | 06/05/14 15:25 |
| 205003037 | MW-02 | Water | 06/04/14 13:30 | 06/05/14 15:25 |
| 205003038 | TEPA-P9 | Water | 06/04/14 14:26 | 06/05/14 15:25 |



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(504)468-0333

## SAMPLE SUMMARY

Project: Delalte Metals
Pace Project No.: 205003

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|---|---|---|---|---|
| 205003039 | TEPA-P6 | Water | 06/04/14 15:05 | 06/05/14 15:25 |
| 205003040 | TEPA-1H | Water | 06/04/14 15:26 | 06/05/14 15:25 |
| 205003041 | TEPA-P10 | Water | 06/04/14 15:40 | 06/05/14 15:25 |
| 205003042 | TEPA-P7D | Water | 06/04/14 15:50 | 06/05/14 15:25 |
| 205003043 | DUPLICATE #3 | Water | 06/04/14 08:41 | 06/05/14 15:25 |
| 205003044 | DUPLICATE #4 | Water | 06/04/14 14:26 | 06/05/14 15:25 |
| 205003045 | BA-09 | Water | 06/05/14 10:33 | 06/05/14 15:25 |
| 205003046 | BA-09A | Water | 06/05/14 09:48 | 06/05/14 15:25 |
| 205003047 | GSGP-6 | Water | 06/05/14 09:21 | 06/05/14 15:25 |
| 205003048 | MW-4 | Water | 06/05/14 11:00 | 06/05/14 15:25 |
| 205003049 | WW-09 | Water | 06/05/14 11:10 | 06/05/14 15:25 |
| 205003050 | DUPLICATE #5 | Water | 06/05/14 09:48 | 06/05/14 15:25 |
| 205003051 | (b) (6) [redacted] WELL | Water | 06/02/14 11:30 | 06/05/14 15:25 |



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# SAMPLE ANALYTE COUNT

Project: Delatte Metals
Pace Project No.: 205003

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| 205003001 | CA-41 | EPA 6020 | KJR | 6 | PASI-N |
| | | EPA 6020 | KJR | 6 | PASI-N |
| 205003002 | CA-51 | EPA 6020 | KJR | 6 | PASI-N |
| | | EPA 6020 | KJR | 6 | PASI-N |
| 205003003 | GSGP-03 | EPA 6020 | KJR | 6 | PASI-N |
| 205003004 | BRIDGE | EPA 6020 | KJR | 6 | PASI-N |
| | | EPA 6020 | KJR | 6 | PASI-N |
| 205003005 | CL-05 | EPA 6020 | KJR | 6 | PASI-N |
| | | EPA 6020 | KJR | 6 | PASI-N |
| 205003006 | CL-19 | EPA 6020 | KJR | 6 | PASI-N |
| | | EPA 6020 | KJR | 6 | PASI-N |
| 205003008 | WW-04 | EPA 6020 | KJR | 6 | PASI-N |
| 205003009 | BC-03 | EPA 6020 | KJR | 6 | PASI-N |
| 205003010 | MW-06 | EPA 6020 | KJR | 6 | PASI-N |
| 205003011 | GSGP-18 | EPA 6020 | KJR | 6 | PASI-N |
| 205003012 | GSGP-19 | EPA 6020 | KJR | 6 | PASI-N |
| 205003013 | MW-03 | EPA 6020 | KJR | 6 | PASI-N |
| 205003014 | BC-25 | EPA 6020 | KJR | 6 | PASI-N |
| 205003015 | DUPLICATE #1 | EPA 6020 | KJR | 6 | PASI-N |
| 205003016 | BC-07 | EPA 6020 | KJR | 6 | PASI-N |
| 205003017 | DW-04 | EPA 6020 | KJR | 6 | PASI-N |
| 205003018 | BC-19 | EPA 6020 | KJR | 6 | PASI-N |
| 205003019 | SOUTHWELL | EPA 6020 | KJR | 6 | PASI-N |
| 205003020 | NORTHWELL | EPA 6020 | KJR | 6 | PASI-N |
| 205003021 | BC-17 | EPA 6020 | KJR | 6 | PASI-N |
| 205003022 | BC-21R | EPA 6020 | KJR | 6 | PASI-N |
| 205003023 | BA-01 | EPA 6020 | KJR | 6 | PASI-N |
| 205003024 | DW-02 | EPA 6020 | KJR | 6 | PASI-N |
| 205003025 | BA-05 | EPA 6020 | KJR | 6 | PASI-N |
| 205003026 | MW-A | EPA 6020 | KJR | 6 | PASI-N |
| 205003027 | GSGP-15 | EPA 6020 | KJR | 6 | PASI-N |
| 205003028 | PW-04 | EPA 6020 | KJR | 6 | PASI-N |
| 205003029 | DUPLICATE #2 | EPA 6020 | KJR | 6 | PASI-N |
| 205003030 | DW-03 | EPA 6020 | KJR | 6 | PASI-N |
| | | EPA 9034 | LVA | 1 | PASI-N |
| | | EPA 9056 | OL | 1 | PASI-K |
| 205003031 | GSGP-22 | EPA 6020 | KJR | 6 | PASI-N |



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# SAMPLE ANALYTE COUNT

Project: Delatte Metals
Pace Project No.: 205003

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| | | EPA 9034 | LVA | 1 | PASI-N |
| | | EPA 9056 | OL | 1 | PASI-K |
| 205003032 | TEPA-9H (9G) | EPA 6020 | KJR | 6 | PASI-N |
| | | EPA 9034 | LVA | 1 | PASI-N |
| | | EPA 9056 | OL | 1 | PASI-K |
| 205003033 | DW-01 | EPA 6020 | KJR | 6 | PASI-N |
| | | EPA 9034 | LVA | 1 | PASI-N |
| | | EPA 9056 | OL | 1 | PASI-K |
| 205003034 | MW-01 | EPA 6020 | KJR | 6 | PASI-N |
| | | EPA 9034 | LVA | 1 | PASI-N |
| | | EPA 9056 | OL | 1 | PASI-K |
| 205003035 | TEPA-6H | EPA 6020 | KJR | 6 | PASI-N |
| | | EPA 9034 | LVA | 1 | PASI-N |
| | | EPA 9056 | OL | 1 | PASI-K |
| 205003036 | BA-03 | EPA 6020 | KJR | 6 | PASI-N |
| | | EPA 6020 | KJR | 6 | PASI-N |
| 205003037 | MW-02 | EPA 6020 | KJR | 6 | PASI-N |
| | | EPA 9034 | LVA | 1 | PASI-N |
| | | EPA 9056 | OL | 1 | PASI-K |
| 205003038 | TEPA-P9 | EPA 6020 | KJR | 6 | PASI-N |
| | | EPA 9034 | LVA | 1 | PASI-N |
| | | EPA 9056 | OL | 1 | PASI-K |
| 205003039 | TEPA-P6 | EPA 6020 | KJR | 6 | PASI-N |
| | | EPA 9034 | LVA | 1 | PASI-N |
| | | EPA 9056 | OL | 1 | PASI-K |
| 205003040 | TEPA-1H | EPA 6020 | KJR | 6 | PASI-N |
| | | EPA 9034 | LVA | 1 | PASI-N |
| | | EPA 9056 | OL | 1 | PASI-K |
| 205003041 | TEPA-P10 | EPA 6020 | KJR | 6 | PASI-N |
| | | EPA 9034 | LVA | 1 | PASI-N |
| | | EPA 9056 | OL | 1 | PASI-K |
| 205003042 | TEPA-P7D | EPA 6020 | KJR | 6 | PASI-N |
| | | EPA 6020 | KJR | 6 | PASI-N |
| | | EPA 9034 | LVA | 1 | PASI-N |
| | | EPA 9056 | OL | 1 | PASI-K |
| 205003043 | DUPLICATE #3 | EPA 6020 | KJR | 6 | PASI-N |
| | | EPA 9034 | LVA | 1 | PASI-N |



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## SAMPLE ANALYTE COUNT

Project: Delalte Metals
Pace Project No.: 205003

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| | | EPA 9056 | OL | 1 | PASI-K |
| 205003044 | DUPLICATE #4 | EPA 6020 | KJR | 6 | PASI-N |
| | | EPA 9034 | LVA | 1 | PASI-N |
| | | EPA 9056 | OL | 1 | PASI-K |
| 205003045 | BA-09 | EPA 6020 | KJR | 6 | PASI-N |
| | | EPA 9034 | LVA | 1 | PASI-N |
| | | EPA 9056 | OL | 1 | PASI-K |
| 205003046 | BA-09A | EPA 6020 | KJR | 6 | PASI-N |
| 205003047 | GSGP-6 | EPA 6020 | KJR | 6 | PASI-N |
| 205003048 | MW-4 | EPA 6020 | KJR | 6 | PASI-N |
| | | EPA 6020 | KJR | 6 | PASI-N |
| 205003049 | WW-09 | EPA 6020 | KJR | 6 | PASI-N |
| 205003050 | DUPLICATE #5 | EPA 6020 | KJR | 6 | PASI-N |
| 205003051 | (b) (6) WELL | EPA 6020 | KJR | 6 | PASI-N |



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# ANALYTICAL RESULTS

Project: Delatte Metals
Pace Project No.: 205003

**Sample: CA-41** **Lab ID: 205003001** Collected: 06/02/14 09:45 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | **2.6** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:54 | 7440-38-2 | |
| Cadmium | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:54 | 7440-43-9 | |
| Lead | **2.3** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:54 | 7439-92-1 | |
| Manganese | **112** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:54 | 7439-96-5 | |
| Nickel | **3.0** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:54 | 7440-02-0 | |
| Zinc | **22.3** | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 13:54 | 7440-66-6 | |
| **6020 MET ICPMS, Dissolved** | Analytical Method: EPA 6020 Preparation Method: EPA 3005A | | | | | | | |
| Arsenic, Dissolved | **2.3** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 12:36 | 7440-38-2 | |
| Cadmium, Dissolved | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 12:36 | 7440-43-9 | |
| Lead, Dissolved | **1.4** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 12:36 | 7439-92-1 | |
| Manganese, Dissolved | **99.7** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 12:36 | 7439-96-5 | |
| Nickel, Dissolved | **2.6** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 12:36 | 7440-02-0 | |
| Zinc, Dissolved | **26.2** | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 12:36 | 7440-66-6 | M1 |



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# ANALYTICAL RESULTS

Project: Delatte Metals
Pace Project No.: 205003

**Sample: CA-51** **Lab ID: 205003002** Collected: 06/02/14 09:30 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | **2.6** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:59 | 7440-38-2 | |
| Cadmium | **ND** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:59 | 7440-43-9 | |
| Lead | **2.2** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:59 | 7439-92-1 | |
| Manganese | **114** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:59 | 7439-96-5 | |
| Nickel | **3.1** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:59 | 7440-02-0 | |
| Zinc | **22.4** | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 13:59 | 7440-66-6 | |
| **6020 MET ICPMS, Dissolved** | Analytical Method: EPA 6020 Preparation Method: EPA 3005A | | | | | | | |
| Arsenic, Dissolved | **2.1** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 12:54 | 7440-38-2 | |
| Cadmium, Dissolved | **ND** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 12:54 | 7440-43-9 | |
| Lead, Dissolved | **ND** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 12:54 | 7439-92-1 | |
| Manganese, Dissolved | **88.3** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 12:54 | 7439-96-5 | |
| Nickel, Dissolved | **2.3** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 12:54 | 7440-02-0 | |
| Zinc, Dissolved | **14.7** | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 12:54 | 7440-66-6 | |



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# ANALYTICAL RESULTS

Project: Delalte Metals
Pace Project No.: 205003

**Sample: GSGP-03** **Lab ID: 205003003** Collected: 06/02/14 09:10 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | 3.3 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:36 | 7440-38-2 | |
| Cadmium | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:36 | 7440-43-9 | |
| Lead | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:36 | 7439-92-1 | |
| Manganese | 830 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:36 | 7439-96-5 | M1 |
| Nickel | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:36 | 7440-02-0 | |
| Zinc | ND | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 13:36 | 7440-66-6 | |



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# ANALYTICAL RESULTS

Project: Delatte Metals
Pace Project No.: 205003

**Sample: BRIDGE** **Lab ID: 205003004** Collected: 06/02/14 10:15 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | 2.7 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:03 | 7440-38-2 | |
| Cadmium | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:03 | 7440-43-9 | |
| Lead | 2.1 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:03 | 7439-92-1 | |
| Manganese | 108 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:03 | 7439-96-5 | |
| Nickel | 3.0 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:03 | 7440-02-0 | |
| Zinc | 21.4 | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 14:03 | 7440-66-6 | |
| **6020 MET ICPMS, Dissolved** | Analytical Method: EPA 6020 Preparation Method: EPA 3005A | | | | | | | |
| Arsenic, Dissolved | 2.2 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 12:59 | 7440-38-2 | |
| Cadmium, Dissolved | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 12:59 | 7440-43-9 | |
| Lead, Dissolved | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 12:59 | 7439-92-1 | |
| Manganese, Dissolved | 87.6 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 12:59 | 7439-96-5 | |
| Nickel, Dissolved | 2.5 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 12:59 | 7440-02-0 | |
| Zinc, Dissolved | 15.3 | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 12:59 | 7440-66-6 | |



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# ANALYTICAL RESULTS

Project: Delatte Metals
Pace Project No.: 205003

Sample: CL-05 Lab ID: 205003005 Collected: 06/02/14 10:50 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | 1.7 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:08 | 7440-38-2 | |
| Cadmium | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:08 | 7440-43-9 | |
| Lead | 6.2 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:08 | 7439-92-1 | |
| Manganese | 462 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:08 | 7439-96-5 | |
| Nickel | 2.7 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:08 | 7440-02-0 | |
| Zinc | 25.8 | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 14:08 | 7440-66-6 | |
| **6020 MET ICPMS, Dissolved** | Analytical Method: EPA 6020 Preparation Method: EPA 3005A | | | | | | | |
| Arsenic, Dissolved | 1.5 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:03 | 7440-38-2 | |
| Cadmium, Dissolved | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:03 | 7440-43-9 | |
| Lead, Dissolved | 4.4 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:03 | 7439-92-1 | |
| Manganese, Dissolved | 426 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:03 | 7439-96-5 | |
| Nickel, Dissolved | 2.3 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:03 | 7440-02-0 | |
| Zinc, Dissolved | 23.3 | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 13:03 | 7440-66-6 | |



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# ANALYTICAL RESULTS

Project: Delalle Metals
Pace Project No.: 205003

**Sample: GL-19** Lab ID: 205003006 Collected: 06/02/14 11:10 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | **2.0** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:13 | 7440-38-2 | |
| Cadmium | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:13 | 7440-43-9 | |
| Lead | **8.1** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:13 | 7439-92-1 | |
| Manganese | **409** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:13 | 7439-96-5 | |
| Nickel | **2.5** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:13 | 7440-02-0 | |
| Zinc | **24.4** | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 14:13 | 7440-66-6 | |
| **6020 MET ICPMS, Dissolved** | Analytical Method: EPA 6020 Preparation Method: EPA 3005A | | | | | | | |
| Arsenic, Dissolved | **2.1** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:08 | 7440-38-2 | |
| Cadmium, Dissolved | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:08 | 7440-43-9 | |
| Lead, Dissolved | **5.7** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:08 | 7439-92-1 | |
| Manganese, Dissolved | **392** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:08 | 7439-96-5 | |
| Nickel, Dissolved | **2.4** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:08 | 7440-02-0 | |
| Zinc, Dissolved | **21.4** | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 13:08 | 7440-66-6 | |



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# ANALYTICAL RESULTS

Project: Delaite Metals
Pace Project No.: 205003

**Sample: WW-04** Lab ID: 205003008 Collected: 06/02/14 11:40 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:40 | 7440-38-2 | |
| Cadmium | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:40 | 7440-43-9 | |
| Lead | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:40 | 7439-92-1 | |
| Manganese | 3.1 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:40 | 7439-96-5 | |
| Nickel | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:40 | 7440-02-0 | |
| Zinc | ND | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 14:40 | 7440-66-6 | |



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# ANALYTICAL RESULTS

Project: Delalte Metals
Pace Project No.: 205003

**Sample:** BC-03 **Lab ID: 205003009** Collected: 06/02/14 12:53 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:45 | 7440-38-2 | |
| Cadmium | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:45 | 7440-43-9 | |
| Lead | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:45 | 7439-92-1 | |
| Manganese | 15.5 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:45 | 7439-96-5 | |
| Nickel | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:45 | 7440-02-0 | |
| Zinc | ND | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 14:45 | 7440-66-6 | |



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# ANALYTICAL RESULTS

Project: Delatte Metals
Pace Project No.: 205003

Sample: **MW-06** **Lab ID: 205003010** Collected: 06/02/14 13:51 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | **1.6** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:50 | 7440-38-2 | |
| Cadmium | **19.3** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:50 | 7440-43-9 | |
| Lead | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:50 | 7439-92-1 | |
| Manganese | **1470** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:50 | 7439-96-5 | |
| Nickel | **12.0** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:50 | 7440-02-0 | |
| Zinc | **38.2** | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 14:50 | 7440-66-6 | |



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## ANALYTICAL RESULTS

Project: Delaite Metals
Pace Project No.: 205003

**Sample: GSGP-18** Lab ID: **205003011** Collected: 06/02/14 14:15 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:54 | 7440-38-2 | |
| Cadmium | **95.4** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:54 | 7440-43-9 | |
| Lead | **1.1** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:54 | 7439-92-1 | |
| Manganese | **572** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:54 | 7439-96-5 | |
| Nickel | **20.7** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:54 | 7440-02-0 | |
| Zinc | **151** | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 14:54 | 7440-66-6 | |



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## ANALYTICAL RESULTS

Project: Delatte Metals
Pace Project No.: 205003

**Sample: GSGP-19** Lab ID: 205003012 Collected: 06/02/14 14:34 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | **4.3** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:59 | 7440-38-2 | |
| Cadmium | **65.6** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:59 | 7440-43-9 | |
| Lead | **2.3** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:59 | 7439-92-1 | |
| Manganese | **2710** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:59 | 7439-96-5 | |
| Nickel | **50.4** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:59 | 7440-02-0 | |
| Zinc | **172** | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 14:59 | 7440-66-6 | |



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# ANALYTICAL RESULTS

Project: Delatte Metals
Pace Project No.: 206003

Sample: MW-03 | Lab ID: 205003013 | Collected: 06/02/14 15:01 | Received: 06/05/14 15:25 | Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:27 | 7440-38-2 | |
| Cadmium | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:27 | 7440-43-9 | |
| Lead | 1.4 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:27 | 7439-92-1 | |
| Manganese | 994 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:27 | 7439-96-5 | M1 |
| Nickel | 1.4 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:27 | 7440-02-0 | |
| Zinc | ND | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 15:27 | 7440-66-6 | |



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# ANALYTICAL RESULTS

Project: Delatte Metals
Pace Project No.: 205003

**Sample: BC-25** Lab ID: 205003014 Collected: 06/02/14 15:19 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | 1.0 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:03 | 7440-38-2 | |
| Cadmium | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:03 | 7440-43-9 | |
| Lead | 6.9 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:03 | 7439-92-1 | |
| Manganese | 205 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:03 | 7439-96-5 | |
| Nickel | 2.1 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:03 | 7440-02-0 | |
| Zinc | ND | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 15:03 | 7440-66-6 | |

## REPORT OF LABORATORY ANALYSIS

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# ANALYTICAL RESULTS

Project: Delafte Metals
Pace Project No.: 205003

**Sample:** DUPLICATE #1 **Lab ID:** 205003015 Collected: 06/02/14 11:40 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:08 | 7440-38-2 | |
| Cadmium | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:08 | 7440-43-9 | |
| Lead | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:08 | 7439-92-1 | |
| Manganese | 3.3 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:08 | 7439-96-5 | |
| Nickel | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:08 | 7440-02-0 | |
| Zinc | ND | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 15:08 | 7440-66-6 | |



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# ANALYTICAL RESULTS

Project: Delatte Metals
Pace Project No.: 205003

**Sample:** BC-07 Lab ID: 205003016 Collected: 06/03/14 09:06 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | **1.1** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:22 | 7440-38-2 | |
| Cadmium | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:22 | 7440-43-9 | |
| Lead | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:22 | 7439-92-1 | |
| Manganese | **43.0** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:22 | 7439-96-5 | |
| Nickel | **1.2** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:22 | 7440-02-0 | |
| Zinc | ND | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 15:22 | 7440-66-6 | |



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# ANALYTICAL RESULTS

Project: Delatte Metals
Pace Project No.: 205003

**Sample: DW-04** **Lab ID: 205003017** Collected: 06/03/14 09:42 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | **2.3** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:45 | 7440-38-2 | |
| Cadmium | **ND** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:45 | 7440-43-9 | |
| Lead | **ND** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:45 | 7439-92-1 | |
| Manganese | **101** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:45 | 7439-96-5 | |
| Nickel | **ND** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:45 | 7440-02-0 | |
| Zinc | **ND** | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 15:45 | 7440-66-6 | |



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# ANALYTICAL RESULTS

Project: Delatte Metals
Pace Project No.: 205003

Sample: BC-19 Lab ID: 205003018 Collected: 06/03/14 10:06 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:50 | 7440-38-2 | |
| Cadmium | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:50 | 7440-43-9 | |
| Lead | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:50 | 7439-92-1 | |
| Manganese | 146 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:50 | 7439-96-5 | |
| Nickel | 1.7 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:50 | 7440-02-0 | |
| Zinc | 9.9 | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 15:50 | 7440-66-6 | |



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# ANALYTICAL RESULTS

Project: Defatte Metals
Pace Project No.: 205003

**Sample: SOUTHWELL** **Lab ID: 205003019** Collected: 06/03/14 10:40 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:54 | 7440-38-2 | |
| Cadmium | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:54 | 7440-43-9 | |
| Lead | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:54 | 7439-92-1 | |
| Manganese | 3.7 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:54 | 7439-96-5 | |
| Nickel | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:54 | 7440-02-0 | |
| Zinc | 11.5 | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 15:54 | 7440-66-6 | |



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# ANALYTICAL RESULTS

Project: Delalle Metals
Pace Project No.: 205003

**Sample:** NORTHWELL **Lab ID:** 205003020 Collected: 06/03/14 10:57 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:59 | 7440-38-2 | |
| Cadmium | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:59 | 7440-43-9 | |
| Lead | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:59 | 7439-92-1 | |
| Manganese | 3.3 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:59 | 7439-96-5 | |
| Nickel | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 15:59 | 7440-02-0 | |
| Zinc | ND | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 15:59 | 7440-66-6 | |



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# ANALYTICAL RESULTS

Project: Delatte Metals
Pace Project No.: 205003

**Sample: BC-17** **Lab ID: 205003021** Collected: 06/03/14 11:36 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | **1.2** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:03 | 7440-38-2 | |
| Cadmium | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:03 | 7440-43-9 | |
| Lead | **23.7** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:03 | 7439-92-1 | |
| Manganese | **306** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:03 | 7439-96-5 | |
| Nickel | **1.4** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:03 | 7440-02-0 | |
| Zinc | ND | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 16:03 | 7440-66-6 | |



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## ANALYTICAL RESULTS

Project: Delatte Metals
Pace Project No.: 205003

Sample: BC-21R | Lab ID: 205003022 | Collected: 06/03/14 13:09 | Received: 06/05/14 15:25 | Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:17 | 7440-38-2 | |
| Cadmium | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:17 | 7440-43-9 | |
| Lead | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:17 | 7439-92-1 | |
| Manganese | 872 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:17 | 7439-96-5 | |
| Nickel | 1.9 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:17 | 7440-02-0 | |
| Zinc | ND | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 16:17 | 7440-66-6 | |



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# ANALYTICAL RESULTS

Project: Delatte Metals
Pace Project No.: 205003

**Sample:** BA-01 **Lab ID:** 205003023 Collected: 06/03/14 13:57 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | 3.0 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:22 | 7440-38-2 | |
| Cadmium | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:22 | 7440-43-9 | |
| Lead | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:22 | 7439-92-1 | |
| Manganese | 1280 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:22 | 7439-96-5 | |
| Nickel | 41.4 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:22 | 7440-02-0 | |
| Zinc | 50.0 | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 16:22 | 7440-66-6 | |



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# ANALYTICAL RESULTS

Project: Delatte Metals
Pace Project No.: 205003

**Sample: DW-02** **Lab ID: 205003024** Collected: 06/03/14 14:21 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | **17.4** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:27 | 7440-38-2 | |
| Cadmium | **27.4** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:27 | 7440-43-9 | |
| Lead | **36.6** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:27 | 7439-92-1 | |
| Manganese | **9360** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:27 | 7439-96-5 | |
| Nickel | **307** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:27 | 7440-02-0 | |
| Zinc | **571** | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 16:27 | 7440-66-6 | |



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# ANALYTICAL RESULTS

Project: Delalle Metals
Pace Project No.: 205003

**Sample:** BA-05 **Lab ID:** 205003025 **Collected:** 06/03/14 14:52 **Received:** 06/05/14 15:25 **Matrix:** Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | **1.8** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:31 | 7440-38-2 | |
| Cadmium | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:31 | 7440-43-9 | |
| Lead | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:31 | 7439-92-1 | |
| Manganese | **13300** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:31 | 7439-96-5 | |
| Nickel | **46.6** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:31 | 7440-02-0 | |
| Zinc | ND | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 16:31 | 7440-66-6 | |



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# ANALYTICAL RESULTS

Project: Delalte Metals
Pace Project No.: 205003

**Sample: MW-A** Lab ID: 205003028 Collected: 06/03/14 15:15 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:36 | 7440-38-2 | |
| Cadmium | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:36 | 7440-43-9 | |
| Lead | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:36 | 7439-92-1 | |
| Manganese | 7.2 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:36 | 7439-96-5 | |
| Nickel | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:36 | 7440-02-0 | |
| Zinc | ND | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 16:36 | 7440-66-6 | |



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# ANALYTICAL RESULTS

Project: Delatte Metals
Pace Project No.: 205003

Sample: GSGP-15 | Lab ID: 205003027 | Collected: 06/03/14 15:44 | Received: 06/05/14 15:25 | Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | **1.7** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:40 | 7440-38-2 | |
| Cadmium | **4.5** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:40 | 7440-43-9 | |
| Lead | **6.5** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:40 | 7439-92-1 | |
| Manganese | **491** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:40 | 7439-96-5 | |
| Nickel | **18.0** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:40 | 7440-02-0 | |
| Zinc | **37.6** | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 16:40 | 7440-66-6 | |



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# ANALYTICAL RESULTS

Project: Delalle Metals
Pace Project No.: 205003

**Sample: PW-04** Lab ID: 205003028 Collected: 06/03/14 16:03 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | **2.6** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:54 | 7440-38-2 | M1 |
| Cadmium | **1.4** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:54 | 7440-43-9 | |
| Lead | **1.2** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:54 | 7439-92-1 | |
| Manganese | **1580** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:54 | 7439-96-5 | M1 |
| Nickel | **29.0** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:54 | 7440-02-0 | M1 |
| Zinc | **65.6** | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 16:54 | 7440-66-6 | M1 |



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# ANALYTICAL RESULTS

Project: Delalle Metals
Pace Project No.: 205003

Sample: DUPLICATE #2 | Lab ID: 205003029 | Collected: 06/03/14 09:06 | Received: 06/05/14 15:25 | Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | 1.3 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:45 | 7440-38-2 | |
| Cadmium | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:45 | 7440-43-9 | |
| Lead | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:45 | 7439-92-1 | |
| Manganese | 48.0 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:45 | 7439-96-5 | |
| Nickel | 1.2 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:45 | 7440-02-0 | |
| Zinc | ND | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 16:45 | 7440-66-6 | |



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# ANALYTICAL RESULTS

Project: Delatte Metals
Pace Project No.: 205003

**Sample: DW-03** Lab ID: 205003030 Collected: 06/04/14 08:41 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | 13.8 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:50 | 7440-38-2 | |
| Cadmium | 1.4 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:50 | 7440-43-9 | |
| Lead | 5.3 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:50 | 7439-92-1 | |
| Manganese | 3620 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:50 | 7439-96-5 | |
| Nickel | 118 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 16:50 | 7440-02-0 | |
| Zinc | 148 | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 16:50 | 7440-66-6 | |
| **9034 Sulfide, Titration** | Analytical Method: EPA 9034 | | | | | | | |
| Sulfide | ND | mg/L | 25.0 | 1 | | 06/10/14 15:26 | | |
| **9056 IC Anions** | Analytical Method: EPA 9056 | | | | | | | |
| Sulfate | 4580 | mg/L | 2000 | 2000 | | 06/21/14 11:10 | 14808-79-8 | D3,M1 |

## REPORT OF LABORATORY ANALYSIS

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# ANALYTICAL RESULTS

Project: Delatte Metals
Pace Project No.: 205003

**Sample: GSGP-22** **Lab ID: 205003031** Collected: 06/04/14 09:06 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | **14.1** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:22 | 7440-38-2 | |
| Cadmium | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:22 | 7440-43-9 | |
| Lead | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:22 | 7439-92-1 | |
| Manganese | **15000** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:22 | 7439-96-5 | |
| Nickel | 345 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:22 | 7440-02-0 | |
| Zinc | **53.4** | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 17:22 | 7440-66-6 | |
| **9034 Sulfide, Titration** | Analytical Method: EPA 9034 | | | | | | | |
| Sulfide | ND | mg/L | 25.0 | 1 | | 06/10/14 15:26 | | |
| **9056 IC Anions** | Analytical Method: EPA 9056 | | | | | | | |
| Sulfate | **29100** | mg/L | 2000 | 2000 | | 06/20/14 10:24 | 14808-79-8 | |



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# ANALYTICAL RESULTS

Project: Delalle Metals
Pace Project No.: 205003

Sample: TEPA-9H (9G) Lab ID: 205003032 Collected: 06/04/14 09:30 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | 21.0 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:27 | 7440-38-2 | |
| Cadmium | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:27 | 7440-43-9 | |
| Lead | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:27 | 7439-92-1 | |
| Manganese | 7740 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:27 | 7439-96-5 | |
| Nickel | 142 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:27 | 7440-02-0 | |
| Zinc | 109 | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 17:27 | 7440-66-6 | |
| **9034 Sulfide, Titration** | Analytical Method: EPA 9034 | | | | | | | |
| Sulfide | 28.0 | mg/L | 25.0 | 1 | | 06/10/14 15:26 | | |
| **9056 IC Anions** | Analytical Method: EPA 9056 | | | | | | | |
| Sulfate | 11200 | mg/L | 1000 | 1000 | | 06/20/14 14:58 | 14808-79-8 | |



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# ANALYTICAL RESULTS

Project: Delatte Metals
Pace Project No.: 205003

**Sample: DW-01** Lab ID: **205003033** Collected: 06/04/14 10:03 Received: 06/06/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | **109** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:31 | 7440-38-2 | |
| Cadmium | **66.8** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:31 | 7440-43-9 | |
| Lead | **3.7** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:31 | 7439-92-1 | |
| Manganese | **3440** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:31 | 7439-96-5 | |
| Nickel | **32.5** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:31 | 7440-02-0 | |
| Zinc | **213** | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 17:31 | 7440-66-6 | |
| **9034 Sulfide, Titration** | Analytical Method: EPA 9034 | | | | | | | |
| Sulfide | ND | mg/L | 25.0 | 1 | | 06/10/14 15:26 | | |
| **9056 IC Anions** | Analytical Method: EPA 9056 | | | | | | | |
| Sulfate | **1210** | mg/L | 100 | 100 | | 06/20/14 10:53 | 14808-79-8 | |



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# ANALYTICAL RESULTS

Project: Delatte Metals
Pace Project No.: 205003

**Sample: MW-01** Lab ID: **205003034** Collected: 06/04/14 10:33 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | **12.2** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:36 | 7440-38-2 | |
| Cadmium | **1.5** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:36 | 7440-43-9 | |
| Lead | **2.2** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:36 | 7439-92-1 | |
| Manganese | **4650** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:36 | 7439-96-5 | |
| Nickel | **133** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:36 | 7440-02-0 | |
| Zinc | **122** | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 17:36 | 7440-66-6 | |
| **9034 Sulfide, Titration** | Analytical Method: EPA 9034 | | | | | | | |
| Sulfide | **ND** | mg/L | 25.0 | 1 | | 06/10/14 15:26 | | |
| **9056 IC Anions** | Analytical Method: EPA 9056 | | | | | | | |
| Sulfate | **12300** | mg/L | 1000 | 1000 | | 06/20/14 11:07 | 14808-79-8 | |



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# ANALYTICAL RESULTS

Project: Delelte Metals
Pace Project No.: 205003

**Sample: TEPA-6H** Lab ID: 205003036 Collected: 06/04/14 11:01 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | 8.6 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:41 | 7440-38-2 | |
| Cadmium | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:41 | 7440-43-9 | |
| Lead | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:41 | 7439-92-1 | |
| Manganese | 4920 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:41 | 7439-96-5 | |
| Nickel | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:41 | 7440-02-0 | |
| Zinc | ND | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 17:41 | 7440-66-6 | |
| **9034 Sulfide, Titration** | Analytical Method: EPA 9034 | | | | | | | |
| Sulfide | ND | mg/L | 25.0 | 1 | | 06/10/14 15:26 | | |
| **9056 IC Anions** | Analytical Method: EPA 9056 | | | | | | | |
| Sulfate | 1110 | mg/L | 100 | 100 | | 06/20/14 11:22 | 14808-79-8 | |



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# ANALYTICAL RESULTS

Project: Delatte Metals
Pace Project No.: 205003

**Sample: BA-03** **Lab ID: 205003036** Collected: 06/04/14 12:52 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | **2.0** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:26 | 7440-38-2 | |
| Cadmium | **53.1** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:26 | 7440-43-9 | |
| Lead | **39.4** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:26 | 7439-92-1 | |
| Manganese | **1030** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:26 | 7439-96-5 | |
| Nickel | **31.4** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:26 | 7440-02-0 | |
| Zinc | **123** | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 14:26 | 7440-66-6 | |
| **6020 MET ICPMS, Dissolved** | Analytical Method: EPA 6020 Preparation Method: EPA 3005A | | | | | | | |
| Arsenic, Dissolved | **1.4** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:12 | 7440-38-2 | |
| Cadmium, Dissolved | **52.2** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:12 | 7440-43-9 | |
| Lead, Dissolved | **35.0** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:12 | 7439-92-1 | |
| Manganese, Dissolved | **1020** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:12 | 7439-96-5 | |
| Nickel, Dissolved | **30.3** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:12 | 7440-02-0 | |
| Zinc, Dissolved | **123** | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 13:12 | 7440-66-6 | |



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# ANALYTICAL RESULTS

Project: Delaite Metals
Pace Project No.: 205003

**Sample: MW-02** **Lab ID: 205003037** Collected: 06/04/14 13:30 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | **1.5** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 18:22 | 7440-38-2 | M1 |
| Cadmium | **99.4** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 18:22 | 7440-43-9 | M1 |
| Lead | **8.6** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 18:22 | 7439-92-1 | |
| Manganese | **1470** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 18:22 | 7439-96-5 | M1 |
| Nickel | **56.4** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 18:22 | 7440-02-0 | M1 |
| Zinc | **204** | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 18:22 | 7440-66-6 | M1 |
| **9034 Sulfide, Titration** | Analytical Method: EPA 9034 | | | | | | | |
| Sulfide | ND | mg/L | 25.0 | 1 | | 06/10/14 15:32 | | M1 |
| **9056 IC Anions** | Analytical Method: EPA 9056 | | | | | | | |
| Sulfate | **1600** | mg/L | 200 | 200 | | 06/20/14 12:05 | 14808-79-8 | D6 |



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# ANALYTICAL RESULTS

Project: Delatte Metals
Pace Project No.: 205003

Sample: TEPA-P9 Lab ID: 205003038 Collected: 06/04/14 14:26 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | **2.1** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:45 | 7440-38-2 | |
| Cadmium | **125** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:45 | 7440-43-9 | |
| Lead | **6.4** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:45 | 7439-92-1 | |
| Manganese | **2800** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:45 | 7439-96-5 | |
| Nickel | **53.3** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:45 | 7440-02-0 | |
| Zinc | **218** | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 17:45 | 7440-66-6 | |
| **9034 Sulfide, Titration** | Analytical Method: EPA 9034 | | | | | | | |
| Sulfide | ND | mg/L | 25.0 | 1 | | 06/10/14 15:26 | | |
| **9056 IC Anions** | Analytical Method: EPA 9056 | | | | | | | |
| Sulfate | **1800** | mg/L | 200 | 200 | | 06/20/14 12:34 | 14808-79-8 | |



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# ANALYTICAL RESULTS

Project: Delatte Metals
Pace Project No.: 205003

Sample: TEPA-P6 Lab ID: 205003039 Collected: 06/04/14 15:05 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | 4.6 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:50 | 7440-38-2 | |
| Cadmium | 194 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:50 | 7440-43-9 | |
| Lead | 79.8 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:50 | 7439-92-1 | |
| Manganese | 2520 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:50 | 7439-96-5 | |
| Nickel | 50.0 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:50 | 7440-02-0 | |
| Zinc | 278 | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 17:50 | 7440-66-6 | |
| **9034 Sulfide, Titration** | Analytical Method: EPA 9034 | | | | | | | |
| Sulfide | ND | mg/L | 25.0 | 1 | | 06/10/14 15:26 | | |
| **9056 IC Anions** | Analytical Method: EPA 9056 | | | | | | | |
| Sulfate | 1570 | mg/L | 200 | 200 | | 06/20/14 12:48 | 14808-79-8 | |



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# ANALYTICAL RESULTS

Project: Delalle Metals
Pace Project No.: 205003

**Sample: TEPA-1H** Lab ID: 205003040 Collected: 06/04/14 15:26 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | 12.5 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:54 | 7440-38-2 | |
| Cadmium | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:54 | 7440-43-9 | |
| Lead | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:54 | 7439-92-1 | |
| Manganese | 2860 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:54 | 7439-96-5 | |
| Nickel | 2.1 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 17:54 | 7440-02-0 | |
| Zinc | ND | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 17:54 | 7440-66-6 | |
| **9034 Sulfide, Titration** | Analytical Method: EPA 9034 | | | | | | | |
| Sulfide | ND | mg/L | 25.0 | 1 | | 06/10/14 15:26 | | |
| **9056 IC Anions** | Analytical Method: EPA 9056 | | | | | | | |
| Sulfate | 408 | mg/L | 50.0 | 50 | | 06/20/14 13:03 | 14808-79-8 | |



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## ANALYTICAL RESULTS

Project: Delalle Metals
Pace Project No.: 205003

**Sample:** TEPA-P10 Lab ID: **205003041** Collected: 06/04/14 15:40 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | **4.3** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 18:08 | 7440-38-2 | |
| Cadmium | **191** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 18:08 | 7440-43-9 | |
| Lead | **89.0** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 18:08 | 7439-92-1 | |
| Manganese | **5020** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 18:08 | 7439-96-5 | |
| Nickel | **85.7** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 18:08 | 7440-02-0 | |
| Zinc | **328** | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 18:08 | 7440-66-6 | |
| **9034 Sulfide, Titration** | Analytical Method: EPA 9034 | | | | | | | |
| Sulfide | **ND** | mg/L | 25.0 | 1 | | 06/10/14 15:27 | | |
| **9056 IC Anions** | Analytical Method: EPA 9056 | | | | | | | |
| Sulfate | **2130** | mg/L | 500 | 500 | | 06/20/14 13:17 | 14808-79-8 | |



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# ANALYTICAL RESULTS

Project: Delatte Metals
Pace Project No.: 205003

**Sample: TEPA-P7D** Lab ID: 205003042 Collected: 06/04/14 15:50 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | 1.0 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:31 | 7440-38-2 | |
| Cadmium | 114 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:31 | 7440-43-9 | |
| Lead | 17.9 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:31 | 7439-92-1 | |
| Manganese | 2570 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:31 | 7439-96-5 | |
| Nickel | 50.4 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:31 | 7440-02-0 | |
| Zinc | 193 | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 14:31 | 7440-66-6 | |
| **6020 MET ICPMS, Dissolved** | Analytical Method: EPA 6020 Preparation Method: EPA 3005A | | | | | | | |
| Arsenic, Dissolved | 2.0 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:17 | 7440-38-2 | |
| Cadmium, Dissolved | 113 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:17 | 7440-43-9 | |
| Lead, Dissolved | 20.1 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:17 | 7439-92-1 | |
| Manganese, Dissolved | 2570 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:17 | 7439-96-5 | |
| Nickel, Dissolved | 49.9 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:17 | 7440-02-0 | |
| Zinc, Dissolved | 192 | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 13:17 | 7440-66-6 | |
| **9034 Sulfide, Titration** | Analytical Method: EPA 9034 | | | | | | | |
| Sulfide | ND | mg/L | 25.0 | 1 | | 06/10/14 15:27 | | |
| **9056 IC Anions** | Analytical Method: EPA 9056 | | | | | | | |
| Sulfate | 1260 | mg/L | 100 | 100 | | 06/20/14 13:31 | 14808-79-8 | |



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# ANALYTICAL RESULTS

Project: Delatte Metals
Pace Project No.: 205003

Sample: **DUPLICATE #3** Lab ID: **205003043** Collected: 06/04/14 08:41 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | **16.4** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 18:13 | 7440-38-2 | |
| Cadmium | **1.4** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 18:13 | 7440-43-9 | |
| Lead | **9.9** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 18:13 | 7439-92-1 | |
| Manganese | **3600** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 18:13 | 7439-96-5 | |
| Nickel | **119** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 18:13 | 7440-02-0 | |
| Zinc | **147** | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 18:13 | 7440-66-6 | |
| **9034 Sulfide, Titration** | Analytical Method: EPA 9034 | | | | | | | |
| Sulfide | ND | mg/L | 25.0 | 1 | | 06/10/14 15:27 | | |
| **9056 IC Anions** | Analytical Method: EPA 9056 | | | | | | | |
| Sulfate | **9340** | mg/L | 1000 | 1000 | | 06/20/14 13:46 | 14808-79-8 | |



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# ANALYTICAL RESULTS

Project: Delatte Metals
Pace Project No.: 205003

Sample: DUPLICATE #4 | Lab ID: 205003044 | Collected: 06/04/14 14:26 | Received: 06/05/14 15:25 | Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | 2.2 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 18:18 | 7440-38-2 | |
| Cadmium | 126 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 18:18 | 7440-43-9 | |
| Lead | 6.6 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 18:18 | 7439-92-1 | |
| Manganese | 2740 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 18:18 | 7439-96-5 | |
| Nickel | 54.9 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 18:18 | 7440-02-0 | |
| Zinc | 220 | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 18:18 | 7440-66-6 | |
| **9034 Sulfide, Titration** | Analytical Method: EPA 9034 | | | | | | | |
| Sulfide | ND | mg/L | 25.0 | 1 | | 06/10/14 16:27 | | |
| **9056 IC Anions** | Analytical Method: EPA 9056 | | | | | | | |
| Sulfate | 1590 | mg/L | 200 | 200 | | 06/20/14 14:00 | 14808-79-8 | |



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# ANALYTICAL RESULTS

Project: Delatte Metals
Pace Project No.: 205003

**Sample: BA-09** **Lab ID: 205003045** Collected: 06/05/14 10:33 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | **9.8** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 18:41 | 7440-38-2 | |
| Cadmium | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 18:41 | 7440-43-9 | |
| Lead | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 18:41 | 7439-92-1 | |
| Manganese | **1510** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 18:41 | 7439-96-5 | |
| Nickel | **73.7** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 18:41 | 7440-02-0 | |
| Zinc | **90.4** | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 18:41 | 7440-66-6 | |
| **9034 Sulfide, Titration** | Analytical Method: EPA 9034 | | | | | | | |
| Sulfide | ND | mg/L | 25.0 | 1 | | 06/10/14 15:27 | | |
| **9056 IC Anions** | Analytical Method: EPA 9056 | | | | | | | |
| Sulfate | **6450** | mg/L | 500 | 500 | | 06/20/14 14:15 | 14808-79-8 | |



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# ANALYTICAL RESULTS

Project: Delalle Metals
Pace Project No.: 205003

**Sample: BA-09A** Lab ID: 205003046 Collected: 06/05/14 09:48 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | 2.2 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 18:45 | 7440-38-2 | |
| Cadmium | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 18:45 | 7440-43-9 | |
| Lead | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 18:45 | 7439-92-1 | |
| Manganese | 35.1 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 18:45 | 7439-96-5 | |
| Nickel | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 18:45 | 7440-02-0 | |
| Zinc | ND | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 18:45 | 7440-66-6 | |



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# ANALYTICAL RESULTS

Project: Delatte Metals
Pace Project No.: 205003

Sample: **GSGP-6** Lab ID: **205003047** Collected: 06/05/14 09:21 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | 7.5 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 18:50 | 7440-36-2 | |
| Cadmium | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 18:50 | 7440-43-9 | |
| Lead | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 18:50 | 7439-92-1 | |
| Manganese | 2790 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 18:50 | 7439-96-5 | |
| Nickel | 234 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 18:50 | 7440-02-0 | |
| Zinc | 57.5 | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 18:50 | 7440-66-6 | |



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# ANALYTICAL RESULTS

Project: Delalle Metals
Pace Project No.: 205003

**Sample: MW-4** Lab ID: 205003048 Collected: 06/05/14 11:00 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:36 | 7440-38-2 | |
| Cadmium | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:36 | 7440-43-9 | |
| Lead | 3.4 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:36 | 7439-92-1 | |
| Manganese | 58.7 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:36 | 7439-96-5 | |
| Nickel | 1.8 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 14:36 | 7440-02-0 | |
| Zinc | ND | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 14:36 | 7440-66-6 | |
| **6020 MET ICPMS, Dissolved** | Analytical Method: EPA 6020 Preparation Method: EPA 3005A | | | | | | | |
| Arsenic, Dissolved | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:31 | 7440-38-2 | |
| Cadmium, Dissolved | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:31 | 7440-43-9 | |
| Lead, Dissolved | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:31 | 7439-92-1 | |
| Manganese, Dissolved | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:31 | 7439-96-5 | |
| Nickel, Dissolved | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 13:31 | 7440-02-0 | |
| Zinc, Dissolved | ND | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 13:31 | 7440-66-6 | |



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# ANALYTICAL RESULTS

Project: Defalte Metals
Pace Project No.: 205003

**Sample: WW-09** Lab ID: 205003049 Collected: 06/05/14 11:10 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 19:04 | 7440-38-2 | |
| Cadmium | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 19:04 | 7440-43-9 | |
| Lead | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 19:04 | 7439-92-1 | |
| Manganese | **18.1** | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 19:04 | 7439-96-5 | |
| Nickel | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 19:04 | 7440-02-0 | |
| Zinc | ND | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 19:04 | 7440-66-6 | |



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# ANALYTICAL RESULTS

Project: Defalte Metals
Pace Project No.: 205003

**Sample: DUPLICATE #5** **Lab ID: 205003050** Collected: 06/05/14 09:48 Received: 06/05/14 15:25 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | 2.2 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 19:09 | 7440-38-2 | |
| Cadmium | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 19:09 | 7440-43-9 | |
| Lead | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 19:09 | 7439-92-1 | |
| Manganese | 33.9 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 19:09 | 7439-96-5 | |
| Nickel | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 19:09 | 7440-02-0 | |
| Zinc | ND | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 19:09 | 7440-66-6 | |



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# ANALYTICAL RESULTS

Project: Delatte Metals
Pace Project No.: 205003

Sample: (b) (6) WELL  Lab ID: 205003051  Collected: 06/02/14 11:30  Received: 06/05/14 15:25  Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 Preparation Method: EPA 3010 | | | | | | | |
| Arsenic | 1.5 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 19:13 | 7440-38-2 | |
| Cadmium | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 19:13 | 7440-43-9 | |
| Lead | 1.1 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 19:13 | 7439-92-1 | |
| Manganese | 41.6 | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 19:13 | 7439-96-5 | |
| Nickel | ND | ug/L | 1.0 | 1 | 06/10/14 10:50 | 06/11/14 19:13 | 7440-02-0 | |
| Zinc | ND | ug/L | 5.0 | 1 | 06/10/14 10:50 | 06/11/14 19:13 | 7440-66-6 | |



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# QUALITY CONTROL DATA

Project: Delatte Metals
Pace Project No.: 205003

QC Batch: MPRP/1325 — Analysis Method: EPA 6020
QC Batch Method: EPA 3010 — Analysis Description: 6020 MET
Associated Lab Samples: 205003001, 205003002, 205003003, 205003004, 205003005, 205003006, 205003008, 205003009, 205003010, 205003011, 205003012, 205003014, 205003015, 205003016

METHOD BLANK: 24311 — Matrix: Water
Associated Lab Samples: 205003001, 205003002, 205003003, 205003004, 205003005, 205003006, 205003008, 205003009, 205003010, 205003011, 205003012, 205003014, 205003015, 205003016

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Arsenic | ug/L | ND | 1.0 | 06/11/14 11:49 | |
| Cadmium | ug/L | ND | 1.0 | 06/11/14 11:49 | |
| Lead | ug/L | ND | 1.0 | 06/11/14 11:49 | |
| Manganese | ug/L | ND | 1.0 | 06/11/14 11:49 | |
| Nickel | ug/L | ND | 1.0 | 06/11/14 11:49 | |
| Zinc | ug/L | ND | 5.0 | 06/11/14 11:49 | |

LABORATORY CONTROL SAMPLE: 24312

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Arsenic | ug/L | 20 | 20.4 | 102 | 83-115 | |
| Cadmium | ug/L | 20 | 20.4 | 102 | 85-115 | |
| Lead | ug/L | 20 | 19.6 | 98 | 84-115 | |
| Manganese | ug/L | 20 | 20.2 | 101 | 85-115 | |
| Nickel | ug/L | 20 | 20.8 | 104 | 80-118 | |
| Zinc | ug/L | 20 | 21.4 | 107 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 24313 24314

| Parameter | Units | 205003003 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | ug/L | 3.3 | 20 | 20 | 21.9 | 22.5 | 93 | 96 | 80-120 | 3 | 20 | |
| Cadmium | ug/L | ND | 20 | 20 | 20.0 | 20.1 | 100 | 100 | 80-120 | .4 | 20 | |
| Lead | ug/L | ND | 20 | 20 | 21.2 | 21.5 | 102 | 104 | 80-120 | 1 | 20 | |
| Manganese | ug/L | 830 | 20 | 20 | 862 | 872 | 160 | 206 | 80-120 | 1 | 20 | M1 |
| Nickel | ug/L | ND | 20 | 20 | 20.6 | 20.2 | 99 | 97 | 80-120 | 2 | 20 | |
| Zinc | ug/L | ND | 20 | 20 | 23.4 | 23.2 | 100 | 99 | 80-120 | .9 | 20 | |

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# QUALITY CONTROL DATA

Project: Delatte Metals
Pace Project No.: 205003

QC Batch: MPRP/1326 Analysis Method: EPA 6020
QC Batch Method: EPA 3010 Analysis Description: 6020 MET
Associated Lab Samples: 205003013, 205003017, 205003018, 205003019, 205003020, 205003021, 205003022, 205003023, 205003024, 205003025, 205003026, 205003027, 205003029, 205003030

METHOD BLANK: 24315 Matrix: Water
Associated Lab Samples: 205003013, 205003017, 205003018, 205003019, 205003020, 205003021, 205003022, 205003023, 205003024, 205003025, 205003026, 205003027, 205003029, 205003030

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Arsenic | ug/L | ND | 1.0 | 06/11/14 11:59 | |
| Cadmium | ug/L | ND | 1.0 | 06/11/14 11:59 | |
| Lead | ug/L | ND | 1.0 | 06/11/14 11:59 | |
| Manganese | ug/L | ND | 1.0 | 06/11/14 11:59 | |
| Nickel | ug/L | ND | 1.0 | 06/11/14 11:59 | |
| Zinc | ug/L | ND | 5.0 | 06/11/14 11:59 | |

LABORATORY CONTROL SAMPLE: 24316

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Arsenic | ug/L | 20 | 20.7 | 104 | 83-115 | |
| Cadmium | ug/L | 20 | 20.8 | 104 | 85-115 | |
| Lead | ug/L | 20 | 19.8 | 99 | 84-115 | |
| Manganese | ug/L | 20 | 20.3 | 102 | 85-115 | |
| Nickel | ug/L | 20 | 21.0 | 105 | 80-116 | |
| Zinc | ug/L | 20 | 21.4 | 107 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 24317 24318

| Parameter | Units | 205003013 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | ug/L | ND | 20 | 20 | 19.5 | 19.6 | 95 | 96 | 80-120 | .6 | 20 | |
| Cadmium | ug/L | ND | 20 | 20 | 19.2 | 19.4 | 96 | 97 | 80-120 | .7 | 20 | |
| Lead | ug/L | 1.4 | 20 | 20 | 22.8 | 23.0 | 107 | 108 | 80-120 | .8 | 20 | |
| Manganese | ug/L | 994 | 20 | 20 | 992 | 1000 | -10 | 49 | 80-120 | 1 | 20 | M1 |
| Nickel | ug/L | 1.4 | 20 | 20 | 19.9 | 20.0 | 92 | 93 | 80-120 | .3 | 20 | |
| Zinc | ug/L | ND | 20 | 20 | 20.4 | 20.2 | 90 | 89 | 80-120 | 1 | 20 | |

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# QUALITY CONTROL DATA

Project: Delalle Metals
Pace Project No.: 205003

QC Batch: MPRP/1327 Analysis Method: EPA 6020
QC Batch Method: EPA 3010 Analysis Description: 6020 MET
Associated Lab Samples: 205003028, 205003031, 205003032, 205003033, 205003034, 205003035, 205003036, 205003038, 205003039, 205003040, 205003041, 205003042, 205003043, 205003044

METHOD BLANK: 24319 Matrix: Water
Associated Lab Samples: 205003028, 205003031, 205003032, 205003033, 205003034, 205003035, 205003036, 205003038, 205003039, 205003040, 205003041, 205003042, 205003043, 205003044

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Arsenic | ug/L | ND | 1.0 | 06/11/14 12:08 | |
| Cadmium | ug/L | ND | 1.0 | 06/11/14 12:08 | |
| Lead | ug/L | ND | 1.0 | 06/11/14 12:08 | |
| Manganese | ug/L | ND | 1.0 | 06/11/14 12:08 | |
| Nickel | ug/L | ND | 1.0 | 06/11/14 12:08 | |
| Zinc | ug/L | ND | 5.0 | 06/11/14 12:08 | |

LABORATORY CONTROL SAMPLE: 24320

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Arsenic | ug/L | 20 | 20.7 | 104 | 83-115 | |
| Cadmium | ug/L | 20 | 20.6 | 103 | 85-115 | |
| Lead | ug/L | 20 | 19.8 | 99 | 84-115 | |
| Manganese | ug/L | 20 | 20.3 | 102 | 85-115 | |
| Nickel | ug/L | 20 | 21.3 | 106 | 80-118 | |
| Zinc | ug/L | 20 | 21.8 | 109 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 24321 24322

| Parameter | Units | 205003028 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | ug/L | 2.6 | 20 | 20 | 15.9 | 15.9 | 67 | 67 | 80-120 | .4 | 20 | M1 |
| Cadmium | ug/L | 1.4 | 20 | 20 | 19.8 | 19.8 | 92 | 92 | 80-120 | .1 | 20 | |
| Lead | ug/L | 1.2 | 20 | 20 | 22.5 | 22.5 | 106 | 106 | 80-120 | .1 | 20 | |
| Manganese | ug/L | 1580 | 20 | 20 | 1560 | 1570 | -80 | -50 | 80-120 | .4 | 20 | M1 |
| Nickel | ug/L | 29.0 | 20 | 20 | 43.7 | 44.1 | 74 | 76 | 80-120 | .9 | 20 | M1 |
| Zinc | ug/L | 65.6 | 20 | 20 | 79.2 | 79.5 | 68 | 69 | 80-120 | .4 | 20 | M1 |

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# QUALITY CONTROL DATA

Project: Delalle Metals
Pace Project No.: 205003

QC Batch: MPRP/1329 Analysis Method: EPA 6020
QC Batch Method: EPA 3010 Analysis Description: 6020 MET
Associated Lab Samples: 205003037, 205003045, 205003046, 205003047, 205003048, 205003049, 205003050, 205003051

METHOD BLANK: 24328 Matrix: Water
Associated Lab Samples: 205003037, 205003045, 205003046, 205003047, 205003048, 205003049, 205003050, 205003051

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Arsenic | ug/L | ND | 1.0 | 06/11/14 12:17 | |
| Cadmium | ug/L | ND | 1.0 | 06/11/14 12:17 | |
| Lead | ug/L | ND | 1.0 | 06/11/14 12:17 | |
| Manganese | ug/L | ND | 1.0 | 06/11/14 12:17 | |
| Nickel | ug/L | ND | 1.0 | 06/11/14 12:17 | |
| Zinc | ug/L | ND | 5.0 | 06/11/14 12:17 | |

LABORATORY CONTROL SAMPLE: 24329

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Arsenic | ug/L | 20 | 20.7 | 104 | 83-115 | |
| Cadmium | ug/L | 20 | 20.7 | 103 | 85-115 | |
| Lead | ug/L | 20 | 20.2 | 101 | 84-115 | |
| Manganese | ug/L | 20 | 20.8 | 104 | 85-115 | |
| Nickel | ug/L | 20 | 21.5 | 108 | 80-118 | |
| Zinc | ug/L | 20 | 21.8 | 109 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 24330 24331

| Parameter | Units | 205003037 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | ug/L | 1.5 | 20 | 20 | 14.1 | 14.1 | 63 | 63 | 80-120 | .4 | 20 | M1 |
| Cadmium | ug/L | 99.4 | 20 | 20 | 107 | 108 | 37 | 46 | 80-120 | 2 | 20 | M1 |
| Lead | ug/L | 8.6 | 20 | 20 | 27.5 | 28.0 | 94 | 97 | 80-120 | 2 | 20 | |
| Manganese | ug/L | 1470 | 20 | 20 | 1350 | 1370 | -590 | -480 | 80-120 | 2 | 20 | M1 |
| Nickel | ug/L | 56.4 | 20 | 20 | 65.8 | 67.5 | 47 | 56 | 80-120 | 3 | 20 | M1 |
| Zinc | ug/L | 204 | 20 | 20 | 202 | 204 | -10 | -2 | 80-120 | .8 | 20 | M1 |

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# QUALITY CONTROL DATA

Project: Delatte Metals
Pace Project No.: 205003

QC Batch: MPRP/1324 Analysis Method: EPA 6020
QC Batch Method: EPA 3005A Analysis Description: 6020 MET Dissolved
Associated Lab Samples: 205003001, 205003002, 205003004, 205003005, 205003006, 205003036, 205003042, 205003048

METHOD BLANK: 24307 Matrix: Water
Associated Lab Samples: 205003001, 205003002, 205003004, 205003005, 205003006, 205003036, 205003042, 205003048

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Arsenic, Dissolved | ug/L | ND | 1.0 | 06/11/14 11:40 | |
| Cadmium, Dissolved | ug/L | ND | 1.0 | 06/11/14 11:40 | |
| Lead, Dissolved | ug/L | ND | 1.0 | 06/11/14 11:40 | |
| Manganese, Dissolved | ug/L | ND | 1.0 | 06/11/14 11:40 | |
| Nickel, Dissolved | ug/L | ND | 1.0 | 06/11/14 11:40 | |
| Zinc, Dissolved | ug/L | ND | 5.0 | 06/11/14 11:40 | |

LABORATORY CONTROL SAMPLE: 24308

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Arsenic, Dissolved | ug/L | 20 | 21.0 | 105 | 80-120 | |
| Cadmium, Dissolved | ug/L | 20 | 20.7 | 104 | 80-120 | |
| Lead, Dissolved | ug/L | 20 | 19.9 | 100 | 80-120 | |
| Manganese, Dissolved | ug/L | 20 | 21.2 | 106 | 80-120 | |
| Nickel, Dissolved | ug/L | 20 | 22.1 | 110 | 80-120 | |
| Zinc, Dissolved | ug/L | 20 | 21.5 | 107 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 24309 24310

| Parameter | Units | 205003001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic, Dissolved | ug/L | 2.3 | 20 | 20 | 22.4 | 21.9 | 100 | 98 | 75-125 | 2 | 20 | |
| Cadmium, Dissolved | ug/L | ND | 20 | 20 | 20.8 | 20.0 | 104 | 100 | 75-125 | 4 | 20 | |
| Lead, Dissolved | ug/L | 1.4 | 20 | 20 | 21.6 | 21.0 | 101 | 98 | 75-125 | 3 | 20 | |
| Manganese, Dissolved | ug/L | 99.7 | 20 | 20 | 116 | 116 | 82 | 83 | 75-125 | .09 | 20 | |
| Nickel, Dissolved | ug/L | 2.8 | 20 | 20 | 23.1 | 22.8 | 103 | 101 | 75-125 | 1 | 20 | |
| Zinc, Dissolved | ug/L | 26.2 | 20 | 20 | 38.5 | 37.9 | 61 | 58 | 75-125 | 2 | 20 | M1 |

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# QUALITY CONTROL DATA

Project: Delatte Metals
Pace Project No.: 205003

QC Batch: WET/2219 — Analysis Method: EPA 9034
QC Batch Method: EPA 9034 — Analysis Description: 9034 Sulfide Waste Water
Associated Lab Samples: 205003030, 205003031, 205003032, 205003033, 205003034, 205003035, 205003037, 205003038, 205003039, 205003040, 205003041, 205003042, 205003043, 205003044, 205003045

METHOD BLANK: 24501 — Matrix: Water
Associated Lab Samples: 205003030, 205003031, 205003032, 205003033, 205003034, 205003035, 205003037, 205003038, 205003039, 205003040, 205003041, 205003042, 205003043, 205003044, 205003045

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Sulfide | mg/L | ND | 25.0 | 06/10/14 15:26 | |

LABORATORY CONTROL SAMPLE: 24502

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Sulfide | mg/L | 20 | 17.6J | 88 | 80-120 | |

MATRIX SPIKE SAMPLE: 24595

| Parameter | Units | 205003037 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|---|
| Sulfide | mg/L | ND | 20 | 14.4J | 64 | 75-125 | M1 |

SAMPLE DUPLICATE: 24594

| Parameter | Units | 205003037 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Sulfide | mg/L | ND | 1.6J | | 20 | |

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# QUALITY CONTROL DATA

Project: Delatte Metals
Pace Project No.: 205003

QC Batch: WETA/29876 Analysis Method: EPA 9056
QC Batch Method: EPA 9056 Analysis Description: 9056 IC Anions
Associated Lab Samples: 205003030, 205003031, 205003032, 205003033, 205003034, 205003035, 205003037, 205003038, 205003039, 205003040, 205003041, 205003042, 205003043, 205003044, 205003045

METHOD BLANK: 1396295 Matrix: Water
Associated Lab Samples:

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Sulfate | mg/L | ND | 1.0 | 06/20/14 09:12 | |

METHOD BLANK: 1396562 Matrix: Water
Associated Lab Samples:

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Sulfate | mg/L | ND | 1.0 | 06/21/14 10:41 | |

LABORATORY CONTROL SAMPLE: 1396296

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Sulfate | mg/L | 5 | 5.1 | 102 | 80-120 | |

LABORATORY CONTROL SAMPLE: 1396563

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Sulfate | mg/L | 5 | 5.1 | 101 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1396297 1396298

| Parameter | Units | 205003030 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sulfate | mg/L | 4580 | 10000 | 10000 | 12400 | 12300 | 78 | 77 | 80-120 | 0 | 15 | M1 |

SAMPLE DUPLICATE: 1396299

| Parameter | Units | 205003037 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Sulfate | mg/L | 1600 | 1920 | 18 | 15 | D6 |

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# QUALIFIERS

Project: Delatte Metals
Pace Project No.: 205003

## DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

LOD - Limit of Detection.

LOQ - Limit of Quantitation.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The Nelac Institute

## LABORATORIES

| | |
|---|---|
| PASI-K | Pace Analytical Services - Kansas City |
| PASI-N | Pace Analytical Services - New Orleans |

## ANALYTE QUALIFIERS

| | |
|---|---|
| D3 | Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference. |
| D6 | The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits. |
| M1 | Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery. |



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Pace Analytical
www.pacelabs.com

Pace Analytical Services, Inc.
1000 Riverbend Blvd. - Suite F
New Orleans, LA 70087
(504)469-0333

# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Delatte Metals
Pace Project No.: 205003

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| 205003001 | CA-41 | EPA 3010 | MPRP/1325 | EPA 6020 | ICPM/1073 |
| 205003002 | CA-51 | EPA 3010 | MPRP/1325 | EPA 6020 | ICPM/1073 |
| 205003003 | GSGP-03 | EPA 3010 | MPRP/1325 | EPA 6020 | ICPM/1073 |
| 205003004 | BRIDGE | EPA 3010 | MPRP/1325 | EPA 6020 | ICPM/1073 |
| 205003005 | CL-05 | EPA 3010 | MPRP/1325 | EPA 6020 | ICPM/1073 |
| 205003006 | CL-19 | EPA 3010 | MPRP/1325 | EPA 6020 | ICPM/1073 |
| 205003008 | WW-04 | EPA 3010 | MPRP/1325 | EPA 6020 | ICPM/1073 |
| 205003009 | BC-03 | EPA 3010 | MPRP/1325 | EPA 6020 | ICPM/1073 |
| 205003010 | MW-06 | EPA 3010 | MPRP/1325 | EPA 6020 | ICPM/1073 |
| 205003011 | GSGP-18 | EPA 3010 | MPRP/1325 | EPA 6020 | ICPM/1073 |
| 205003012 | GSGP-19 | EPA 3010 | MPRP/1325 | EPA 6020 | ICPM/1073 |
| 205003013 | MW-03 | EPA 3010 | MPRP/1326 | EPA 6020 | ICPM/1074 |
| 205003014 | BC-25 | EPA 3010 | MPRP/1325 | EPA 6020 | ICPM/1073 |
| 205003015 | DUPLICATE #1 | EPA 3010 | MPRP/1325 | EPA 6020 | ICPM/1073 |
| 205003016 | BC-07 | EPA 3010 | MPRP/1325 | EPA 6020 | ICPM/1073 |
| 205003017 | DW-04 | EPA 3010 | MPRP/1326 | EPA 6020 | ICPM/1074 |
| 205003018 | BC-19 | EPA 3010 | MPRP/1326 | EPA 6020 | ICPM/1074 |
| 205003019 | SOUTHWELL | EPA 3010 | MPRP/1326 | EPA 6020 | ICPM/1074 |
| 205003020 | NORTHWELL | EPA 3010 | MPRP/1326 | EPA 6020 | ICPM/1074 |
| 205003021 | BC-17 | EPA 3010 | MPRP/1326 | EPA 6020 | ICPM/1074 |
| 205003022 | BC-21R | EPA 3010 | MPRP/1326 | EPA 6020 | ICPM/1074 |
| 205003023 | BA-01 | EPA 3010 | MPRP/1326 | EPA 6020 | ICPM/1074 |
| 205003024 | DW-02 | EPA 3010 | MPRP/1326 | EPA 6020 | ICPM/1074 |
| 205003025 | BA-05 | EPA 3010 | MPRP/1326 | EPA 6020 | ICPM/1074 |
| 205003026 | MW-A | EPA 3010 | MPRP/1326 | EPA 6020 | ICPM/1074 |
| 205003027 | GSGP-15 | EPA 3010 | MPRP/1326 | EPA 6020 | ICPM/1074 |
| 205003028 | PW-04 | EPA 3010 | MPRP/1327 | EPA 6020 | ICPM/1075 |
| 205003029 | DUPLICATE #2 | EPA 3010 | MPRP/1326 | EPA 6020 | ICPM/1074 |
| 205003030 | DW-03 | EPA 3010 | MPRP/1326 | EPA 6020 | ICPM/1074 |
| 205003031 | GSGP-22 | EPA 3010 | MPRP/1327 | EPA 6020 | ICPM/1075 |
| 205003032 | TEPA-9H (9G) | EPA 3010 | MPRP/1327 | EPA 6020 | ICPM/1075 |
| 205003033 | DW-01 | EPA 3010 | MPRP/1327 | EPA 6020 | ICPM/1075 |
| 205003034 | MW-01 | EPA 3010 | MPRP/1327 | EPA 6020 | ICPM/1075 |
| 205003035 | TEPA-6H | EPA 3010 | MPRP/1327 | EPA 6020 | ICPM/1075 |
| 205003036 | BA-03 | EPA 3010 | MPRP/1327 | EPA 6020 | ICPM/1075 |
| 205003037 | MW-02 | EPA 3010 | MPRP/1328 | EPA 6020 | ICPM/1076 |
| 205003038 | TEPA-P8 | EPA 3010 | MPRP/1327 | EPA 6020 | ICPM/1075 |
| 205003039 | TEPA-P6 | EPA 3010 | MPRP/1327 | EPA 6020 | ICPM/1075 |
| 205003040 | TEPA-1H | EPA 3010 | MPRP/1327 | EPA 6020 | ICPM/1075 |
| 205003041 | TEPA-P10 | EPA 3010 | MPRP/1327 | EPA 6020 | ICPM/1075 |
| 205003042 | TEPA-P7D | EPA 3010 | MPRP/1327 | EPA 6020 | ICPM/1075 |
| 205003043 | DUPLICATE #3 | EPA 3010 | MPRP/1327 | EPA 6020 | ICPM/1075 |
| 205003044 | DUPLICATE #4 | EPA 3010 | MPRP/1327 | EPA 6020 | ICPM/1075 |
| 205003045 | BA-09 | EPA 3010 | MPRP/1329 | EPA 6020 | ICPM/1076 |



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1000 Riverbend Blvd. - Suite F
New Orleans, LA 70087
(504)469-0333

# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Delatte Metals
Pace Project No.: 205003

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| 205003046 | BA-09A | EPA 3010 | MPRP/1329 | EPA 6020 | ICPM/1076 |
| 205003047 | GSGP-6 | EPA 3010 | MPRP/1329 | EPA 6020 | ICPM/1076 |
| 205003048 | MW-4 | EPA 3010 | MPRP/1329 | EPA 6020 | ICPM/1076 |
| 205003049 | WW-09 | EPA 3010 | MPRP/1329 | EPA 6020 | ICPM/1076 |
| 205003050 | DUPLICATE #5 | EPA 3010 | MPRP/1329 | EPA 6020 | ICPM/1076 |
| 205003051 | (b) (6) [redacted] | EPA 3010 | MPRP/1329 | EPA 6020 | ICPM/1076 |
| 205003001 | CA-41 | EPA 3005A | MPRP/1324 | EPA 6020 | ICPM/1072 |
| 205003002 | CA-51 | EPA 3005A | MPRP/1324 | EPA 6020 | ICPM/1072 |
| 205003004 | BRIDGE | EPA 3005A | MPRP/1324 | EPA 6020 | ICPM/1072 |
| 205003005 | CL-05 | EPA 3005A | MPRP/1324 | EPA 6020 | ICPM/1072 |
| 205003006 | CL-19 | EPA 3005A | MPRP/1324 | EPA 6020 | ICPM/1072 |
| 205003036 | BA-03 | EPA 3005A | MPRP/1324 | EPA 6020 | ICPM/1072 |
| 205003042 | TEPA-P7D | EPA 3005A | MPRP/1324 | EPA 6020 | ICPM/1072 |
| 205003048 | MW-4 | EPA 3005A | MPRP/1324 | EPA 6020 | ICPM/1072 |
| 205003030 | DW-03 | EPA 9034 | WET/2219 | | |
| 205003031 | GSGP-22 | EPA 9034 | WET/2219 | | |
| 205003032 | TEPA-9H (9G) | EPA 9034 | WET/2219 | | |
| 205003033 | DW-01 | EPA 9034 | WET/2219 | | |
| 205003034 | MW-01 | EPA 9034 | WET/2219 | | |
| 205003035 | TEPA-8H | EPA 9034 | WET/2219 | | |
| 205003037 | MW-02 | EPA 9034 | WET/2219 | | |
| 205003038 | TEPA-P9 | EPA 9034 | WET/2219 | | |
| 205003039 | TEPA-P6 | EPA 9034 | WET/2219 | | |
| 205003040 | TEPA-1H | EPA 9034 | WET/2219 | | |
| 205003041 | TEPA-P10 | EPA 9034 | WET/2219 | | |
| 205003042 | TEPA-P7D | EPA 9034 | WET/2219 | | |
| 205003043 | DUPLICATE #3 | EPA 9034 | WET/2219 | | |
| 205003044 | DUPLICATE #4 | EPA 9034 | WET/2219 | | |
| 205003045 | BA-09 | EPA 9034 | WET/2219 | | |
| 205003030 | DW-03 | EPA 9056 | WETA/29876 | | |
| 205003031 | GSGP-22 | EPA 9056 | WETA/29876 | | |
| 205003032 | TEPA-9H (9G) | EPA 9056 | WETA/29876 | | |
| 205003033 | DW-01 | EPA 9056 | WETA/29876 | | |
| 205003034 | MW-01 | EPA 9056 | WETA/29876 | | |
| 205003035 | TEPA-8H | EPA 9056 | WETA/29876 | | |
| 205003037 | MW-02 | EPA 9056 | WETA/29876 | | |
| 205003038 | TEPA-P9 | EPA 9056 | WETA/29876 | | |
| 205003039 | TEPA-P6 | EPA 9056 | WETA/29876 | | |
| 205003040 | TEPA-1H | EPA 9056 | WETA/29876 | | |
| 205003041 | TEPA-P10 | EPA 9056 | WETA/29876 | | |
| 205003042 | TEPA-P7D | EPA 9056 | WETA/29876 | | |
| 205003043 | DUPLICATE #3 | EPA 9056 | WETA/29876 | | |
| 205003044 | DUPLICATE #4 | EPA 9056 | WETA/29876 | | |
| 205003045 | BA-09 | EPA 9056 | WETA/29876 | | |



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# CHAIN-OF-CUSTODY / Analytic

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**WO#: 205003**

PM: WRS Due Date: 06/19/14

CLIENT: 20-sems Met SEMS Metairie

| Section A Required Client Information: | | Section B Required Project Information: | | Section C Invoice Information: | |
|---|---|---|---|---|---|
| Company: | SEMS Inc | Report To: | Nick Rodenhorst | Attention: | Brian Sullivan |
| Address: | 3801 N. Causeway Blvd. | Copy To: | Brian Sullivan | Company Name: | SEMS, Inc |
| | Metairie, LA 70002 | | | Address: | 3801 N. Causeway Blvd. |
| Email To: | nrodenhorst@semsinc.com | Purchase Order No.: | | Pace Quote Reference: | 9393 |
| Phone: 504) 451-2087 | Fax: | Project Name: | Dalatte Metals | Pace Project Manager: | Randy Shackelford |
| Requested Due Date/TAT: | 10 WD | Project Number: | 84383 | Pace Profile #: | 6306 L-1 |

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☒ RCRA ☐ OTHER

Site Location: STATE: LA

Section D Required Client Information

Valid Matrix Codes

| MATRIX | CODE |
|---|---|
| DRINKING WATER | DW |
| WATER | WT |
| WASTE WATER | WW |
| PRODUCT | P |
| SOIL/SOLID | SL |
| OIL | OL |
| WIPE | WP |
| AIR | AR |
| OTHER | OT |
| TISSUE | TS |

| ITEM # | SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED: COMPOSITE START DATE | COMPOSITE START TIME | COMPOSITE ENDORGRAB DATE | COMPOSITE ENDORGRAB TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test (Y/N) | Total Metals | Dissolved Metals | Sulfide | Sulfide | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | CA-41 | W | G | | | 6/2/14 | 945 | | 2 | | | 2 | | | | | | | X | X | | | | 001 |
| 2 | CA-51 | | | | | | 930 | | 2 | | | 2 | | | | | | | X | X | | | | 002 |
| 3 | GSGP-03 | | | | | | 910 | | 1 | | | 1 | | | | | | | X | X | | | | 003 |
| 4 | Bridge | | | | | | 1015 | | 2 | | | 2 | | | | | | | X | X | | | | 004 |
| 5 | CL-05 | | | | | | 1050 | | 2 | | | 2 | | | | | | | X | X | | | | 005 |
| 6 | CL-19 | | | | | | 1110 | | 2 | | | 2 | | | | | | | X | X | | | | 006 |
| 7 | (b) (6) Well | | | | | | 1130 | | 1 | | | 1 | | | | | | | X | X | | | | 051 |
| 8 | MW-04 | | | | | | 1140 | | 1 | | | 1 | | | | | | | X | X | | | | 008 |
| 9 | BC-03 | | | | | | 1253 | | 1 | | | 1 | | | | | | | X | X | | | | 009 |
| 10 | MW-06 | | | | | | 1351 | | 1 | | | 1 | | | | | | | X | X | | | | 010 |
| 11 | GSGP-18 | | | | | | 1413 | | 1 | | | 1 | | | | | | | X | X | | | | 011 |
| 12 | GSGP-19 | W | W | | | | 1434 | | 1 | | | 1 | | | | | | | X | X | | | | 012 |

Requested Analysis Filtered (Y/N): Total Metals, Dissolved Metals, Sulfide, Sulfide

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS |
|---|---|---|---|---|---|---|---|
| Metals = As,Cd,Pb,Mn,Ni,Zn | Nick Rodenhorst / SEMS | 6/5/14 | 1515 | Rachel Ferrara | 6/5/14 | 1540 | |
| Dissolved Metals are | Rachel | 6/5/14 | 1525 | | 6/5/14 | 1525 | 0.1 |
| Field-filtered | | | | | | | 0.2 |
| | | | | | | | 0.1 |

| Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N) |
|---|---|---|---|
| | Y | Y | Y |

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Nick Rodenhorst

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY): 6/5/14



*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-Feb-2007

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# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.



**Section A** Required Client Information:
Company: SEMS Inc
Address: 3801 N. Causeway Blvd.
Metairie, LA 70002
Email To: nrodenhorst@semsinc.com
Phone: (504) 451-8085 Fax:
Requested Due Date/TAT: 10 WD

**Section B** Required Project Information:
Report To: Nick Rodenhorst
Copy To: Brian Sullivan
Purchase Order No.:
Project Name: Delatte Metals
Project Number: 84383

**Section C** Invoice Information:
Attention: Brian Sullivan
Company Name: SEMS, Inc
Address: 3801 N. Causeway Blvd.
Pace Quote Reference: 8893
Pace Project Manager: Randy Shackelford
Pace Profile #:

REGULATORY AGENCY
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☒ RCRA ☐ OTHER

Site Location STATE: LA

Requested Analysis Filtered (Y/N)

**Section D** Required Client Information

Valid Matrix Codes

| MATRIX | CODE |
|---|---|
| DRINKING WATER | DW |
| WATER | WT |
| WASTE WATER | WW |
| PRODUCT | P |
| SOIL/SOLID | SL |
| OIL | OL |
| WIPE | WP |
| AIR | AR |
| OTHER | OT |
| TISSUE | TS |

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED COMPOSITE START DATE | COLLECTED COMPOSITE START TIME | COLLECTED COMPOSITE END/GRAB DATE | COLLECTED COMPOSITE END/GRAB TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test Y/N | Total Metals | Dissolved Metals | Sulfate | Sulfide | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | MW-03 | W | G | | | 6/2/14 | 1501 | | 1 | | | 1 | | | | | | | X | | | | | 013 |
| 2 | BC-25 | | | | | | 1519 | | 1 | | | 1 | | | | | | | X | | | | | 014 |
| 3 | MS-GSGP-03 | | | | | | 910 | | 1 | | | 1 | | | | | | | X | | | | | 013 |
| 4 | MSD-GSGP-03 | | | | | | 910 | | 1 | | | 1 | | | | | | | X | | | | | 013 |
| 5 | Duplicate #1 | | | | | | 1140 | | 1 | | | 1 | | | | | | | X | | | | | 015 |
| 6 | BC-07 | | | | | 6/3/14 | 906 | | 1 | | | 1 | | | | | | | X | | | | | 016 |
| 7 | DW-04 | | | | | | 942 | | 1 | | | 1 | | | | | | | X | | | | | 017 |
| 8 | BC-19 | | | | | | 1008 | | 1 | | | 1 | | | | | | | X | | | | | 018 |
| 9 | South Well | | | | | | 1040 | | 1 | | | 1 | | | | | | | X | | | | | 019 |
| 10 | North Well | | | | | | 1057 | | 1 | | | 1 | | | | | | | X | | | | | 020 |
| 11 | BC-17 | | | | | | 1136 | | 1 | | | 1 | | | | | | | X | | | | | 021 |
| 12 | BC-21R | | | | | | 1309 | | 1 | | | 1 | | | | | | | X | | | | | 022 |

ADDITIONAL COMMENTS: Metals = As, Cd, Pb, Mn, Ni, Zn

| RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME |
|---|---|---|---|---|---|
| Nick Rodenhorst / SEMS | 6/5/14 | 1515 | Radell | 6/5/14 | 1540 |
| [illegible] | 6/5/14 | 1625 | [illegible] | 6/5/14 | 1625 |

SAMPLE CONDITIONS

| Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N) |
|---|---|---|---|
| 0.1 | | | |
| 0.2 | [illegible] | [illegible] | [illegible] |
| 0.1 | | | |

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Nick Rodenhorst
SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 6/5/14

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-Feb-2007

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**Section A** Required Client Information:
Company: SEMS Inc
Address: 3801 N. Causeway Blvd.
Metairie, LA 70002
Email To: nrodenhorst@semsinc.com
Phone: (504) 451-8153 Fax:
Requested Due Date/TAT: 10 WD

**Section B** Required Project Information:
Report To: Nick Rodenhorst
Copy To: Brian Sullivan
Purchase Order No.:
Project Name: Delatte Metals
Project Number: 84383

**Section C** Invoice Information:
Attention: Brian Sullivan
Company Name: SEMS, Inc
Address: 3801 N. Causeway Blvd.
Pace Quote Reference: 5893
Pace Project Manager: Randy Shackelford
Pace Profile #:

REGULATORY AGENCY
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☒ RCRA ☐ OTHER
Site Location STATE: LA

Requested Analysis Filtered (Y/N)

Section D Required Client Information
Valid Matrix Codes: MATRIX / CODE — DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WIPE WP; AIR AR; OTHER OT; TISSUE TS

| ITEM # | SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE | MATRIX CODE (use valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start Date | Composite Start Time | Composite End/Grab Date | Composite End/Grab Time | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test | Total Metals | Dissolved Metals | Sulfate 9056 | Sulfide 9034 | | | | | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | BA-01 | W | G | | | 6/3/14 | 1357 | | 1 | | | 1 | | | | | | | X | | | | | | | | | 023 |
| 2 | DW-02 | | | | | | 1421 | | 1 | | | 1 | | | | | | | X | | | | | | | | | 024 |
| 3 | BA-05 | | | | | | 1452 | | 1 | | | 1 | | | | | | | X | | | | | | | | | 025 |
| 4 | MW-A | | | | | | 1515 | | 1 | | | 1 | | | | | | | X | | | | | | | | | 026 |
| 5 | GSGP-15 | | | | | | 1544 | | 1 | | | 1 | | | | | | | X | | | | | | | | | 027 |
| 6 | PW-04 | | | | | | 1603 | | 1 | | | 1 | | | | | | | X | | | | | | | | | 028 |
| 7 | Duplicate #2 | | | | | | 906 | | 1 | | | 1 | | | | | | | X | | | | | | | | | 029 |
| 8 | MS-PW-04 | | | | | | 1603 | | 1 | | | 1 | | | | | | | X | | | | | | | | | 028 |
| 9 | MSD-PW-04 | | | | | ↓ | 1603 | | 1 | | | 1 | | | | | | | X | | | | | | | | | 028 |
| 10 | DW-03 | | | | | 6/4/14 | 941 | | 3 | 1 | | 1 | | | | | 1 | | X | | | X | X | | | | | 030 |
| 11 | GSGP-22 | | | | | | 906 | | 3 | 1 | | 1 | | | | | 1 | | X | | | X | X | | | | | 031 |
| 12 | TEPA-9H (9G) | ↓ | ↓ | | | | 930 | | 3 | 1 | | 1 | | | | | 1 | | X | | | X | X | | | | | 032 |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS |
|---|---|---|---|---|---|---|---|
| etals = As,Cd,Pb,Mn,NI,Zn | Nick Rodenhorst / SEMS | 6/5/14 | 1615 | Rachel [illegible] | 6/5/14 | 1615 | |
| | Rachel [illegible] | 6/5/14 | 1625 | [illegible] | 6/5/14 | 1625 | 01 02 01 |

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Nick Rodenhorst
SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 6/5/14

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.



**Section A** Required Client Information:

| | |
|---|---|
| Company: | SEMS Inc |
| Address: | 3801 N. Causeway Blvd. |
| | Metairie, LA 70002 |
| Email To: | nrodenhorst@semsinc.com |
| Phone: | Fax: |
| Requested Due Date/TAT: | 10 WD |

**Section B** Required Project Information:

| | |
|---|---|
| Report To: | Nick Rodenhorst |
| Copy To: | Brian Sullivan |
| Purchase Order No.: | |
| Project Name: | Delatte Metals |
| Project Number: | 84383 |

**Section C** Invoice Information:

| | |
|---|---|
| Attention: | Brian Sullivan |
| Company Name: | SEMS, Inc |
| Address: | 3801 N. Causeway Blvd. |
| Pace Quote Reference: | 9893 |
| Pace Project Manager: | Randy Shackelford |
| Pace Profile #: | |

**REGULATORY AGENCY**

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☒ RCRA ☐ OTHER

Site Location STATE: LA

Requested Analysis Filtered (Y/N)

Section D Required Client Information — Valid Matrix Codes

| MATRIX | CODE |
|---|---|
| DRINKING WATER | DW |
| WATER | WT |
| WASTE WATER | WW |
| PRODUCT | P |
| SOIL/SOLID | SL |
| OIL | OL |
| WIPE | WP |
| AIR | AR |
| OTHER | OT |
| TISSUE | TS |

| ITEM # | SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE | MATRIX CODE (use valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start Date | Composite Start Time | Composite End/Grab Date | Composite End/Grab Time | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test Y/N | Total Metals | Dissolved Metals | Sulfate 9056 | Sulfide 9034 | | | | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | DW-01 | W | G | | | 6/4/14 | 1003 | | 3 | 1 | | 1 | | | | | 1 | | X | | X | X | | | | | 033 |
| 2 | MW-01 | | | | | | 1033 | | 3 | 1 | | 1 | | | | | 1 | | X | | X | X | | | | | 034 |
| 3 | TEPA-6H | | | | | | 1101 | | 3 | 1 | | 1 | | | | | 1 | | X | | X | X | | | | | 035 |
| 4 | BA-03 | | | | | | 1252 | | 2 | | | 2 | | | | | | | X | X | | | | | | | 036 |
| 5 | MW-02 | | | | | | 1330 | | 3 | 1 | | 1 | | | | | 1 | | X | | X | X | | | | | 037 |
| 6 | TEPA-P9 | | | | | | 1426 | | 3 | 1 | | 1 | | | | | 1 | | X | | X | X | | | | | 038 |
| 7 | TEPA-P6 | | | | | | 1505 | | 3 | 1 | | 1 | | | | | 1 | | X | | X | X | | | | | 039 |
| 8 | TEPA-1H | | | | | | 1526 | | 3 | 1 | | 1 | | | | | 1 | | X | | X | X | | | | | 040 |
| 9 | TEPA-P10 | | | | | | 1544 | | 3 | 1 | | 1 | | | | | 1 | | X | | X | X | | | | | 041 |
| 10 | TEPA-P7D | | | | | | 1550 | | ~~2~~ 4 | | | 2 | | | | | 1 | | X | X | X | X | | | | | 042 |
| 11 | Duplicate #3 | | | | | | 841 | | 3 | 1 | | 1 | | | | | 1 | | X | | X | X | | | | | 043 |
| 12 | Duplicate #4 | AV | U | | | | 1426 | | 3 | 1 | | 1 | | | | | 1 | | X | | X | X | | | | | 044 |

ADDITIONAL COMMENTS

Metals = As, Cd, Pb, Mn, Ni, Zn

Dissolved metals are filtered

| RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS |
|---|---|---|---|---|---|---|
| Nick Rodenhorst / SEMS | 6/5/14 | 1515 | Rachel Z | 6/5/14 | 1540 | |
| Rachel Z | 6/5/14 | 1625 | | 6/5/14 | 1625 | 0.7 / 0.7 / 0.1 |

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Nick Rodenhorst

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 6/5/2014

| Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N) |
|---|---|---|---|
| | | | |

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Pace Analytical
www.pacelabs.com

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.



**Section A** Required Client Information:
Company: SEMS Inc
Address: 3801 N. Causeway Blvd.
Metairie, LA 70002
Email To: nrodehorst@semsinc.com
Phone: 504) 451-8085 Fax:
Requested Due Date/TAT: 10 WD

**Section B** Required Project Information:
Report To: Nick Rodenhorst
Copy To: Brian Sullivan
Purchase Order No.:
Project Name: Delatte Metals
Project Number: 84383

**Section C** Invoice Information:
Attention: Brian Sullivan
Company Name: SEMS, Inc
Address: 3801 N. Causeway Blvd.
Pace Quote Reference: 9893
Pace Project Manager: Randy Shackelford
Pace Profile #:

REGULATORY AGENCY
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☒ RCRA ☐ OTHER
Site Location STATE: LA

Section D Required Client Information
Valid Matrix Codes: MATRIX / CODE — DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WIPE WP; AIR AR; OTHER OT; TISSUE TS

| ITEM # | SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start Date | Composite Start Time | Composite End/Grab Date | Composite End/Grab Time | Sample Temp at Collection | # of Containers | Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test (Y/N) | Total Metals | Dissolved Metals | Sulfide | Sulfide | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | MS-MW-02 | W | G | | | 6/4/14 | 1330 | | 3 | 1 | | 1 | | | | | 1 | | X | | X | X | | 037 |
| 2 | MSD-MW-02 | | | | | | 1330 | | 3 | 1 | | 1 | | | | | 1 | | X | | X | X | | 037 |
| 3 | BA-09 | | | | | 6/5/14 | 1032 | | 3 | 1 | | 1 | | | | | 1 | | X | | X | X | | 045 |
| 4 | BA-09A | | | | | | 948 | | 1 | | | 1 | | | | | | | X | | | | | 046 |
| 5 | GSGP-6 | | | | | | 921 | | 1 | | | 1 | | | | | | | X | | | | | 047 |
| 6 | MW-4 | | | | | | 1100 | | 2 | | | 2 | | | | | | | X | X | | | | 048 |
| 7 | MW-09 | | | | | | 1110 | | 1 | | | 1 | | | | | | | X | | | | | 049 |
| 8 | Duplicate #5 | | | | | | 948 | | 1 | | | 1 | | | | | | | X | | | | | 050 |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS |
|---|---|---|---|---|---|---|---|
| Metals = As, Cd, Pb, Mn, Ni, Zn | Nick Rodenhorst / SEMS | 6/5/14 | 1515 | Rachel | 6/5/14 | 1545 | |
| Dissolved metals are field-filtered | Rachel | 6/5/14 | 1625 | | 6/5/14 | 1625 | 0.1 / 0.2 / 0.1 |

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Nick Rodenhorst
SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY): 6/5/14

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)



*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

WO# : 205003

205003

Pace Analytical

1000 Riverbend Blvd., Suite F
St. Rose, LA 70087

## Sample Conditi

**Courier:** ☐ Pace Courier ☐ Hired Courier ☐ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☑ Other Rachel-Sales

Custody Seal on Cooler/Box Present: [see COC] Custody Seals Intact: ☑ Yes ☐ No

Theromefer Used: ☐ Therm Fisher IR 5 ☐ Therm Fisher IR 6 ☑ Therm Fisher IR 7

Type of Ice: (Wet) Blue None

Samples on Ice: [see COC]

Cooler Temperature: [see COC] Temp should be above freezing to 6°C

Date and initials of person examining contents: 6-7-14 [illegible]

Temp must be measured from Temperature blank when present

| | | | | | Comments: |
|---|---|---|---|---|---|
| Temperature Blank Present"? | ☐ Yes | ☐ No | ☑ N/A | 1 | |
| Chain of Custody Present: | ☑ Yes | ☐ No | ☐ N/A | 2 | |
| Chain of Custody Complete: | ☑ Yes | ☐ No | ☐ N/A | 3 | |
| Chain of Custody Relinquished: | ☑ Yes | ☐ No | ☐ N/A | 4 | |
| Sampler Name & Signature on COC: | ☑ Yes | ☐ No | ☐ N/A | 5 | |
| Samples Arrived within Hold Time: | ☑ Yes | ☐ No | ☐ N/A | 6 | |
| Sufficient Volume: | ☑ Yes | ☐ No | ☐ N/A | 7 | |
| Correct Containers Used: | ☑ Yes | ☐ No | ☐ N/A | 8 | |
| Filtered vol. Rec. for Diss. tests | ☐ Yes | ☐ No | ☑ N/A | 9 | |
| Sample Labels match COC: | ☑ Yes | ☐ No | ☐ N/A | 10 | |
| All containers received within manufacture's precautionary and/or expiration dates. | ☑ Yes | ☐ No | ☐ N/A | 11 | |
| All containers needing chemical preservation have been checked (except VOA, coliform, & O&G). | ☑ Yes | ☐ No | ☐ N/A | 12 | |
| All containers preservation checked found to be in compliance with EPA recommendation. | ☑ Yes | ☐ No | ☐ N/A | 13 | If No, was preservative added? ☐ Yes ☐ No<br>If added record lot no.: HNO3 _____ H2SO4 _____ |
| Headspace in VOA Vials ( >6mm): | ☐ Yes | ☐ No | ☑ N/A | 14 | |
| Trip Blank Present: | ☐ Yes | ☑ No | | 15 | |

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

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# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: of

**Section A**
Required Client Information:

| | |
|---|---|
| Company: | SEMS Inc |
| Address: | 3801 N. Causeway Blvd. |
| | Metairie, LA 70002 |
| Mail To: | nrodehorst@semsinc.com |
| Phone: | Fax: |
| Requested Due Date/TAT: | 10 WD |

**Section B**
Required Project Information:

| | |
|---|---|
| Report To: | Nick Rodenhorst |
| Copy To: | Brian Sullivan |
| Purchase Order No.: | |
| Project Name: | Delatte Metals |
| Project Number: | 84383 |

**Section C**
Invoice Information:

| | |
|---|---|
| Attention: | Brian Sullivan |
| Company Name: | SEMS, Inc |
| Address: | 3801 N. Causeway Blvd. |
| Pace Quote Reference: | 9893 |
| Pace Project Manager: | Randy Shackelford |
| Pace Profile #: | |

**REGULATORY AGENCY**

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☒ RCRA ☐ OTHER

Site Location STATE: LA

**Section D**
Required Client Information

**SAMPLE ID**
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

| MATRIX | CODE |
|---|---|
| DRINKING WATER | DW |
| WATER | WT |
| WASTE WATER | WW |
| PRODUCT | P |
| SOIL/SOLID | SL |
| OIL | OL |
| WIPE | WP |
| AIR | AR |
| OTHER | OT |
| TISSUE | TS |

Requested Analysis Filtered (Y/N)

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED: COMPOSITE START DATE | COLLECTED: COMPOSITE START TIME | COLLECTED: COMPOSITE END/GRAB DATE | COLLECTED: COMPOSITE END/GRAB TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test Y/N | Total Metals | Dissolved Metals | Sulfate | Sulfide | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS |
|---|---|---|---|---|---|---|---|
| elals = As,Cd,Pb,Mn,Ni,Zn | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

| Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N) |
|---|---|---|---|
| | | | |

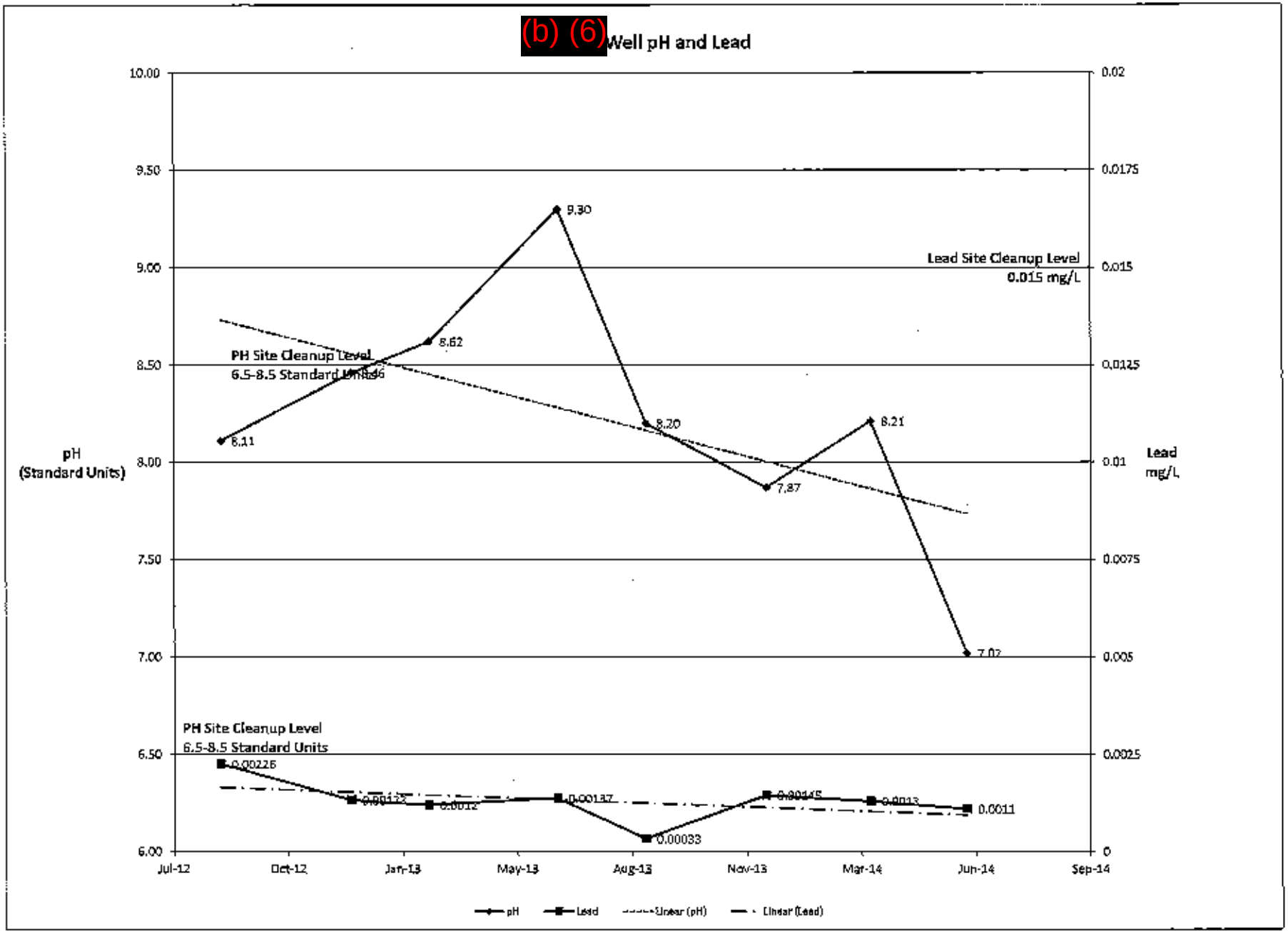
*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

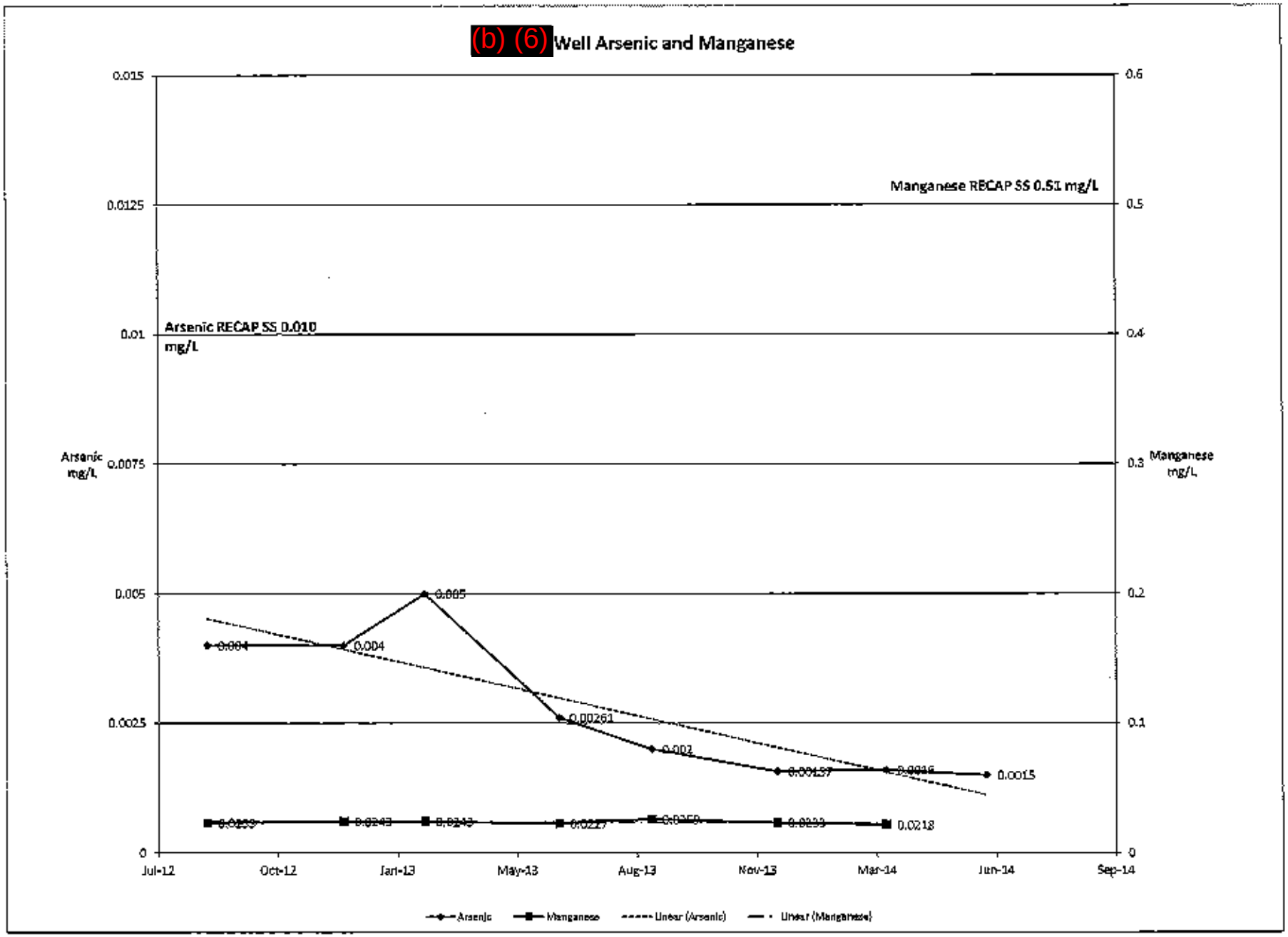
# ATTACHMENT C

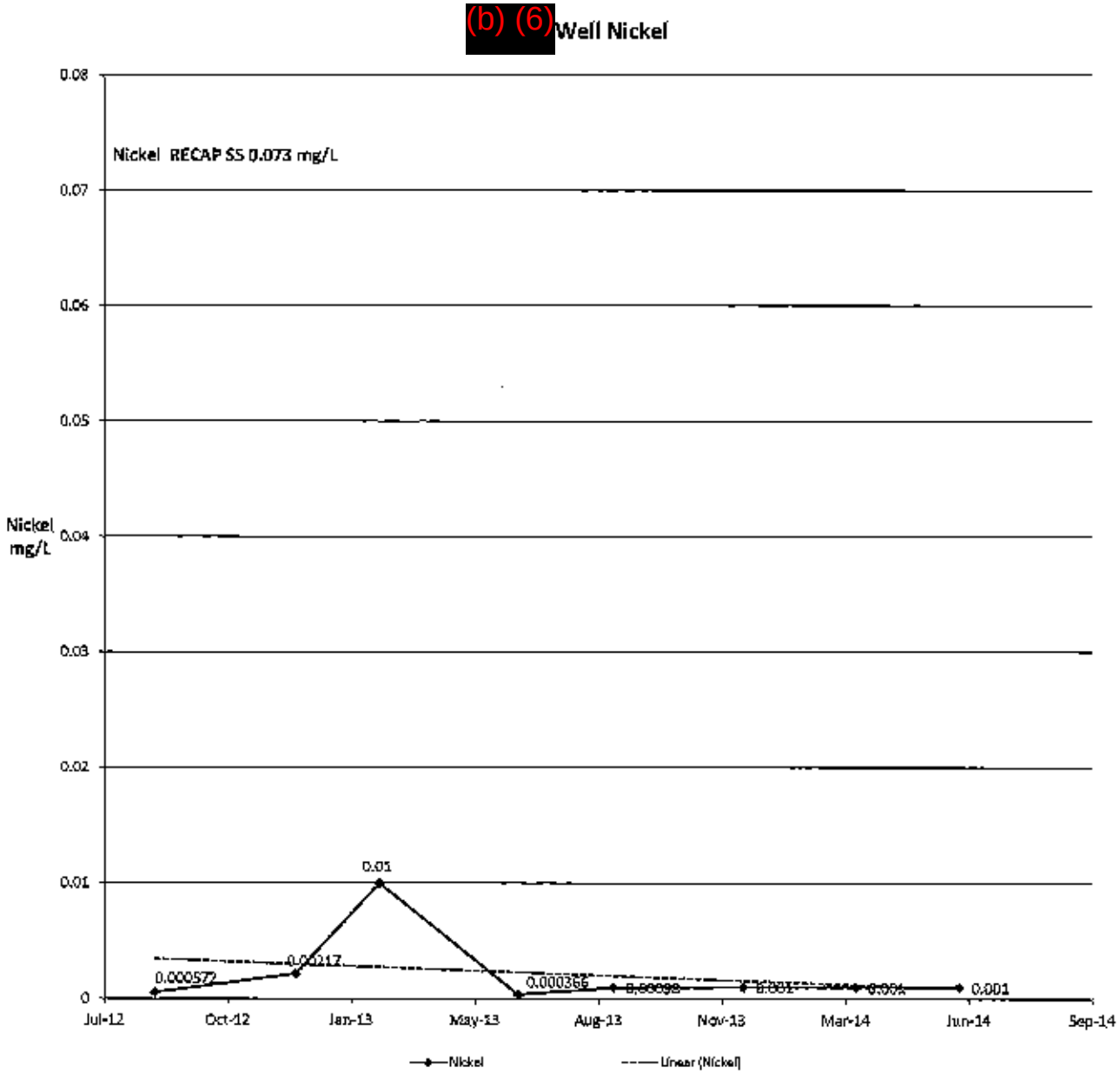
## HISTORICAL CONCENTRATION
## VS.
## TIME GRAPHS

**WATER WELLS**

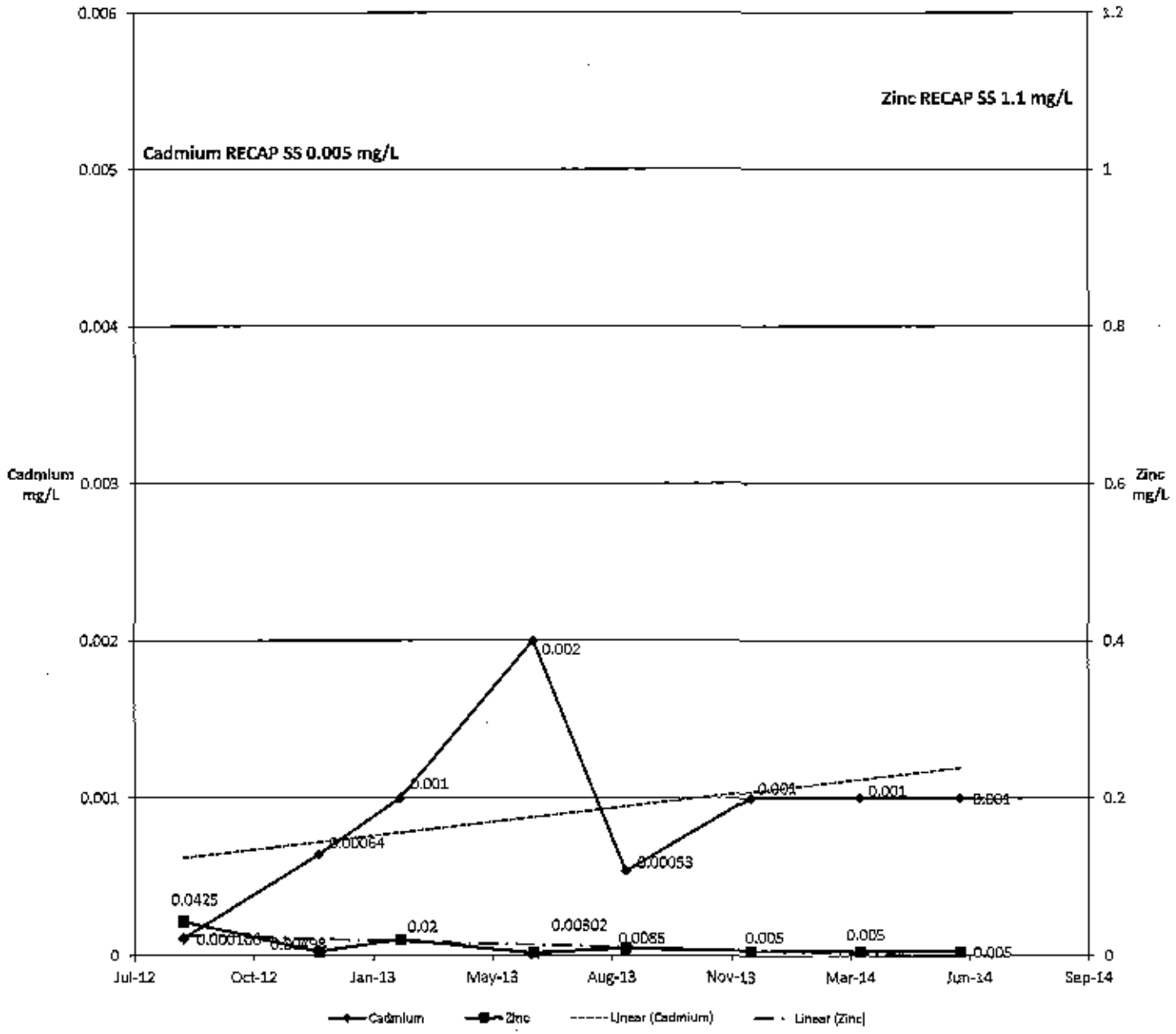
**(PAST EIGHT QUARTERS)**

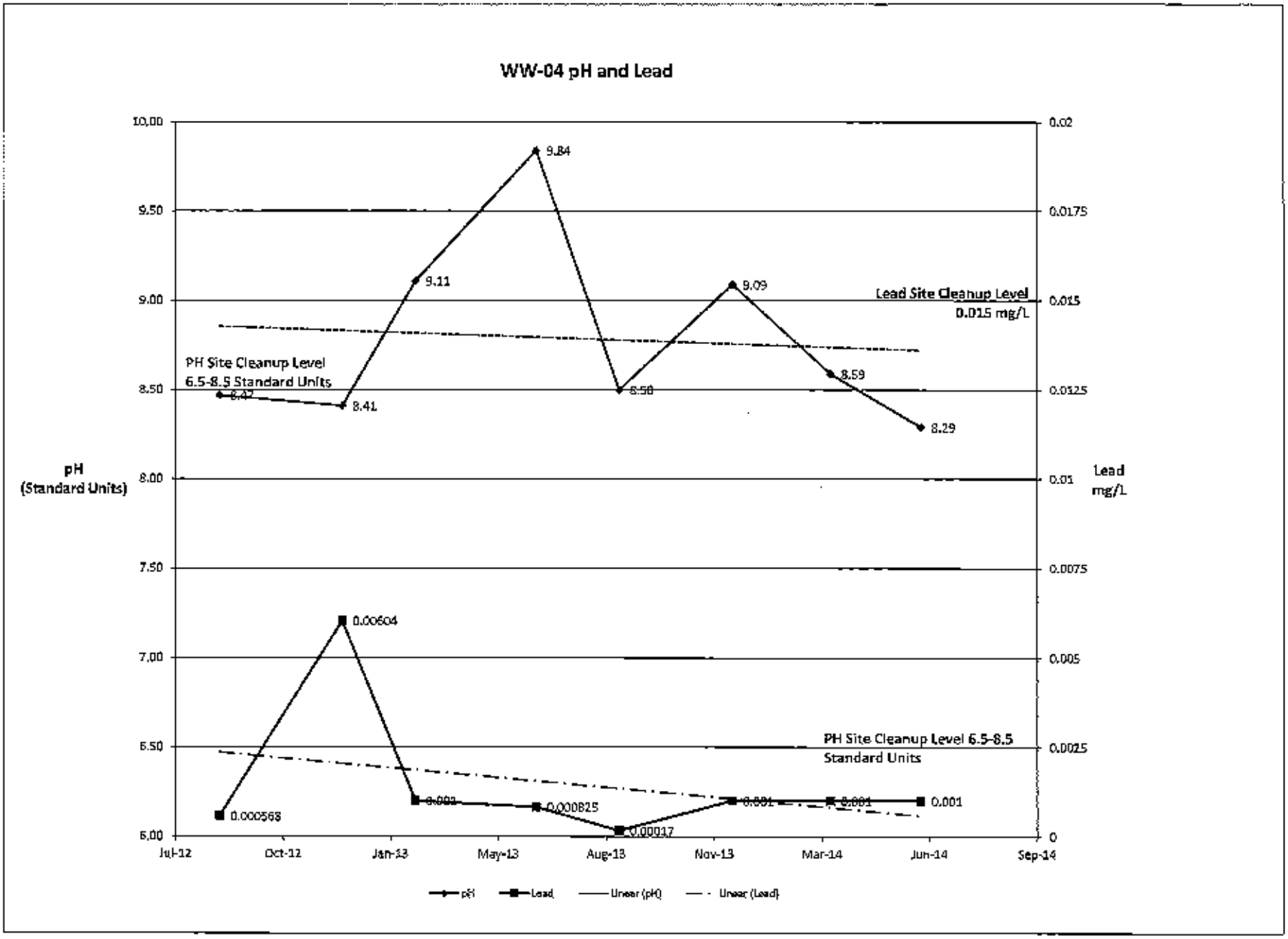

(b) (6) Well pH and Lead
pH
(Standard Units)
Lead
mg/L
Lead Site Cleanup Level
0.015 mg/L
PH Site Cleanup Level
6.5-8.5 Standard Units
PH Site Cleanup Level
6.5-8.5 Standard Units
10.00
9.50
9.00
8.50
8.00
7.50
7.00
6.50
6.00
0.02
0.0175
0.015
0.0125
0.01
0.0075
0.005
0.0025
0
Jul-12
Oct-12
Jan-13
May-13
Aug-13
Nov-13
Mar-14
Jun-14
Sep-14
8.11
8.46
8.62
9.30
8.20
7.87
8.21
7.02
0.00226
0.00172
0.0012
0.00137
0.00033
0.00145
0.0013
0.0011
pH
Lead
Linear (pH)
Linear (Lead)


(b) (6) Well Arsenic and Manganese
Manganese RECAP SS 0.51 mg/L
Arsenic RECAP SS 0.010 mg/L
Arsenic mg/L
Manganese mg/L
0.015
0.0125
0.01
0.0075
0.005
0.0025
0
0.6
0.5
0.4
0.3
0.2
0.1
0
0.005
0.004
0.00261
0.002
0.0015
0.0218
Jul-12
Oct-12
Jan-13
May-13
Aug-13
Nov-13
Mar-14
Jun-14
Sep-14
Arsenic
Manganese
Linear (Arsenic)
Linear (Manganese)

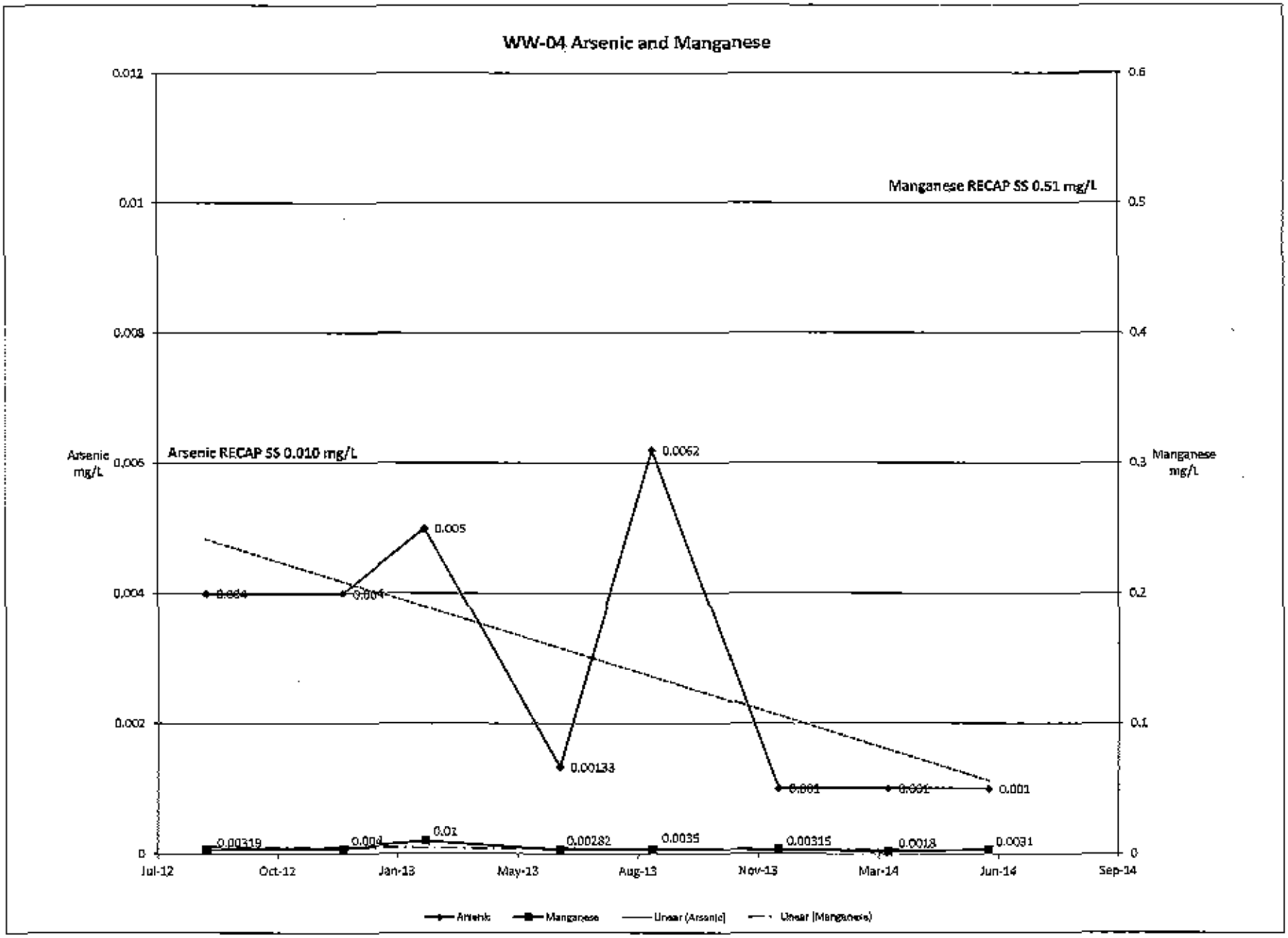

(b) (6) Well Nickel
Nickel RECAP SS 0.073 mg/L
Nickel mg/L
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
0.01
0.00217
0.000577
0.000369
0.001
Jul-12
Oct-12
Jan-13
May-13
Aug-13
Nov-13
Mar-14
Jun-14
Sep-14
Nickel
Linear (Nickel)

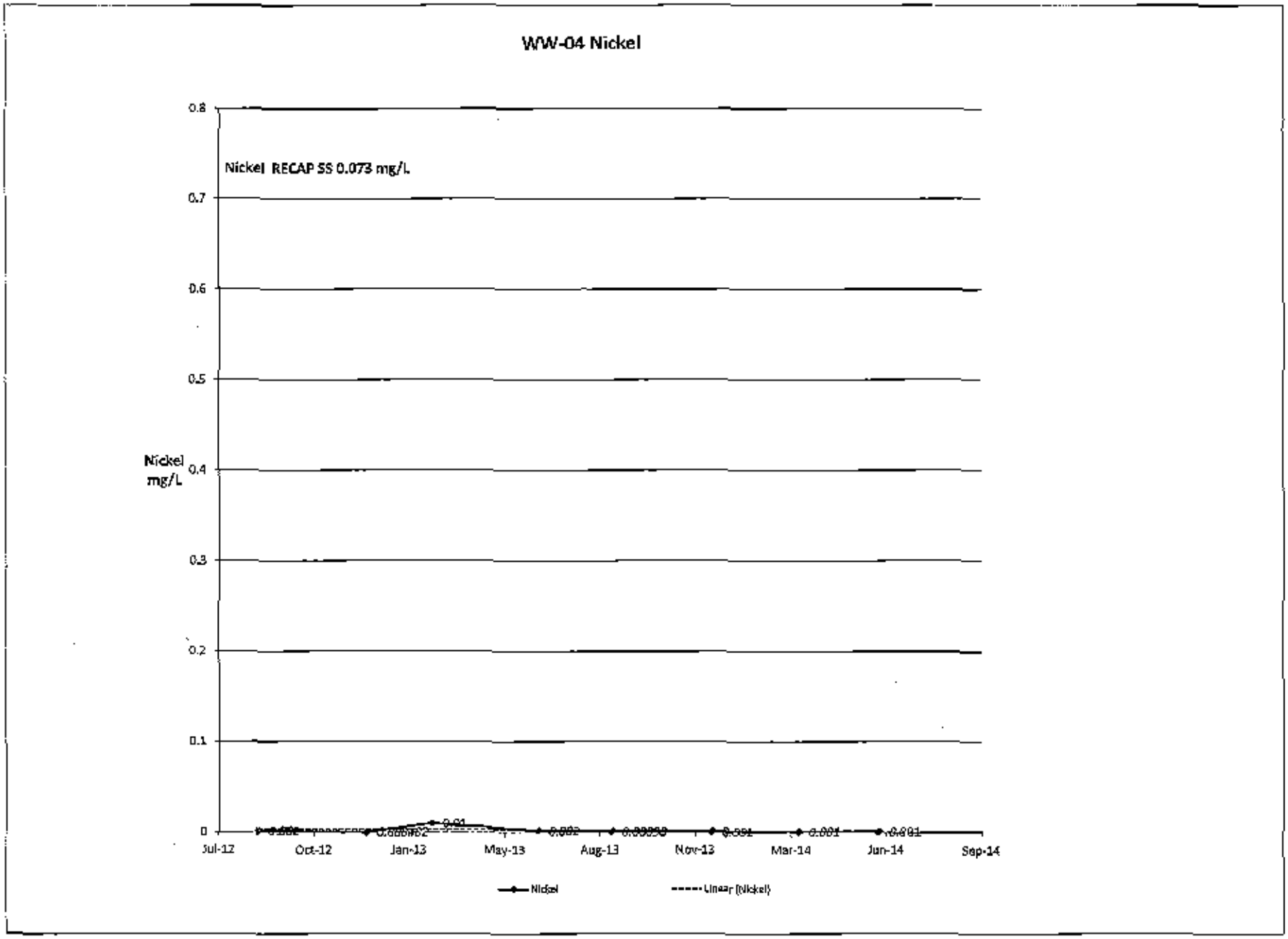
## (b) (6) Well Cadmium and Zinc

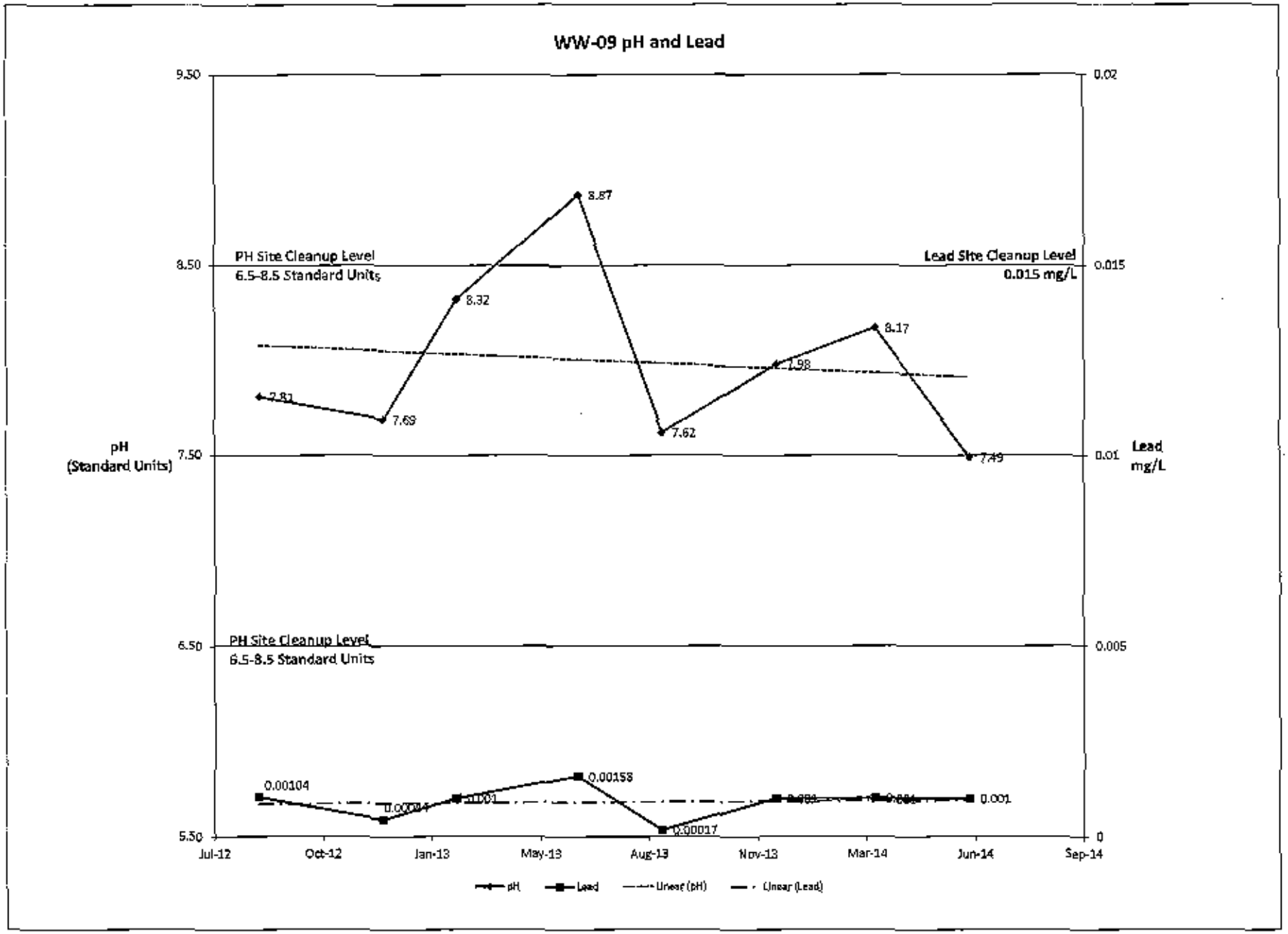


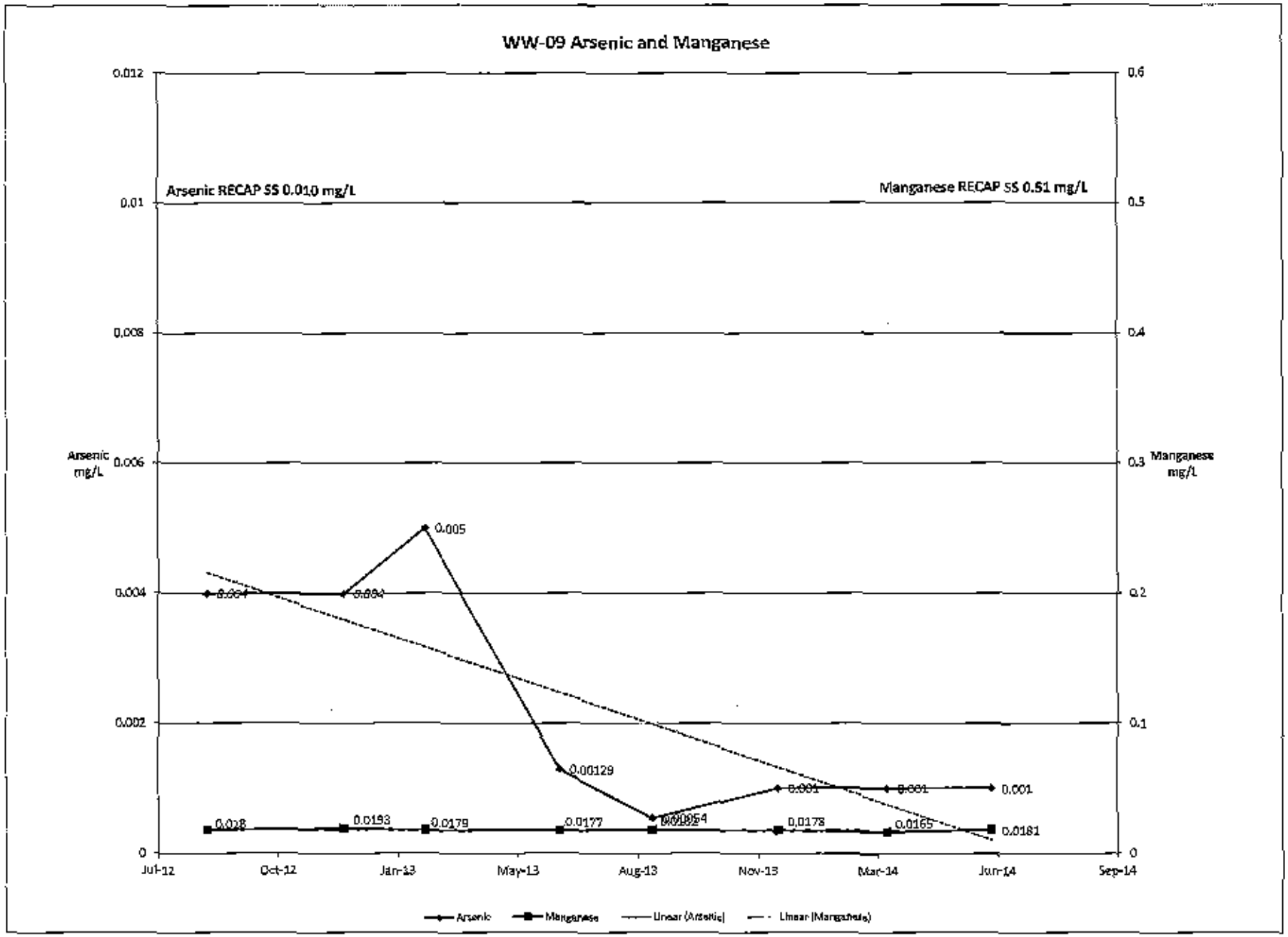


WW-04 pH and Lead
pH
(Standard Units)
Lead
mg/L
10.00
9.50
9.00
8.50
8.00
7.50
7.00
6.50
6.00
0.02
0.0175
0.015
0.0125
0.01
0.0075
0.005
0.0025
0
Jul-12
Oct-12
Jan-13
May-13
Aug-13
Nov-13
Mar-14
Jun-14
Sep-14
PH Site Cleanup Level
6.5-8.5 Standard Units
Lead Site Cleanup Level
0.015 mg/L
PH Site Cleanup Level 6.5-8.5
Standard Units
8.42
8.41
9.11
9.84
8.58
9.09
8.59
8.29
0.000568
0.00604
0.001
0.000825
0.00017
0.001
0.001
0.001
pH
Lead
Linear (pH)
Linear (Lead)

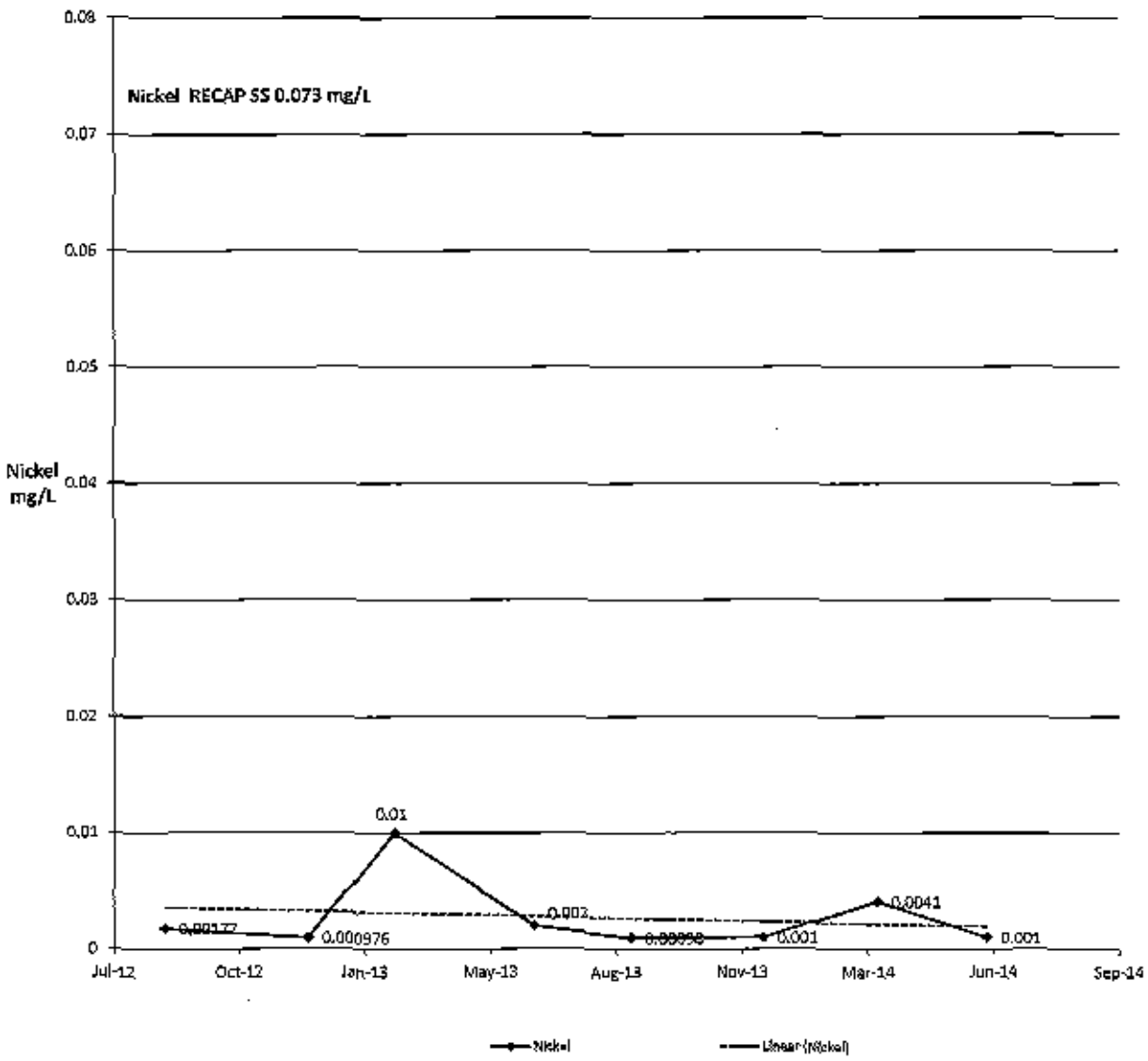

WW-04 Arsenic and Manganese
Manganese RECAP SS 0.51 mg/L
Arsenic RECAP SS 0.010 mg/L
Arsenic mg/L
Manganese mg/L
0.012
0.01
0.008
0.006
0.004
0.002
0
0.6
0.5
0.4
0.3
0.2
0.1
0
0.0062
0.005
0.004
0.004
0.00133
0.001
0.001
0.001
0.00319
0.004
0.01
0.00282
0.0035
0.00315
0.0018
0.0031
Jul-12
Oct-12
Jan-13
May-13
Aug-13
Nov-13
Mar-14
Jun-14
Sep-14
Arsenic
Manganese
Linear (Arsenic)
Linear (Manganese)


WW-04 Nickel
Nickel RECAP SS 0.073 mg/L
Nickel mg/L
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Jul-12
Oct-12
Jan-13
May-13
Aug-13
Nov-13
Mar-14
Jun-14
Sep-14
Nickel
Linear (Nickel)

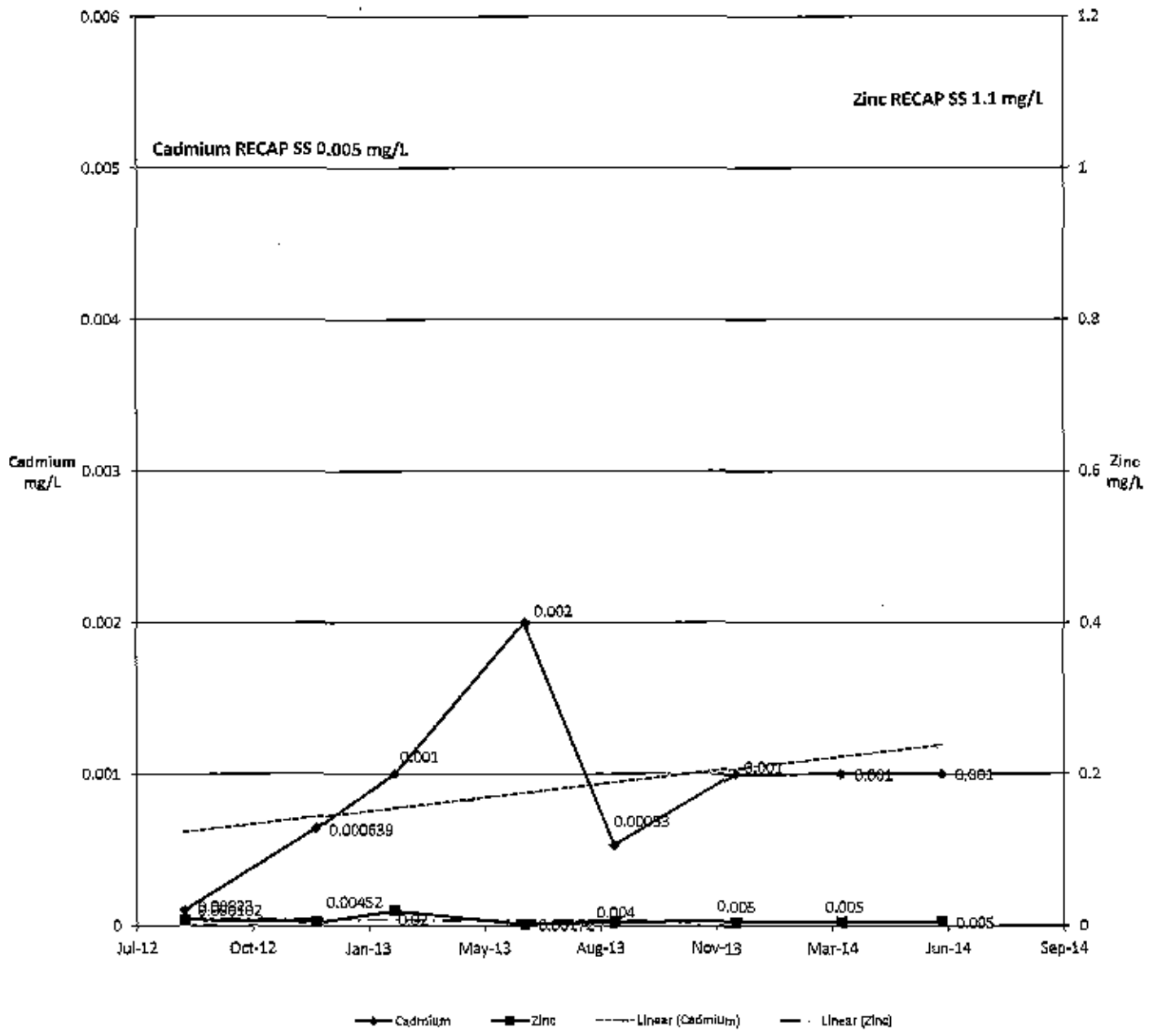

WW-09 pH and Lead
9.50
8.50
7.50
6.50
5.50
pH
(Standard Units)
0.02
0.015
0.01
0.005
0
Lead
mg/L
PH Site Cleanup Level
6.5-8.5 Standard Units
Lead Site Cleanup Level
0.015 mg/L
PH Site Cleanup Level
6.5-8.5 Standard Units
7.81
7.69
8.32
8.87
7.62
7.98
8.17
7.49
0.00104
0.00017
0.00158
0.001
Jul-12
Oct-12
Jan-13
May-13
Aug-13
Nov-13
Mar-14
Jun-14
Sep-14
pH
Lead
Linear (pH)
Linear (Lead)

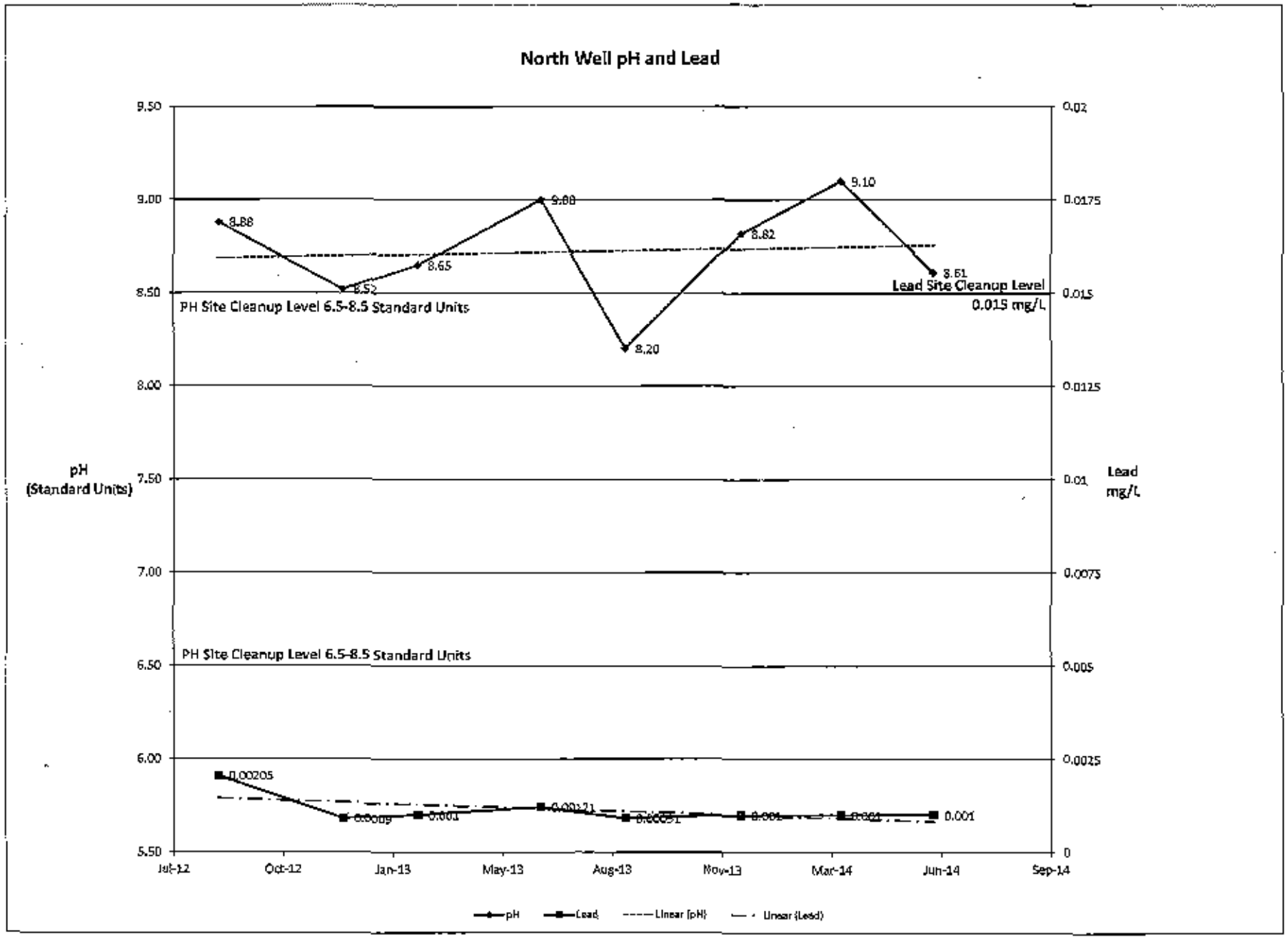


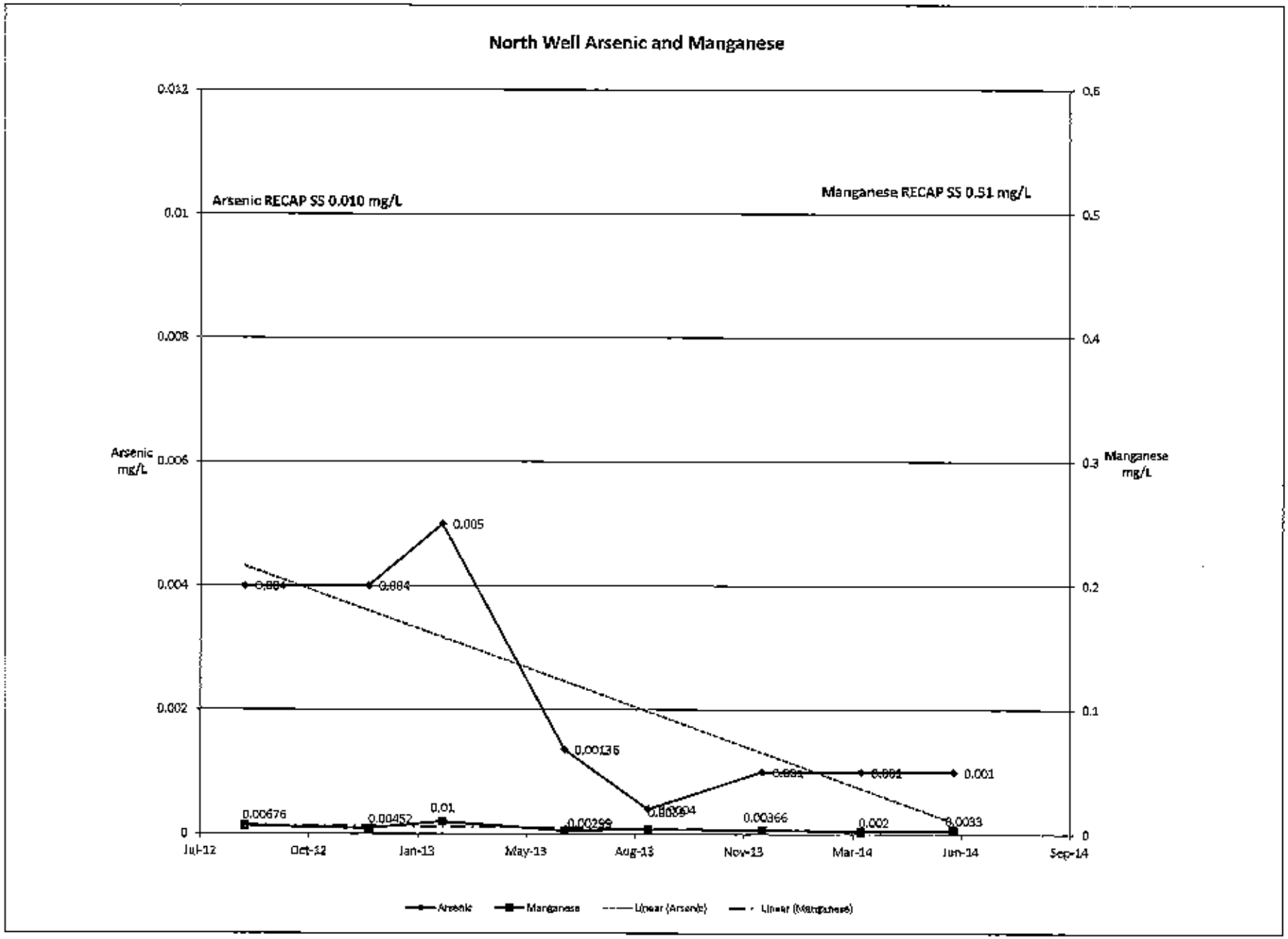
WW-09 Arsenic and Manganese
Arsenic RECAP SS 0.010 mg/L
Manganese RECAP SS 0.51 mg/L
Arsenic mg/L
Manganese mg/L
0.012
0.01
0.008
0.006
0.004
0.002
0
0.6
0.5
0.4
0.3
0.2
0.1
0
0.005
0.00129
0.001
0.001
0.001
0.028
0.0193
0.0179
0.0177
0.0178
0.0165
0.0181
Jul-12
Oct-12
Jan-13
May-13
Aug-13
Nov-13
Mar-14
Jun-14
Sep-14
Arsenic
Manganese
Linear (Arsenic)
Linear (Manganese)

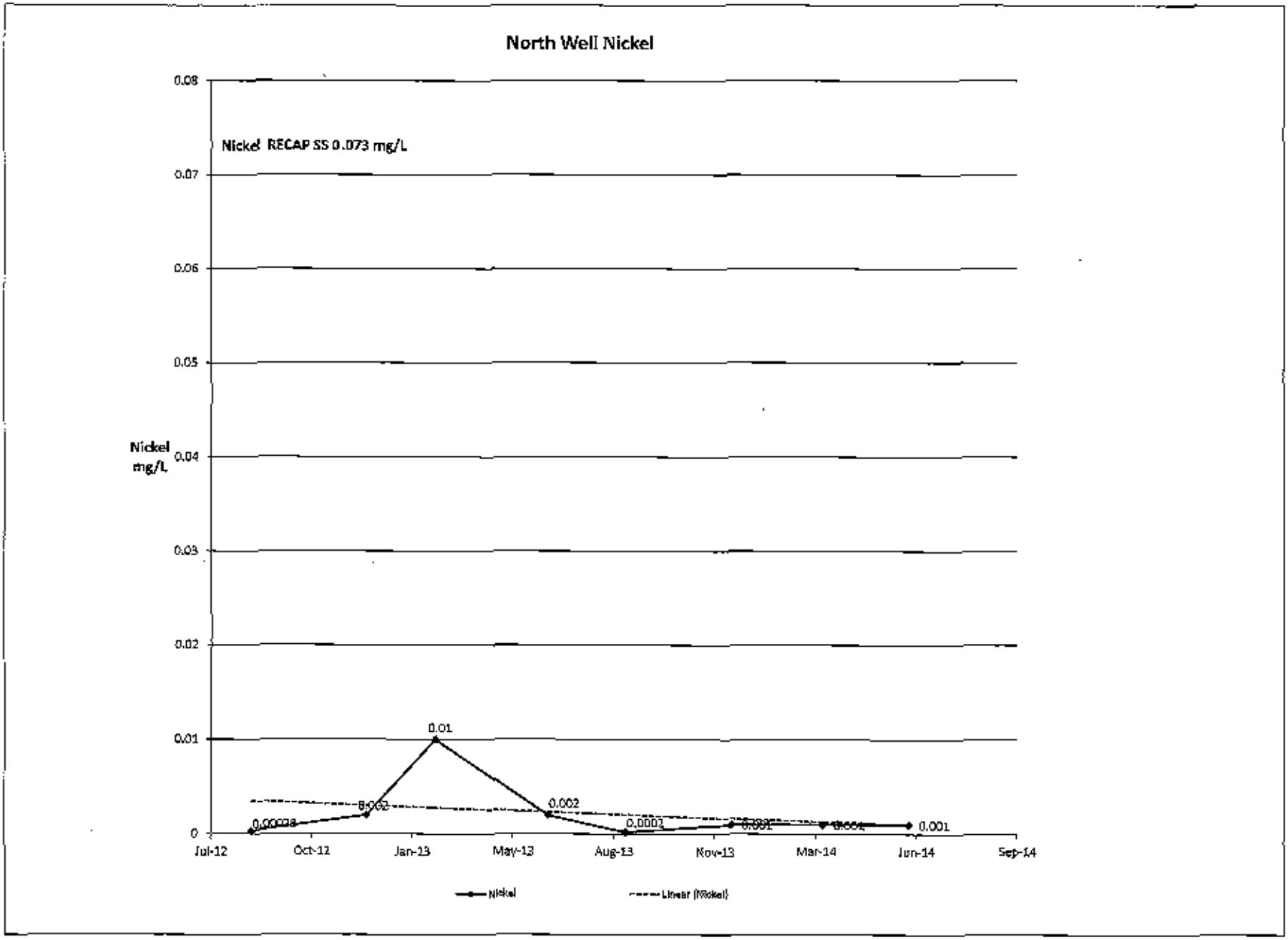

WW-09 Nickel
Nickel RECAP SS 0.073 mg/L
Nickel mg/L
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
0.01
0.0041
0.001
0.000976
0.001
0.001
Jul-12
Oct-12
Jan-13
May-13
Aug-13
Nov-13
Mar-14
Jun-14
Sep-14
Nickel
Linear (Nickel)

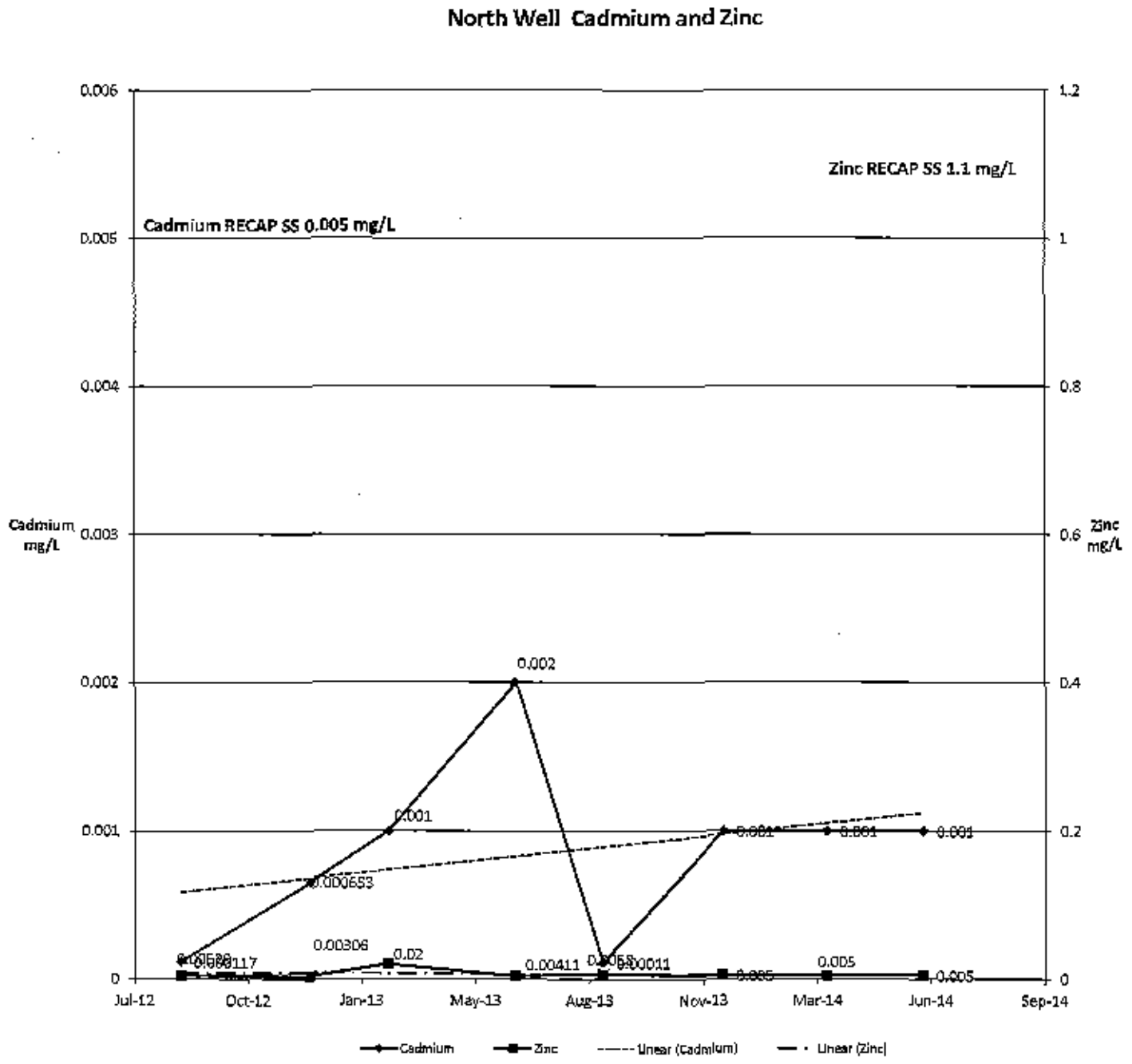
## WW-09 Cadmium and Zinc

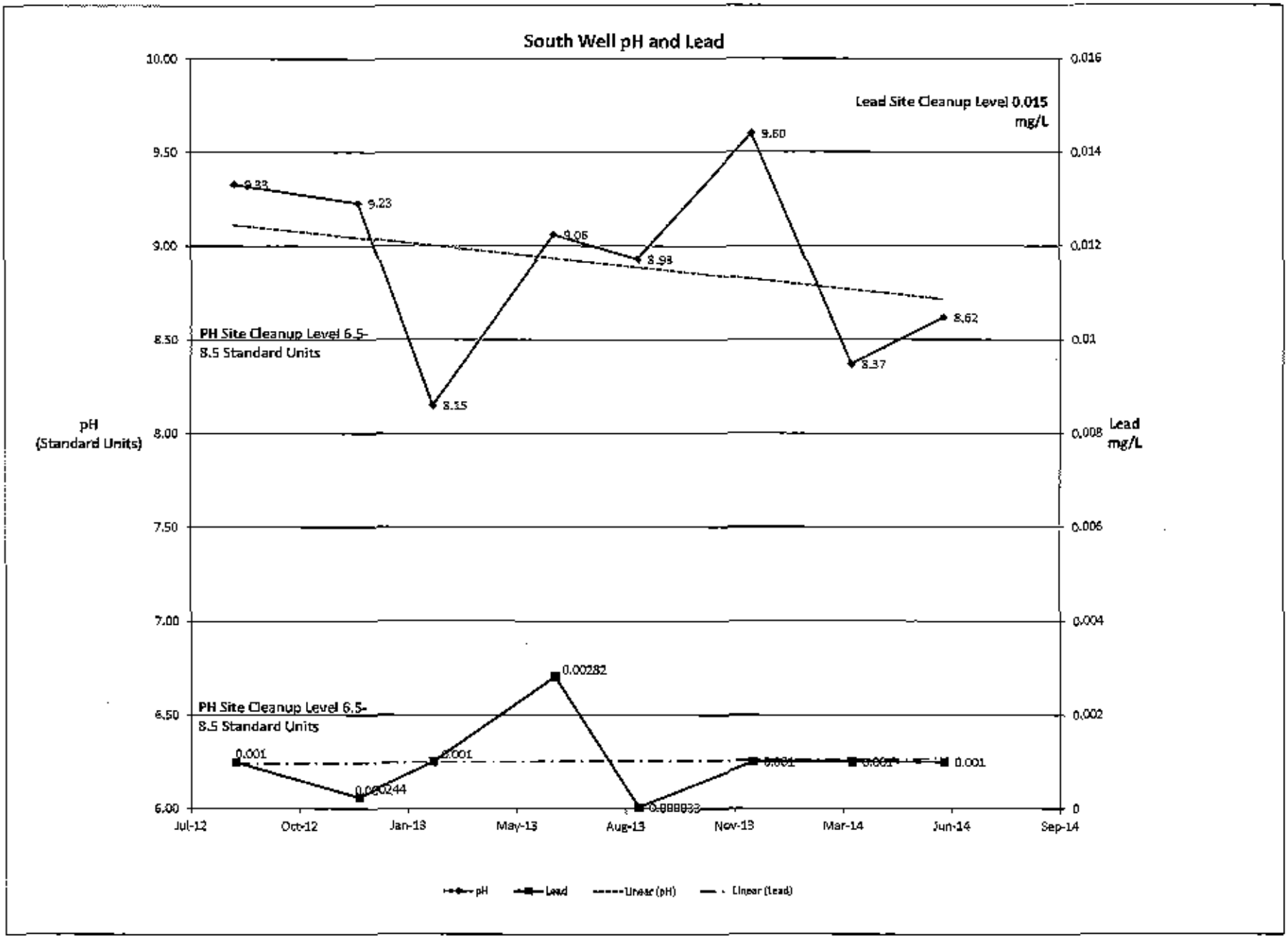


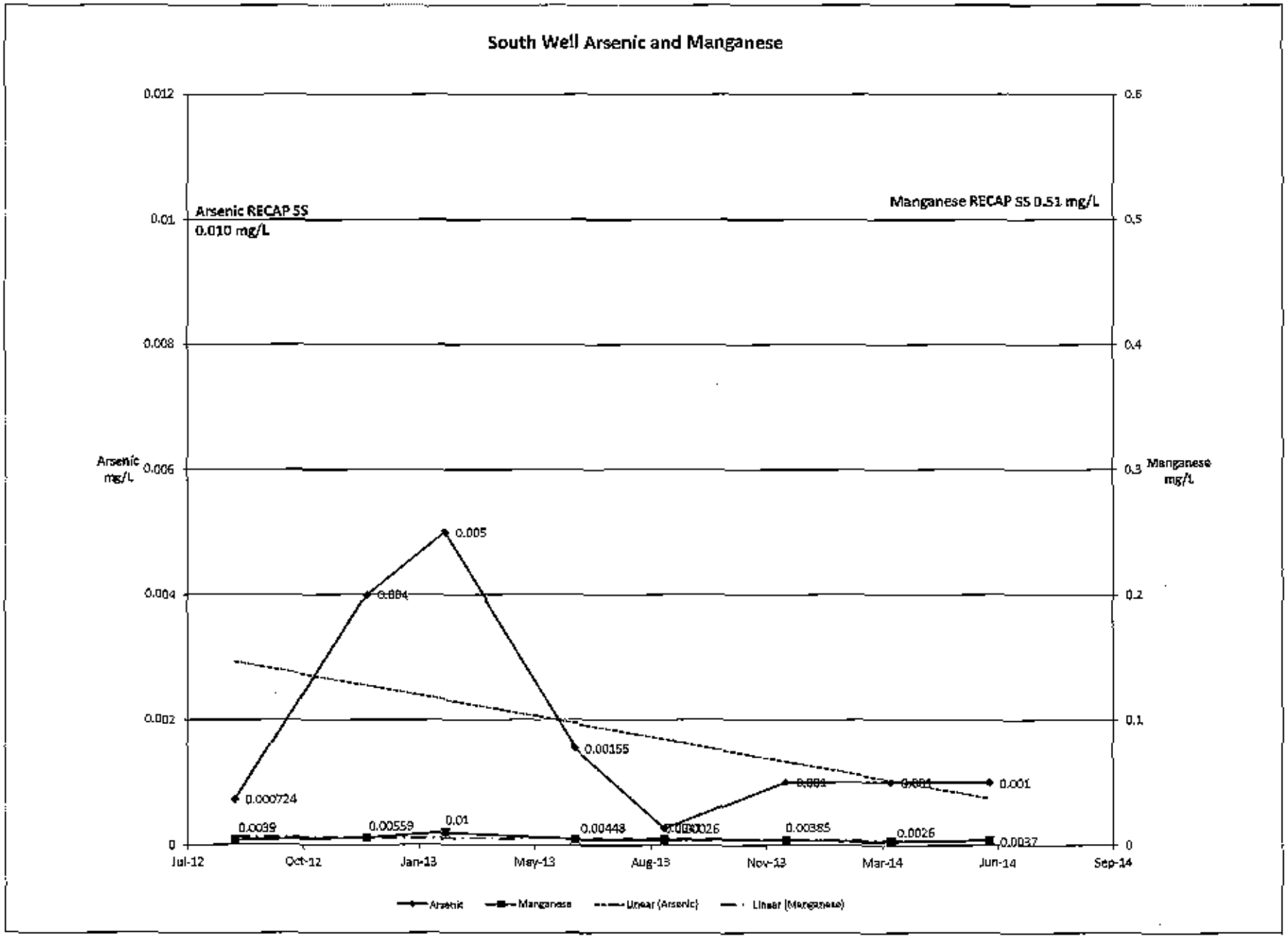

North Well pH and Lead
pH
(Standard Units)
Lead
mg/L
9.50
9.00
8.50
8.00
7.50
7.00
6.50
6.00
5.50
0.02
0.0175
0.015
0.0125
0.01
0.0075
0.005
0.0025
0
8.88
8.52
8.65
9.08
8.20
8.82
9.10
8.61
PH Site Cleanup Level 6.5-8.5 Standard Units
Lead Site Cleanup Level
0.015 mg/L
PH Site Cleanup Level 6.5-8.5 Standard Units
0.00205
0.0009
0.001
0.00121
0.00051
0.001
0.001
0.001
Jul-12
Oct-12
Jan-13
May-13
Aug-13
Nov-13
Mar-14
Jun-14
Sep-14
pH
Lead
Linear (pH)
Linear (Lead)

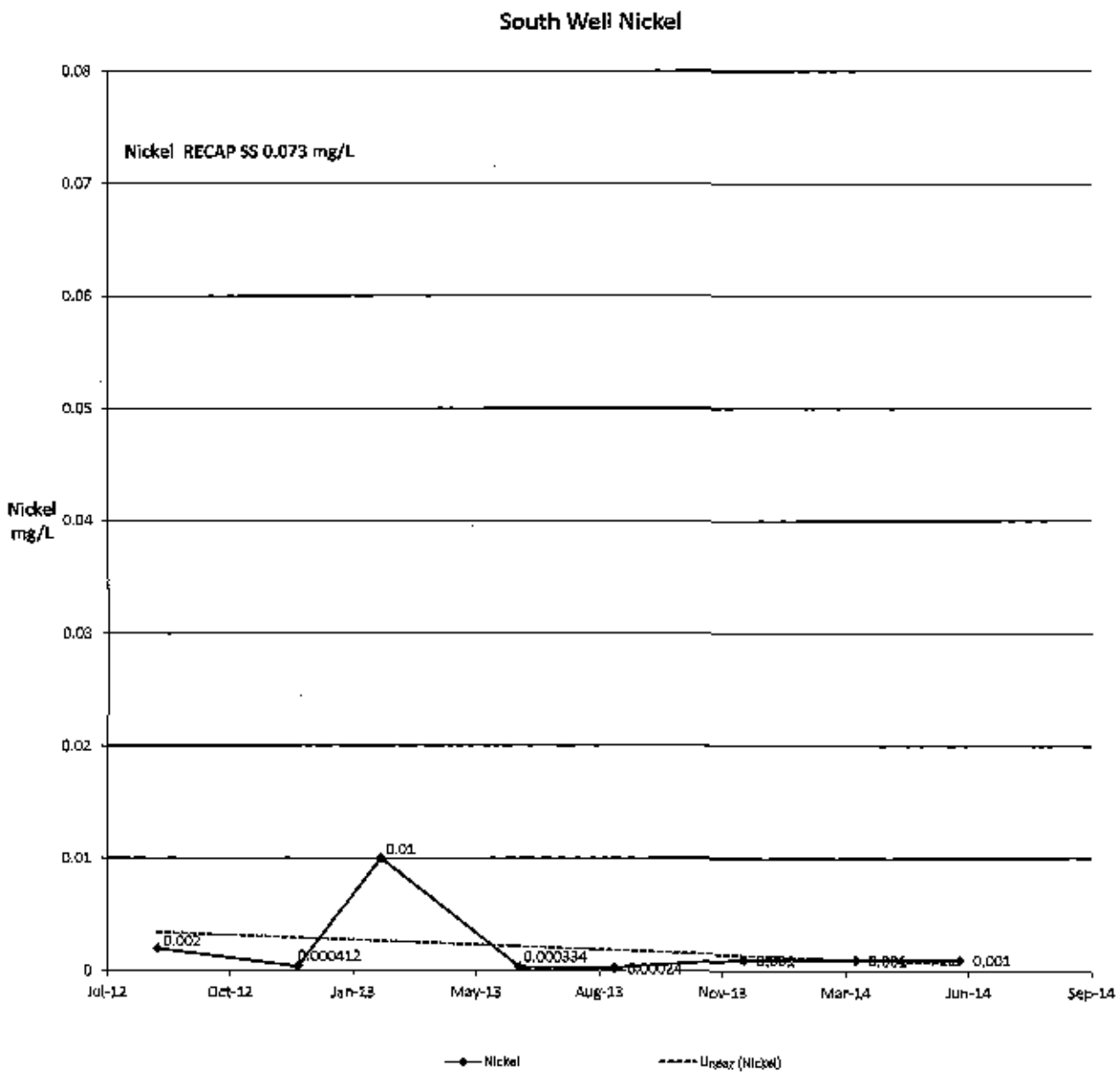

North Well Arsenic and Manganese
Arsenic RECAP SS 0.010 mg/L
Manganese RECAP SS 0.51 mg/L
Arsenic mg/L
Manganese mg/L
0.012
0.01
0.008
0.006
0.004
0.002
0
0.6
0.5
0.4
0.3
0.2
0.1
0
0.005
0.004
0.004
0.00136
0.001
0.001
0.001
0.00676
0.00452
0.01
0.00299
0.00366
0.002
0.0033
Jul-12
Oct-12
Jan-13
May-13
Aug-13
Nov-13
Mar-14
Jun-14
Sep-14
Arsenic
Manganese
Linear (Arsenic)
Linear (Manganese)


North Well Nickel
Nickel RECAP SS 0.073 mg/L
Nickel mg/L
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
0.01
0.002
0.0001
0.001
Jul-12
Oct-12
Jan-13
May-13
Aug-13
Nov-13
Mar-14
Jun-14
Sep-14
Nickel
Linear (Nickel)

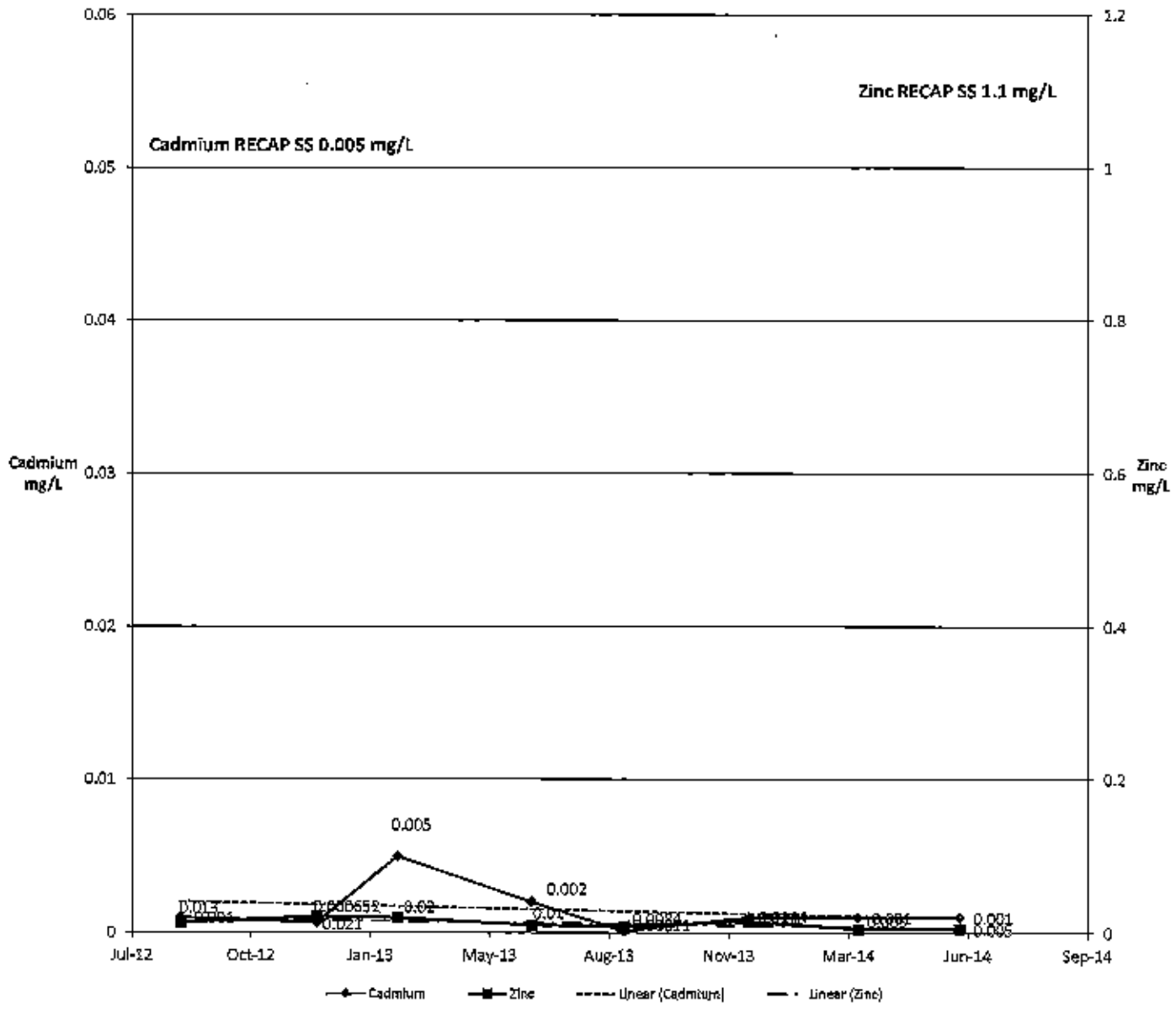

North Well Cadmium and Zinc
Zinc RECAP SS 1.1 mg/L
Cadmium RECAP SS 0.005 mg/L
Cadmium mg/L
Zinc mg/L
0.006
0.005
0.004
0.003
0.002
0.001
0
1.2
1
0.8
0.6
0.4
0.2
0
0.002
0.001
0.00653
0.00306
0.02
0.00411
0.00011
0.005
0.001
Jul-12
Oct-12
Jan-13
May-13
Aug-13
Nov-13
Mar-14
Jun-14
Sep-14
Cadmium
Zinc
Linear (Cadmium)
Linear (Zinc)


South Well pH and Lead
Lead Site Cleanup Level 0.015 mg/L
PH Site Cleanup Level 6.5-8.5 Standard Units
PH Site Cleanup Level 6.5-8.5 Standard Units
pH (Standard Units)
Lead mg/L
10.00
9.50
9.00
8.50
8.00
7.50
7.00
6.50
6.00
0.016
0.014
0.012
0.01
0.008
0.006
0.004
0.002
0
9.23
9.23
8.15
9.06
8.98
9.60
8.37
8.62
0.001
0.000244
0.001
0.00282
0.000033
0.001
0.001
0.001
Jul-12
Oct-12
Jan-13
May-13
Aug-13
Nov-13
Mar-14
Jun-14
Sep-14
pH
Lead
Linear (pH)
Linear (Lead)


South Well Arsenic and Manganese
Arsenic RECAP SS
0.010 mg/L
Manganese RECAP SS 0.51 mg/L
Arsenic mg/L
Manganese mg/L
0.012
0.01
0.008
0.006
0.004
0.002
0
0.6
0.5
0.4
0.3
0.2
0.1
0
0.005
0.004
0.00155
0.000724
0.001
0.0099
0.00559
0.01
0.00448
0.00385
0.0026
0.0037
Jul-12
Oct-12
Jan-13
May-13
Aug-13
Nov-13
Mar-14
Jun-14
Sep-14
Arsenic
Manganese
Linear (Arsenic)
Linear (Manganese)

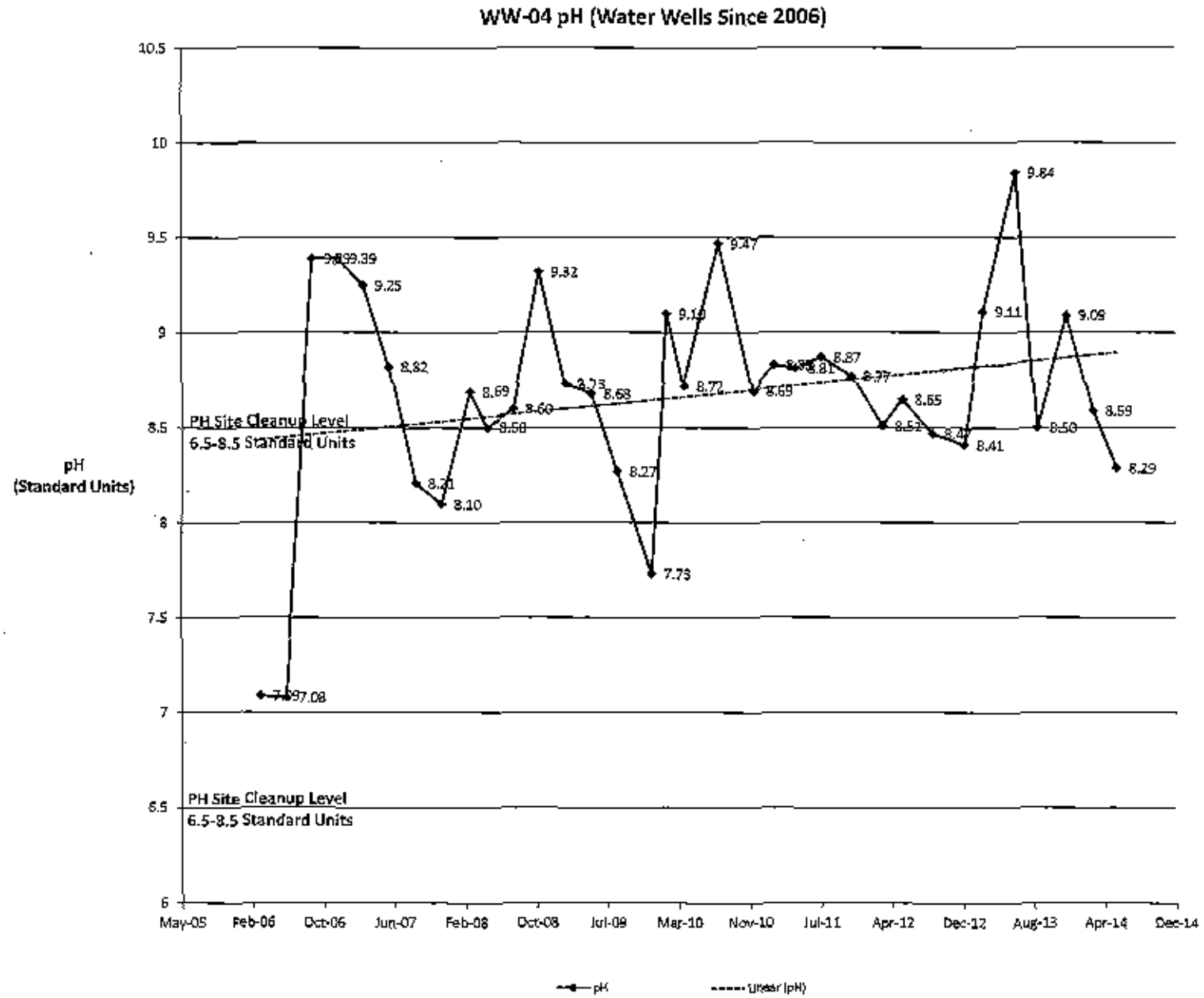

South Well Nickel
Nickel RECAP SS 0.073 mg/L
Nickel mg/L
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
0.01
0.002
0.000412
0.000334
0.001
Jul-12
Oct-12
Jan-13
May-13
Aug-13
Nov-13
Mar-14
Jun-14
Sep-14
Nickel
Linear (Nickel)

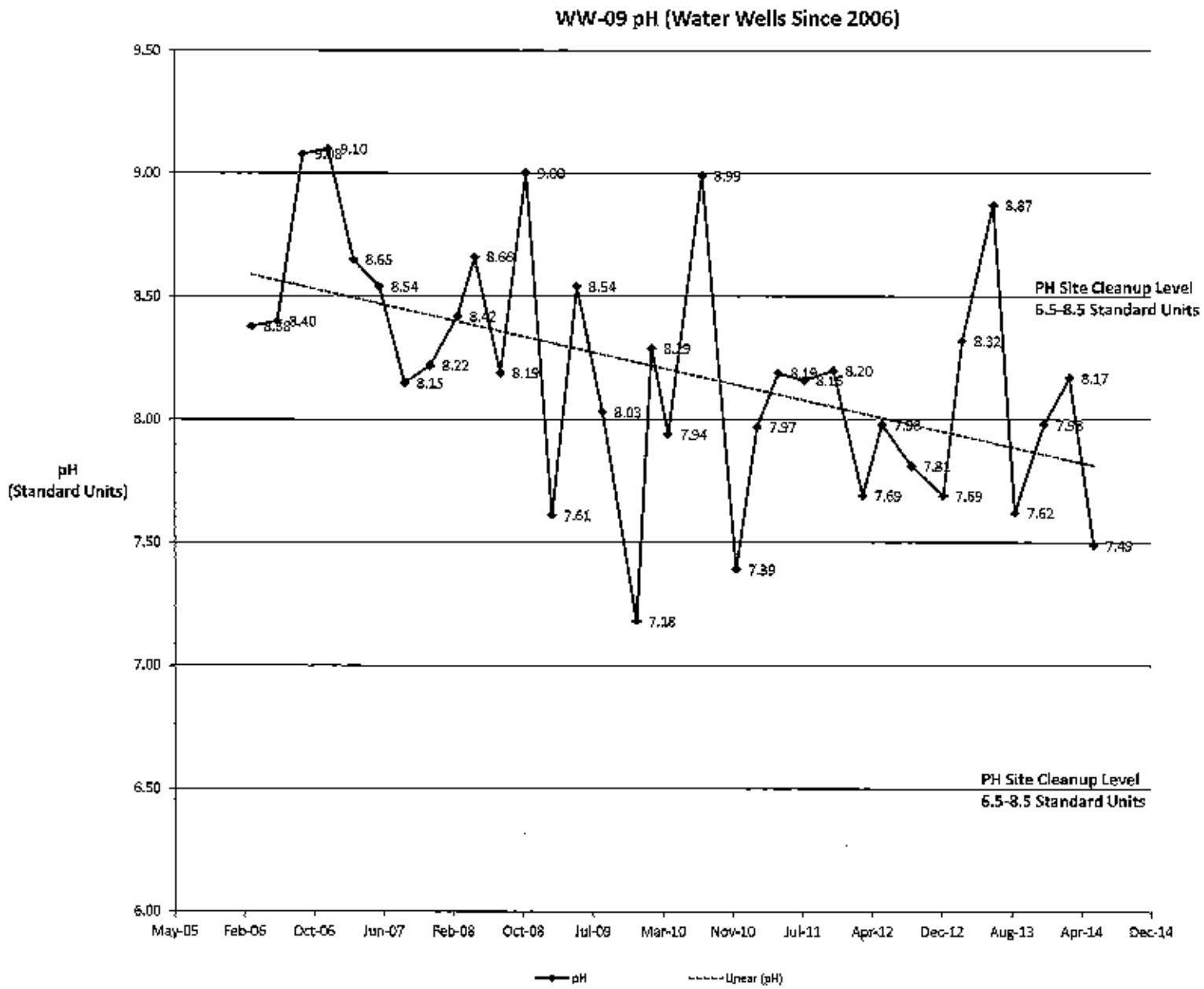
## South Well Cadmium and Zinc

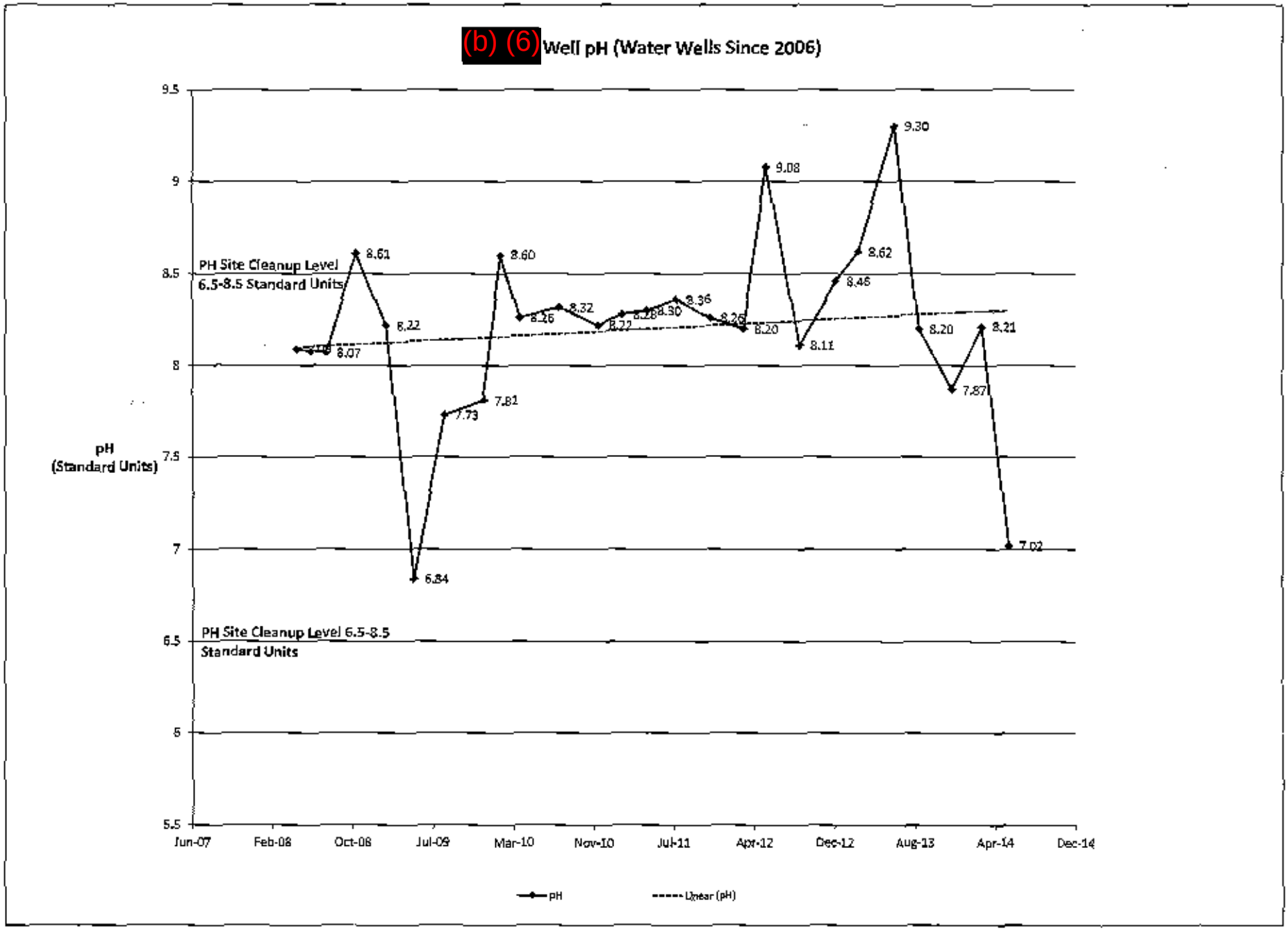


**WATER WELLS**

**(SINCE 2006)**


WW-04 pH (Water Wells Since 2006)
pH
(Standard Units)
10.5
10
9.5
9
8.5
8
7.5
7
6.5
6
PH Site Cleanup Level
6.5-8.5 Standard Units
PH Site Cleanup Level
6.5-8.5 Standard Units
9.39
9.25
8.82
8.21
8.10
8.69
8.50
8.60
9.32
8.73
8.68
8.27
7.73
9.19
9.47
8.72
8.69
8.87
8.77
8.65
8.51
8.41
9.11
9.84
8.50
9.09
8.59
8.29
7.08
May-05
Feb-06
Oct-06
Jun-07
Feb-08
Oct-08
Jul-09
Mar-10
Nov-10
Jul-11
Apr-12
Dec-12
Aug-13
Apr-14
Dec-14
pH
Linear (pH)


WW-09 pH (Water Wells Since 2006)
pH
(Standard Units)
9.50
9.00
8.50
8.00
7.50
7.00
6.50
6.00
May-05
Feb-06
Oct-06
Jun-07
Feb-08
Oct-08
Jul-09
Mar-10
Nov-10
Jul-11
Apr-12
Dec-12
Aug-13
Apr-14
Dec-14
PH Site Cleanup Level
6.5-8.5 Standard Units
PH Site Cleanup Level
6.5-8.5 Standard Units
8.58
8.40
9.08
9.10
8.65
8.54
8.15
8.22
8.42
8.66
8.19
9.00
7.61
8.54
8.03
7.18
8.29
7.94
8.99
7.39
7.97
8.19
8.15
8.20
7.69
7.98
7.81
7.69
8.32
8.87
7.62
7.95
8.17
7.49
pH
Linear (pH)


(b) (6) Well pH (Water Wells Since 2006)
pH
(Standard Units)
9.5
9
8.5
8
7.5
7
6.5
6
5.5
PH Site Cleanup Level
6.5-8.5 Standard Units
PH Site Cleanup Level 6.5-8.5
Standard Units
8.07
8.61
8.22
6.84
7.73
7.81
8.60
8.26
8.32
8.22
8.28
8.30
8.36
8.26
8.20
9.08
8.11
8.46
8.62
9.30
8.20
7.87
8.21
7.02
Jun-07
Feb-08
Oct-08
Jul-09
Mar-10
Nov-10
Jul-11
Apr-12
Dec-12
Aug-13
Apr-14
Dec-14
pH
Linear (pH)

# ATTACHMENT D

# DATA VALIDATION PACKAGE

# Data Validation Report

## DELATTE METALS PROJECT

**SDG: 205003** **July 2014**

**Disclaimer**

The opinions expressed and the qualifiers and values assigned by TerraBase Incorporated™ (TerraBase) are based on information provided to us in a hardcopy raw data package and/or an electronic deliverable.

TerraBase assumes this information accurately and completely represents the samples and information received by the laboratory, the analyses performed by the laboratory, and the raw data and results provided by the laboratory.

If TerraBase discovers that for any reason the information is inaccurate or incomplete, or non-representative of the site, TerraBase reserves the right to modify or withdraw any information contained in this report.

# DELATTE METALS PROJECT

# DATA VALIDATION REPORT

## SDG: 205003

*Prepared for:*

SEMS, Inc.
Baton Rouge, LA

TerraBase Project Number: 207
July 2014

# INTRODUCTION

## Purpose of the Validation Report

Analytical data validation is a confirmatory procedure that evaluates client-generated laboratory data in accordance with definitive regulatory performance standards set forth by the USEPA.[1,2] TerraBase Incorporated™ (TerraBase) provides client assistance with data validation to ensure that analytical data are complete, in compliance with laboratory protocols, in agreement with the project data quality objectives, and are technically valid and legally defensible.

## Format of the Introduction Section

The introduction contains summary tables that permit the reader easy access to the validated detected results. The tables are identified as: 1) ***Table E 1*** *Sample Identification Cross-Reference Table*, 2) ***Table E 2*** *Summary of Validated Sample Detects Sorted by Client Sample and Fraction* and 3) ***Table E 3*** *Summary of Validated Analyte Detects Sorted by Fraction, Analyte and Client Sample.* A brief description of the contents of each table is presented below.

Executive Summaries:

1) ***Table E 1*** *Sample Identification Cross-Reference Table:* This table is a cross-reference of client sample names and laboratory names. It also references any consultants sample names, if they are available.

2) ***Table E 2*** *Summary of Validated Sample Detects Sorted by Client Sample and Fraction:* Identification of all post-validation detected analytes by client or site sample location, fraction and analyte. The order of the analytical fractions appearing in this report follows the typical order found in a laboratory data package. That is, volatiles appear first, followed by semivolatiles, pesticides, herbicides, metals and conventionals. The detected analytes of each fraction are also displayed according to their order of appearance in the data package. This table also shows the sample type, sample matrix, extraction level, dilution factor and the method quantitation limits (MQL).

3) ***Table E 3*** *Summary of Validated Analyte Detects Sorted by Fraction, Analyte and Client Sample:* Identification of all post-validation detected analytes by fraction, analyte and client site/sample location.

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[1]National Functional Guidelines For Organic Data Review, USEPA, October 1999
[2]National Functional Guidelines For Inorganic Data Review, USEPA, February 1994.

# INTRODUCTION

Qualifier Definitions

- U - The analyte was analyzed for , but was not detected above the reported sample quantitation limit.
- J - The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.
- N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."
- NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated value represents its approximate concentration.
- UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

NOTES:

1. The results for 45 total water samples and eight dissolved water samples were received by TerraBase, Inc. on July 28, 2014. Only five of these total metal samples and one dissolved metal sample were requested for full data validation by TerraBase, Inc. in order to meet the client's 10% validation criteria.
2. The results for eleven target water samples were received by TerraBase, Inc. on July 28, 2014 for sulfide and sulfate analysis. Only two of these sulfide and sulfate samples were requested for full data validation by TerraBase, Inc. in order to meet the client's 10% validation criteria.
3. The samples were collected on June 2nd, June 3rd, June 4th, and June 5, 2014..
4. Pace Analytical Services, Inc. in St. Rose, LA received the samples on June 5, 2014.
5. All ICPMS results were analyzed by SW-846 method 6020A.
6. All sulfide results were achieved using SW-846 method 9034.
7. All sulfate results were achieved using SW-846 method 9056.
8. In order to report both the validated and the original results, the original unvalidated samples were logged into TerraBase as SDG 205003A.
9. Arsenic, cadmium, lead, manganese, nickel and zinc were the metals analyzed by the laboratory as per the chain of custody.
10. Field Duplicates were run on client samples WW-04, BC-07, DW-03, TEPA-P9, and (b) (6) [redacted] WELL for metals analysis.
11. Field Duplicates were run on client samples DW-03 and TEPA-P9 for sulfide and sulfate.
12. MS/MSD analysis was analyzed on client samples CA-41 dissolved, GSGP-03, PW-04, MW-02, and MW-03 for metals analysis.

13. MS analysis was performed on client sample MW-02 for sulfide.
14. MS/MSD analysis was performed on client sample MW-02 for sulfate.
15. The validator used all quality control samples available to provide the most complete and accurate data validation possible.

## E1 - Sample Identification Cross-Reference Table

Site Samples Sorted by Fraction

**Delatte Metals**
205003

Lab: **PACE / PACE** SDG ID: 205003

| Fraction | Client Sample | Lab Sample | Sample Type | Matrix | Level | Sampling Date/Time |
|---|---|---|---|---|---|---|
| **Metals** | | | | | | |
| | CL-05 | 205003005 | Site Sample (dissolved) | Water | Low | 06/02/2014 10:50 |
| | BC-21R | 205003022 | Site Sample | Water | Low | 06/03/2014 13:09 |
| | GSGP-22 | 205003031 | Site Sample | Water | Low | 06/04/2014 9:06 |
| | BA-09 | 205003045 | Site Sample | Water | Low | 06/05/2014 10:33 |
| | WW-09 | 205003049 | Site Sample | Water | Low | 06/05/2014 11:10 |
| **Conventionals** | | | | | | |
| | GSGP-22 | 205003031 | Site Sample | Water | Low | 06/04/2014 9:06 |
| | BA-09 | 205003045 | Site Sample | Water | Low | 06/05/2014 10:33 |

## E2 - Summary of Validated Sample Detects

Sorted by Client Sample, Fraction, and Elution Order

Delatte Metals
205003

Lab: PACE / PACE

SDG ID: 205003

| Client Sample | Fraction | Analyte | Sample Type | Matrix | Level | Dilution Factor | RL | Validated Result | Units |
|---|---|---|---|---|---|---|---|---|---|
| **BA-09** | | | | | | | | | |
| | Metals | | | | | | | | |
| | | Arsenic | Site Sample | Water | Low | 1 | 1 | 9.8 J | µg/L |
| | | Manganese | Site Sample | Water | Low | 1 | 1 | 1,510 J | µg/L |
| | | Nickel | Site Sample | Water | Low | 1 | 1 | 73.7 J | µg/L |
| | | Zinc | Site Sample | Water | Low | 1 | 5 | 90.4 J | µg/L |
| | Conventionals | | | | | | | | |
| | | Sulfate | Site Sample | Water | Low | 500 | 500 | 6,450 J | mg/L |
| **BC-21R** | | | | | | | | | |
| | Metals | | | | | | | | |
| | | Manganese | Site Sample | Water | Low | 1 | 1 | 672 J | µg/L |
| | | Nickel | Site Sample | Water | Low | 1 | 1 | 1.9 J | µg/L |
| **CL-05** | | | | | | | | | |
| | Metals | | | | | | | | |
| | | Arsenic, Dissolved | Site Sample (dissolved) | Water | Low | 1 | 1 | 1.5 | µg/L |
| | | Arsenic | Site Sample (dissolved) | Water | Low | 1 | 1 | 1.7 J | µg/L |
| | | Lead, Dissolved | Site Sample (dissolved) | Water | Low | 1 | 1 | 4.4 | µg/L |
| | | Lead | Site Sample (dissolved) | Water | Low | 1 | 1 | 6.2 | µg/L |
| | | Manganese, Dissolved | Site Sample (dissolved) | Water | Low | 1 | 1 | 426 | µg/L |
| | | Manganese | Site Sample (dissolved) | Water | Low | 1 | 1 | 462 J | µg/L |
| | | Nickel, Dissolved | Site Sample (dissolved) | Water | Low | 1 | 1 | 2.3 | µg/L |
| | | Nickel | Site Sample (dissolved) | Water | Low | 1 | 1 | 2.7 J | µg/L |
| | | Zinc, Dissolved | Site Sample (dissolved) | Water | Low | 1 | 5 | 23.3 J | µg/L |
| | | Zinc | Site Sample (dissolved) | Water | Low | 1 | 5 | 25.8 J | µg/L |
| **GSGP-22** | | | | | | | | | |
| | Metals | | | | | | | | |
| | | Arsenic | Site Sample | Water | Low | 1 | 1 | 14.1 J | µg/L |
| | | Manganese | Site Sample | Water | Low | 1 | 1 | 16,000 J | µg/L |
| | | Nickel | Site Sample | Water | Low | 1 | 1 | 345 J | µg/L |
| | | Zinc | Site Sample | Water | Low | 1 | 5 | 53.4 J | µg/L |
| | Conventionals | | | | | | | | |
| | | Sulfate | Site Sample | Water | Low | 2,000 | 2,000 | 29,100 J | mg/L |
| **WW-08** | | | | | | | | | |
| | Metals | | | | | | | | |
| | | Manganese | Site Sample | Water | Low | 1 | 1 | 18.1 J | µg/L |



**Qualifiers:**

J - Estimated

B - (Organics) Found in the associated method blank

D - Reported from a dilution

E - Exceeds calibration range

P - (Pesticides) Difference in column concentrations > 25%

B - (Inorganics) Lab qualifier - analyte detected between the instrument detection limit (IDL) and the RL

Lab: PACE / PACE

SDG ID: 205003

| Fraction | Analyte | Client Sample | Sample Type | Matrix | Level | Dilution Factor | RL | Validated Result | Units |
|---|---|---|---|---|---|---|---|---|---|
| Metals | | | | | | | | | |
| | Arsenic | | | | | | | | |
| | | BA-09 | Site Sample | Water | Low | 1 | 1 | 9.8 J | µg/L |
| | | CL-05 | Site Sample (dissolved) | Water | Low | 1 | 1 | 1.7 J | µg/L |
| | | GSGP-22 | Site Sample | Water | Low | 1 | 1 | 14.1 J | µg/L |
| | Arsenic, Dissolved | | | | | | | | |
| | | CL-05 | Site Sample (dissolved) | Water | Low | 1 | 1 | 1.5 | µg/L |
| | Lead | | | | | | | | |
| | | CL-05 | Site Sample (dissolved) | Water | Low | 1 | 1 | 6.2 | µg/L |
| | Lead, Dissolved | | | | | | | | |
| | | CL-05 | Site Sample (dissolved) | Water | Low | 1 | 1 | 4.4 | µg/L |
| | Manganese | | | | | | | | |
| | | BA-09 | Site Sample | Water | Low | 1 | 1 | 1,510 J | µg/L |
| | | BC-21R | Site Sample | Water | Low | 1 | 1 | 672 J | µg/L |
| | | CL-05 | Site Sample (dissolved) | Water | Low | 1 | 1 | 462 J | µg/L |
| | | GSGP-22 | Site Sample | Water | Low | 1 | 1 | 15,000 J | µg/L |
| | | WW-09 | Site Sample | Water | Low | 1 | 1 | 16.1 J | µg/L |
| | Manganese, Dissolved | | | | | | | | |
| | | CL-05 | Site Sample (dissolved) | Water | Low | 1 | 1 | 426 | µg/L |
| | Nickel | | | | | | | | |
| | | BA-09 | Site Sample | Water | Low | 1 | 1 | 73.7 J | µg/L |
| | | BC-21R | Site Sample | Water | Low | 1 | 1 | 1.9 J | µg/L |
| | | CL-05 | Site Sample (dissolved) | Water | Low | 1 | 1 | 2.7 J | µg/L |
| | | GSGP-22 | Site Sample | Water | Low | 1 | 1 | 345 J | µg/L |
| | Nickel, Dissolved | | | | | | | | |
| | | CL-05 | Site Sample (dissolved) | Water | Low | 1 | 1 | 2.3 | µg/L |
| | Zinc | | | | | | | | |
| | | BA-09 | Site Sample | Water | Low | 1 | 5 | 90.4 J | µg/L |
| | | CL-05 | Site Sample (dissolved) | Water | Low | 1 | 5 | 25.8 J | µg/L |
| | | GSGP-22 | Site Sample | Water | Low | 1 | 5 | 53.4 J | µg/L |
| | Zinc, Dissolved | | | | | | | | |
| | | CL-05 | Site Sample (dissolved) | Water | Low | 1 | 5 | 23.3 J | µg/L |



Qualifiers:

J - Estimated

B - (Organics) Found in the associated method blank

D - Reported from a dilution

E - Exceeds calibration range

P - (Pesticides) Difference in column concentrations > 25%

B - (Inorganics) Lab qualifier - analyte detected between the instrument detection limit (IDL) and the RL

## E3 - Summary of Validated Analyte Detects

Sorted by Fraction, Analyte and Client Sample

Lab: **PACE / PACE** SDG ID: **205003**

| Fraction | Analyte | Client Sample | Sample Type | Matrix | Level | Dilution Factor | RL | Validated Result | Units |
|---|---|---|---|---|---|---|---|---|---|
| **Conventionals** | | | | | | | | | |
| | Sulfate | | | | | | | | |
| | | BA-09 | Site Sample | Water | Low | 500 | 500 | 6,450 J | mg/L |
| | | GSGP-22 | Site Sample | Water | Low | 2,000 | 2,000 | 29,100 J | mg/L |



**Qualifiers:**

**J** - Estimated

**B** - (Organics) Found in the associated method blank

**D** - Reported from a dilution

**E** - Exceeds calibration range

**P** - (Pesticides) Difference in column concentrations > 25%

**B** - (Inorganics) Lab qualifier - analyte detected between the instrument detection limit (IDL) and the RL

METAL

# DELATTE METALS PROJECT

# DATA VALIDATION REPORT

**SDG: 205003**

*Prepared for:*

SEMS, Inc.
Baton Rouge, LA

TerraBase Project Number: 207
July 2014

## TerraBase Data Validation Reporting Method

The purpose of this section is to give the data user an understanding of the ideas and concepts associated with data validation in general and with the TerraBase, Inc.™ (TerraBase) method of reporting validated data.

**Analyte Level Validation Issues**

TerraBase has developed a method for reporting validated data which utilizes a presentation of laboratory data issues and validation issues. This technique is based on the concept that issues encountered in the validation of laboratory data affect individual analytes of a sample. For instance, determining that a detected analyte in a sample was the result of laboratory contamination will cause only that analyte to be qualified.

**TerraBase Codes: Standardizing the Description of Analytical Defects**

TerraBase has standardized the data validation process by developing a database of codes employed by our analysts to describe the various analytical defects that may occur with an analysis. Each code is associated with written text describing the problem and the qualification that may be applied. For instance, the code that would be applied to an analyte that was determined to be a result of laboratory contamination would be BC (Blank Contamination). A complete listing of the analyte qualification parameters and their respective codes are presented below in *Analyte Qualification Codes*.

### *Analyte Qualification Codes*

- CO Comment
- HT Holding Time
- IC Initial Calibration
- CC Continuing Calibration
- BC Blank Contamination
- MS Matrix Spike Effects
- TC Target Compound Identification
- CQ Compound Quantitation
- TI Tentatively Identified Compound
- SD System Monitoring Compound
- IS Internal Standard
- TU GC/MS Tune Criteria

- AS Analytical Sequence

## Metal Section Reporting Format

The Metal Section of this data validation report is divided into 1) a text-formatted report which describes the contents of the laboratory data package and 2) a number of tabular reports which allow the data user to readily obtain information about the results of the data validation. Below is a description of the type of information contained in these tabular reports.

1) *Narrative of the Sample Delivery Group (SDG):* This section provides general information that pertains to the data package, such as the date of receipt, the number and type of samples, the laboratory performing the analysis, the instrumentation utilized to perform the analysis, the method of analysis, and the number and type of quality control parameters reported by the laboratory. Additionally, any other pertinent issues dealing with the laboratory or the data package may be noted in this section.

2) ***Table M1*** *Summary of Metal Data Validation Issues*: This table represents a bulleted summary of all metal samples that were validated for analyte level defects and provides a quick view of any issues that were associated with this sample delivery group. A bullet represents the assignment of a comment and/or qualifier by the data validator for a specific sample. The nature of a qualification can be found in ***Table M2*** *Metal Analyte Qualification Summary.*

3) ***Table M2*** *Metal Analyte Qualification Summary:* This tabular report displays all of the analyte-level data validation issues checked (*Analyte Qualification Codes*). The table indicates the client sample name, the analyte that has been qualified, the qualification code, the lab result and its qualifier and units, the validated result and the validation qualifier and units. Explanations of the actions taken by the validator are explained in ***Table M3*** *Metal Analyte Qualification Comments.*

4) ***Table M3*** *Metal Analyte Qualification Comments:* This report contains an explanation of each problem and any qualification which was documented in ***Table M2*** *Metal Analyte Qualification Summary.*

5) ***Table M4*** *Validated Metal Results*: This report displays all the analytical and validated information in a one-sample per-page view. It includes the metal analyte list, analytical extraction level, dilution factor, method quantitation limits per analyte, the results for each analyte and the units of measure for each analyte.

## Narrative of Sample Delivery Group (SDG): 205003

The results for forty-five site water samples were analyzed by Pace Analytical Services, Inc. for metals were received by TerraBase, Inc. for full data validation. The laboratory utilized an ICP-MS according to SW-846 Method 6020A. The following quality control parameters were reported in the data package:

| QC : ICP: 6020A TOTAL METALS<br>As, Cd, Pb, Mn, Ni, Zn |
|---|
| • 5 method blank(s) |
| • 5 matrix spike(s) |
| • 5 matrix spike duplicate(s) |
| • 0 lab duplicate(s) |
| • 5 linear dilution sample(s) |
| • 0 post digestion spike(s) |
| • 0 post digestion spike duplicate(s) |
| • 5 laboratory control sample(s) |
| • 0 laboratory control sample dup(s) |

NOTES:

1. The results for 45 total water samples and eight dissolved water samples were received by TerraBase, Inc. on July 28, 2014. Only five of these total metal samples and one dissolved metal sample were requested for full data validation by TerraBase, Inc. in order to meet the client's 10% validation criteria.
2. The samples were collected on June 2nd, June 3rd, June 4th, and June 5, 2014..
3. Pace Analytical Services, Inc. in St. Rose, LA received the samples on June 5, 2014.
4. All ICPMS results were analyzed by SW-846 method 6020A.
5. In order to report both the validated and the original results, the original unvalidated samples were logged into TerraBase as SDG 205003A.
6. Arsenic, cadmium, lead, manganese, nickel and zinc were the metals analyzed by the laboratory as per the chain of custody.
7. Field Duplicates were run on client samples WW-04, BC-07, DW-03, TEPA-P9, and (b) (6) WELL for metals analysis.
8. MS/MSD analysis was analyzed on client samples CA-41 dissolved, GSGP-03, PW-04, MW-02, and MW-03 for metals analysis.
9. The validator used all quality control samples available to provide the most complete and accurate data validation possible.

## M1 - Summary of Metal Data Validation Issues

Sorted by SDG Print Sequence Number

**Delatte Metals**
**205003**

Lab: **PACE / PACE** SDG ID: **205003**

| Client Sample | Analyte Qualification | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | AS | CO | HT | IC | CC | BC | MS | CQ |
| BA-09 | | • | | | | | • | • |
| BC-21R | | • | | | | | • | • |
| CL-05 (dissolved) | | • | | | | | • | • |
| GSGP-22 | | • | | | | | • | • |
| WW-09 | | • | | | | | • | • |

**All samples were validated. A bullet (•) denotes sample qualification.**

*Analyte Qualification Codes:*

**AS** - Analytical sequence
**CO** - Comment
**HT** - Holding time
**IC** - Initial calibration
**CC** - Continuing calibration
**BC** - Blank contamination
**MS** - Matrix spike effects
**CQ** - Compound/parameter quantitation

## M2 - Metal Analyte Qualification Summary

Prepared by TerraBase, Inc.

**Delatte Metals**
**205003**

Lab: **PACE / PACE** SDG ID: **205003**

| Client Sample | Analyte Name | AS | CO | HT | IC | CC | BC | MS | CQ | Lab Result | Units | Validated Result | Units |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **BA-09** | | | | | | | | | | | | | |
| | Arsenic | - | - | - | - | - | - | 21 | 21 | 9.8 | µg/L | 9.8 J | µg/L |
| | Cadmium | - | - | - | - | - | - | 21 | 21 | 1 U | µg/L | 1 UJ | µg/L |
| | Lead | - | 49 | - | - | - | - | - | 15 | 1 U | µg/L | 1 U | µg/L |
| | Manganese | - | - | - | - | - | - | 21 | - | 1,510 | µg/L | 1,510 J | µg/L |
| | Nickel | - | - | - | - | - | - | 21 | 21 | 73.7 | µg/L | 73.7 J | µg/L |
| | Zinc | - | - | - | - | - | - | 21 | 15,21 | 90.4 | µg/L | 90.4 J | µg/L |
| **BC-21R** | | | | | | | | | | | | | |
| | Arsenic | - | - | - | - | - | - | 21 | 21 | 1 U | µg/L | 1 UJ | µg/L |
| | Cadmium | - | - | - | - | - | - | 21 | 21 | 1 U | µg/L | 1 UJ | µg/L |
| | Lead | - | 49 | - | - | - | - | - | 15 | 1 U | µg/L | 1 U | µg/L |
| | Manganese | - | - | - | - | - | - | 21 | - | 672 | µg/L | 672 J | µg/L |
| | Nickel | - | - | - | - | - | - | 21 | 21 | 1.9 | µg/L | 1.9 J | µg/L |
| | Zinc | - | - | - | - | - | - | 21 | 15,21 | 5 U | µg/L | 5 UJ | µg/L |
| **CL-05 (dissolved)** | | | | | | | | | | | | | |
| | Arsenic | - | - | - | - | - | - | 21 | 21 | 1.7 | µg/L | 1.7 J | µg/L |
| | Cadmium | - | - | - | - | - | - | 21 | 21 | 1 U | µg/L | 1 UJ | µg/L |
| | Lead | - | 49 | - | - | - | - | - | 15 | 6.2 | µg/L | 6.2 | µg/L |
| | Manganese | - | - | - | - | - | - | 21 | - | 462 | µg/L | 462 J | µg/L |
| | Nickel | - | - | - | - | - | - | 21 | 21 | 2.7 | µg/L | 2.7 J | µg/L |
| | Zinc, Dissolved | - | - | - | - | - | - | 21 | - | 23.3 | µg/L | 23.3 J | µg/L |
| | Zinc | - | - | - | - | - | - | 21 | 15,21 | 25.8 | µg/L | 25.8 J | µg/L |
| **GSGP-22** | | | | | | | | | | | | | |
| | Arsenic | - | - | - | - | - | - | 21 | 21 | 14.1 | µg/L | 14.1 J | µg/L |
| | Cadmium | - | - | - | - | - | - | 21 | 21 | 1 U | µg/L | 1 UJ | µg/L |
| | Lead | - | 49 | - | - | - | - | - | 15 | 1 U | µg/L | 1 U | µg/L |
| | Manganese | - | - | - | - | - | - | 21 | - | 15,000 | µg/L | 15,000 J | µg/L |
| | Nickel | - | - | - | - | - | - | 21 | 21 | 345 | µg/L | 345 J | µg/L |
| | Zinc | - | - | - | - | - | - | 21 | 15,21 | 53.4 | µg/L | 53.4 J | µg/L |
| **WW-09** | | | | | | | | | | | | | |

*Analyte Qualification Codes:*

- **AS** - Analytical sequence
- **CO** - Comment
- **HT** - Holding time
- **IC** - Initial calibration
- **CC** - Continuing calibration
- **BC** - Blank contamination
- **MS** - Matrix spike effects
- **CQ** - Compound/parameter quantitation

*Analyte Qualifiers:*

- **U** - Non-detected
- **J** - Estimated
- **R** - Unusable
- **B** - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

## M2 - Metal Analyte Qualification Summary

Prepared by TerraBase, Inc.

**Delatte Metals**
**205003**

Lab: PACE / PACE

SDG ID: 205003

| Client Sample | Analyte Name | AS | CO | HT | IC | CC | BC | MS | CQ | Lab Result | | Units | Validated Result | | Units |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Arsenic | - | - | - | - | - | - | 21 | 21 | 1 | U | µg/L | 1 | UJ | µg/L |
| | Cadmium | - | - | - | - | - | - | 21 | 21 | 1 | U | µg/L | 1 | UJ | µg/L |
| | Lead | - | 49 | - | - | - | - | - | 15 | 1 | U | µg/L | 1 | U | µg/L |
| | Manganese | - | - | - | - | - | - | 21 | - | 18.1 | | µg/L | 18.1 | J | µg/L |
| | Nickel | - | - | - | - | - | - | 21 | 21 | 1 | U | µg/L | 1 | UJ | µg/L |
| | Zinc | - | - | - | - | - | - | 21 | 15,21 | 5 | U | µg/L | 5 | UJ | µg/L |

*Analyte Qualification Codes:*

AS - Analytical sequence
CO - Comment
HT - Holding time
IC - Initial calibration
CC - Continuing calibration
BC - Blank contamination
MS - Matrix spike effects
CQ - Compound/parameter quantitation

*Analyte Qualifiers:*

U - Non-detected
J - Estimated
R - Unusable
B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

Lab: **PACE / PACE** SDG ID: **205003**

Qualification Category: **CO**

Qualification Code: **49**

Qualification Description: The percent relative standard deviation (RSD) limit between an analyte of a target sample and its field duplicate exceeded criteria.

Qualification Action: According to the project specific Quality Assurance Project Plan (QAPP), the analyte of concern is qualified as an estimate if the criteria is exceeded between a target sample and its field duplicate.

Qualification Category: **MS**

Qualification Code: **21**

Qualification Description: The recovery of the pre-digestion matrix spike for an analyte was low.

Qualification Action: The pre-digestion spike is prepared by adding a known amount of an analyte to the sample before the acid digestion. If the spike recovery is below acceptable limits, results in all samples for the affected analyte may be biased on the low side. The results reported are assumed to be the minimum possible value. All results are qualified as estimated (J) and estimated non-detected (UJ). If a spike recovery is less than 30%, non-detected results may be qualified as unusable (R).

Qualification Category: **CQ**

Qualification Code: **15**

Qualification Description: The result for a dissolved metal analyte was greater than the total analyte result.

Qualification Action: If a dissolved concentration is greater than the total concentration, it could indicate either contamination in the dissolved sample or a problem with the total sample results. Although data qualification is not necessary in this case, when this discrepancy exists it should be noted as a non-conformance. When the difference is less than 20%, discrepancies can sometimes be attributed to sample heterogeneity. When the difference is greater than 20%, this non-conformance may reduce or eliminate any effective evaluation of data usability related to the two results.

Qualification Category: **CQ**

Qualification Code: **21**

Qualification Description: The percent difference for the ICP serial dilution was outside of the acceptance limits.

Qualification Action: The flow rate of the sample solution through the ICP nebulizer must be the same for the calibration standards as well as the samples. There are several factors (such as high salt) which will alter the flow rate. The performance of the linear dilution check sample will indicate when this interfering effect is present. If the linear dilution performance is outside of the acceptance criteria, all positive results are qualified as estimated (J).

## M4 - Validated Metal Results

Delatte Metals
205003

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | CL-05 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (dissolved) | % Solids: | NA | SDG ID: | 205003 |
| Lab Sample ID: | 205003005 | Sampling Date/Time: | 06/02/2014 10:50 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Validated Results | Units | |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic, Dissolved | 6020 | 1 | 1 | 1.5 | µg/L | |
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 1.7 J | µg/L | * |
| 7440-43-9 | Cadmium, Dissolved | 6020 | 1 | 1 | 1 U | µg/L | |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1 UJ | µg/L | * |
| 7439-92-1 | Lead, Dissolved | 6020 | 1 | 1 | 4.4 | µg/L | |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 6.2 | µg/L | |
| 7439-96-5 | Manganese, Dissolved | 6020 | 1 | 1 | 426 | µg/L | |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 462 J | µg/L | * |
| 7440-02-0 | Nickel, Dissolved | 6020 | 1 | 1 | 2.3 | µg/L | |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 2.7 J | µg/L | * |
| 7440-66-6 | Zinc, Dissolved | 6020 | 1 | 5 | 23.3 J | µg/L | * |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 25.8 J | µg/L | * |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

* - Modification by data validation

## M4 - Validated Metal Results

**Delatte Metals**
205003

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | BC-21R | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (total) | % Solids: | NA | SDG ID: | 205003 |
| Lab Sample ID: | 205003022 | Sampling Date/Time: | 06/03/2014 13:09 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Validated Results | Units | |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 1 UJ | µg/L | * |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1 UJ | µg/L | * |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 1 U | µg/L | |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 672 J | µg/L | * |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 1.9 J | µg/L | * |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 5 UJ | µg/L | * |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

* - Modification by data validation

## M4 - Validated Metal Results

Delatte Metals
205003

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | GSGP-22 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (total) | % Solids: | NA | SDG ID: | 205003 |
| Lab Sample ID: | 205003031 | Sampling Date/Time: | 06/04/2014 9:06 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Validated Results | Units | |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 14.1 J | µg/L | * |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1 UJ | µg/L | * |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 1 U | µg/L | |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 15,000 J | µg/L | * |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 345 J | µg/L | * |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 53.4 J | µg/L | * |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

* - Modification by data validation

## M4 - Validated Metal Results

**Delatte Metals**
**205003**

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | BA-09 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (total) | % Solids: | NA | SDG ID: | 205003 |
| Lab Sample ID: | 205003045 | Sampling Date/Time: | 06/05/2014 10:33 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Validated Results | Units | |
|---|---|---|---|---|---|---|---|
| 7440-36-2 | Arsenic | 6020 | 1 | 1 | 9.8 J | µg/L | * |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1 UJ | µg/L | * |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 1 U | µg/L | |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 1,510 J | µg/L | * |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 73.7 J | µg/L | * |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 90.4 J | µg/L | * |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

* - Modification by data validation

## M4 - Validated Metal Results

**Delatte Metals**
**205003**

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | **WW-09** | Matrix: | Water | Lab ID: | **PACE** |
| Sample Type: | Site Sample (total) | % Solids: | NA | SDG ID: | **205003** |
| Lab Sample ID: | **205003049** | Sampling Date/Time: | **06/05/2014 11:10** | SDG Page: | **0** |

| CAS Number | Analyte Name | Method | D/F | RL | Validated Results | Units | |
|---|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 1 UJ | µg/L | * |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1 UJ | µg/L | * |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 1 U | µg/L | |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 16.1 J | µg/L | * |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 1 UJ | µg/L | * |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 5 UJ | µg/L | * |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

* - Modification by data validation

CONVENTIONALS

# DELATTE METALS PROJECT

# DATA VALIDATION REPORT

**SDG: 205003**

*Prepared for:*

SEMS, Inc.
Baton Rouge, LA

TerraBase Project Number: 207
July 2014

## TerraBase Data Validation Reporting Method

The purpose of this section is to give the data user an understanding of the ideas and concepts associated with data validation in general and with the TerraBase, Inc.™ (TerraBase) method of reporting validated data.

### Analyte Level Validation Issues

TerraBase has developed a method for reporting validated data which utilizes a presentation of laboratory data issues and validation issues. This technique is based on the concept that issues encountered in the validation of laboratory data affect individual analytes of a sample. For instance, determining that a detected analyte in a sample was the result of laboratory contamination will cause only that analyte to be qualified.

### TerraBase Codes: Standardizing the Description of Analytical Defects

TerraBase has standardized the data validation process by developing a database of codes employed by our analysts to describe the various analytical defects that may occur with an analysis. Each code is associated with written text describing the problem and the qualification that may be applied. For instance, the code that would be applied to an analyte that was determined to be a result of laboratory contamination would be BC (Blank Contamination). A complete listing of the analyte qualification parameters and their respective codes are presented below in *Analyte Qualification Codes*.

### *Analyte Qualification Codes*

- CO Comment
- HT Holding Time
- IC Initial Calibration
- CC Continuing Calibration
- BC Blank Contamination
- MS Matrix Spike Effects
- TC Target Compound Identification
- CQ Compound Quantitation
- TI Tentatively Identified Compound
- SD System Monitoring Compound
- IS Internal Standard
- TU GC/MS Tune Criteria

- AS Analytical Sequence

## Conventionals Section Reporting Format

The Conventionals Section of this data validation report is divided into 1) a text-formatted report which describes the contents of the laboratory data package and 2) a number of tabular reports which allow the data user to readily obtain information about the results of the data validation. Below is a description of the type of information contained in these tabular reports.

1) *Narrative of the Sample Delivery Group (SDG):* This section provides general information that pertains to the data package, such as the date of receipt, the number and type of samples, the laboratory performing the analysis, the instrumentation utilized to perform the analysis, the method of analysis, and the number and type of quality control parameters reported by the laboratory. Additionally, any other pertinent issues dealing with the laboratory or the data package may be noted in this section.

2) ***Table C1*** *Summary of Convwentional Data Validation Issues:* This table represents a bulleted summary of all conventional samples that were validated for analyte level defects and provides a quick view of any issues that were associated with this sample delivery group. A bullet represents the assignment of a comment and/or qualifier by the data validator for a specific sample. The nature of a qualification can be found in ***Table C2*** *Conventional Analyte Qualification Summary.*

3) ***Table C2*** *Conventional Analyte Qualification Summary:* This tabular report displays all of the analyte-level data validation issues checked (*Analyte Qualification Codes*). The table indicates the client sample name, the analyte that has been qualified, the qualification code, the lab result and its qualifier and units, the validated result and the validation qualifier and units. Explanations of the actions taken by the validator are explained in ***Table C3*** *Conventional Analyte Qualification Comments.*

4) ***Table C3*** *Conventional Analyte Qualification Comments:* This report contains an explanation of each problem and any qualification which was documented in ***Table M2*** *Conventional Analyte Qualification Summary.*

5) ***Table C4*** *Validated Conventional Results:* This report displays all the analytical and validated information in a one-sample per-page view. It includes the conventional analyte list, analytical extraction level, dilution factor, method quantitation limits per analyte, the results for each analyte and the units of measure for each analyte.

## Narrative of Sample Delivery Group (SDG): 2050032

The results for eleven site water samples were analyzed by Pace Analytical Services, Inc. for sulfide and sulfate were received by TerraBase, Inc. for full data validation. The following quality control parameters were reported in the data package:

| QC : Sulfide | QC : Sulfate |
|---|---|
| • 1 method blank(s) | • 2 method blank(s) |
| • 1 matrix spike(s) | • 1 matrix spike(s) |
| • 0 matrix spike duplicate(s) | • 0 matrix spike duplicate(s) |
| • 1 lab duplicate(s) | • 1 lab duplicate(s) |
| • 1 laboratory control sample(s) | • 2 laboratory control sample(s) |
| • 0 laboratory control sample dup(s) | • 0 laboratory control sample dup(s) |

NOTES:

1. The results for eleven target water samples were received by TerraBase, Inc. on July 28, 2014 for sulfide and sulfate analysis. Only two of these sulfide and sulfate samples were requested for full data validation by TerraBase, Inc. in order to meet the client's 10% validation criteria.
2. The samples were collected on June 2nd, June 3rd, June 4th, and June 5, 2014..
3. Pace Analytical Services, Inc. in St. Rose, LA received the samples on June 5, 2014.
4. All sulfide results were achieved using SW-846 method 9034.
5. All sulfate results were achieved using SW-846 method 9056.
6. In order to report both the validated and the original results, the original unvalidated samples were logged into TerraBase as SDG 205003A.
7. Field Duplicates were run on client samples DW-03 and TEPA-P9 for sulfide and sulfate.
8. MS analysis was performed on client sample MW-02 for sulfide.
9. MS/MSD analysis was performed on client sample MW-02 for sulfate.
10. The validator used all quality control samples available to provide the most complete and accurate data validation possible.

## C1 - Summary of Conventional Data Validation Issues

Sorted by SDG Print Sequence Number

Delaite Metals
205003

Lab: PACE / PACE

SDG ID: 205003

| Client Sample | Parameter Qualification | | | | | | |
|---|---|---|---|---|---|---|---|
| | CO | HT | IC | CC | BC | MS | CQ |
| BA-09 | • | | | | | • | |
| GSGP-22 | • | | | | | • | |

**All samples were validated. A bullet (•) denotes parameter qualification.**

*Parameter Qualification Codes:*

CO - Comment
HT - Holding time
IC - Initial calibration
CC - Continuing calibration
BC - Blank contamination
MS - Matrix spike effects
CQ - Compound/parameter quantitation



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## C2 - Conventional Analyte Qualification Summary

Prepared by TerraBase, Inc.

Delatte Metals
205003

Lab: PACE / PACE

SDG ID: 205003

| Client Sample | Analyte Name | CO | HT | IC | CC | BC | MS | CQ | Lab Result | Units | Validated Result | | Units |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BA-09 | | | | | | | | | | | | | |
| | Sulfate | 49 | - | - | - | - | 19,25 | - | 6,450 | mg/L | 6,450 | J | mg/L |
| GSGP-22 | | | | | | | | | | | | | |
| | Sulfate | 49 | - | - | - | - | 19,25 | - | 29,100 | mg/L | 29,100 | J | mg/L |

*Analyte Qualification Codes:*

CO - Comment
HT - Holding time
IC - Initial calibration
CC - Continuing calibration
BC - Blank contamination
MS - Matrix spike effects
CQ - Compound/parameter quantitation

*Analyte Qualifiers:*

U - Non-detected
J - Estimated
R - Unusable

Lab: **PACE / PACE** SDG ID: **205003**

Qualification Category: **MS**

Qualification Code: **19**

Qualification Description: The matrix spike/ matrix spike duplicate or sample/sample duplicate relative percent difference (RPD) fell outside acceptable limits.

Qualification Action: Data for matrix spikes and sample duplicates are generated to determine long term precision of the analytical method on various matrices and to demonstrate acceptable method precision at the time of analysis. While these data alone cannot be used to evaluate the precision of individual samples, it is notable that possible precision related error may be present. Therefore all positive results are qualified as estimated (J).

Qualification Category: **CO**

Qualification Code: **49**

Qualification Description: The percent relative standard deviation (RSD) limit between an analyte of a target sample and its field duplicate exceeded criteria.

Qualification Action: According to the project specific Quality Assurance Project Plan (QAPP), the analyte of concern is qualified as an estimate if the criteria is exceeded between a target sample and its field duplicate.

Qualification Category: **MS**

Qualification Code: **25**

Qualification Description: The laboratory duplicate relative percent difference (RPD) fell outside acceptable limits.

Qualification Action: Data for samples and sample duplicates are generated to determine longterm precision of the analytical method on various matrices and to demonstrate acceptable method precision at the time of analysis. This data alone cannot be used to evaluate the precision of individual samples. If all other QC criteria has been met, qualification is not necessary.



*Qualification Categories:*

CO - Comment
HT - Holding time
IC - Initial calibration
CC - Continuing calibration
MS - Matrix spike effects
CQ - Compound/parameter quantitation
BC - Blank contamination

## C4 - Validated Conventional Results

Delatte Metals
205003

Client Sample ID: GSGP-22
Sample Type: Site Sample
Lab Sample ID: 205003031

Matrix: Water

Lab ID: PACE
SDG ID: 205003
SDG Page: 0

| CAS Number | Analyte Name | Sampling D/T | Method | D/F | RL | Validated Results | Units | |
|---|---|---|---|---|---|---|---|---|
| 18496-25-8 | Sulfide | 06/04/2014 9:06 | 9034 | 1 | 25 | 25 U | mg/L | |
| 14808-79-8 | Sulfate | 06/04/2014 9:06 | 9056 | 2000 | 2,000 | 28,100 J | mg/L | * |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - Analyte detected between the method detection limit (MDL) and the reporting limit (RL)

* - Modification by data validation

## C4 - Validated Conventional Results

**Delaite Metals**
**205003**

Client Sample ID: **BA-09** Matrix: Water Lab ID: **PACE**
Sample Type: **Site Sample** SDG ID: **205003**
Lab Sample ID: **205003045** SDG Page: **0**

| CAS Number | Analyte Name | Sampling D/T | Method | D/F | RL | Validated Results | Units | |
|---|---|---|---|---|---|---|---|---|
| 18496-25-8 | Sulfide | 06/05/2014 10:33 | 9034 | 1 | 25 | 25 U | mg/L | |
| 14808-79-8 | Sulfate | 06/05/2014 10:33 | 9056 | 500 | 500 | 6,450 J | mg/L | * |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - Analyte detected between the method detection limit (MDL) and the reporting limit (RL)

* - Modification by data validation

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# DELATTE METALS PROJECT

## ALL LAB LEVEL RESULTS

**SDG: 205003**

*Prepared for:*

SEMS, Inc.
Baton Rouge, LA

TerraBase Project Number: 207
July 2014

## E1 - Sample Identification Cross-Reference Table

Site Samples Sorted by Fraction

Delalte Metals
205003A

Lab: PACE / PACE

SDG ID: 205003A

| Fraction | Client Sample | Lab Sample | Sample Type | Matrix | Level | Sampling Date/Time |
|---|---|---|---|---|---|---|
| **Metals** | | | | | | |
| | CA-41 | 205003001 | Site Sample (dissolved) | Water | Low | 06/02/2014 9:45 |
| | CA-51 | 205003002 | Site Sample (dissolved) | Water | Low | 06/02/2014 9:30 |
| | GSGP-03 | 205003003 | Site Sample | Water | Low | 06/02/2014 9:10 |
| | BRIDGE | 205003004 | Site Sample (dissolved) | Water | Low | 06/02/2014 10:15 |
| | CL-05 | 205003005 | Site Sample (dissolved) | Water | Low | 06/02/2014 10:50 |
| | CL-19 | 205003006 | Site Sample (dissolved) | Water | Low | 06/02/2014 11:10 |
| | WW-04 | 205003008 | Site Sample | Water | Low | 06/02/2014 11:40 |
| | BC-03 | 205003009 | Site Sample | Water | Low | 06/02/2014 12:59 |
| | MW-06 | 205003010 | Site Sample | Water | Low | 06/02/2014 13:51 |
| | GSGP-18 | 205003011 | Site Sample | Water | Low | 06/02/2014 14:15 |
| | GSGP-19 | 205003012 | Site Sample | Water | Low | 06/02/2014 14:34 |
| | MW-03 | 205003013 | Site Sample | Water | Low | 06/02/2014 15:01 |
| | BC-25 | 205003014 | Site Sample | Water | Low | 06/02/2014 15:19 |
| | DUPLICATE #1 | 205003015 | Field Duplicate | Water | Low | 06/02/2014 11:40 |
| | BC-07 | 205003016 | Site Sample | Water | Low | 06/03/2014 9:06 |
| | DW-04 | 205003017 | Site Sample | Water | Low | 06/03/2014 9:42 |
| | BC-19 | 205003018 | Site Sample | Water | Low | 06/03/2014 10:06 |
| | SOUTHWELL | 205003019 | Site Sample | Water | Low | 06/03/2014 10:40 |
| | NORTHWELL | 205003020 | Site Sample | Water | Low | 06/03/2014 10:67 |
| | BC-17 | 205003021 | Site Sample | Water | Low | 06/03/2014 11:36 |
| | BC-21R | 205003022 | Site Sample | Water | Low | 06/03/2014 13:09 |
| | BA-01 | 205003023 | Site Sample | Water | Low | 06/03/2014 13:57 |
| | DW-02 | 205003024 | Site Sample | Water | Low | 06/03/2014 14:21 |
| | BA-05 | 205003025 | Site Sample | Water | Low | 06/03/2014 14:52 |
| | MW-A | 205003026 | Site Sample | Water | Low | 06/03/2014 15:15 |
| | GSGP-15 | 205003027 | Site Sample | Water | Low | 06/03/2014 15:44 |
| | PW-04 | 205003028 | Site Sample | Water | Low | 06/03/2014 16:03 |
| | DUPLICATE #2 | 205003029 | Field Duplicate | Water | Low | 06/03/2014 9:06 |
| | DW-03 | 205003030 | Site Sample | Water | Low | 06/04/2014 8:41 |
| | GSGP-22 | 205003031 | Site Sample | Water | Low | 06/04/2014 9:06 |
| | TEPA-9H (9G) | 205003032 | Site Sample | Water | Low | 06/04/2014 9:30 |
| | DW-01 | 205003033 | Site Sample | Water | Low | 06/04/2014 10:03 |
| | MW-01 | 205003034 | Site Sample | Water | Low | 06/04/2014 10:33 |
| | TEPA-6H | 205003035 | Site Sample | Water | Low | 06/04/2014 11:01 |
| | BA-03 | 205003036 | Site Sample (dissolved) | Water | Low | 06/04/2014 12:52 |
| | MW-02 | 205003037 | Site Sample | Water | Low | 06/04/2014 13:30 |
| | TEPA-P8 | 205003038 | Site Sample | Water | Low | 06/04/2014 14:26 |
| | TEPA-P6 | 205003039 | Site Sample | Water | Low | 06/04/2014 15:05 |
| | TEPA-1H | 205003040 | Site Sample | Water | Low | 06/04/2014 15:26 |
| | TEPA-P10 | 205003041 | Site Sample | Water | Low | 06/04/2014 15:40 |
| | TEPA-P7D | 205003042 | Site Sample (dissolved) | Water | Low | 06/04/2014 15:50 |
| | DUPLICATE #3 | 205003043 | Field Duplicate | Water | Low | 06/04/2014 6:41 |
| | DUPLICATE #4 | 205003044 | Field Duplicate | Water | Low | 06/04/2014 14:26 |
| | BA-09 | 205003045 | Site Sample | Water | Low | 06/05/2014 10:33 |
| | BA-09A | 205003046 | Site Sample | Water | Low | 06/05/2014 9:48 |
| | GSGP-6 | 205003047 | Site Sample | Water | Low | 06/05/2014 9:21 |
| | MW-4 | 205003048 | Site Sample (dissolved) | Water | Low | 06/05/2014 11:00 |
| | WW-09 | 205003049 | Site Sample | Water | Low | 06/05/2014 11:10 |
| | DUPLICATE #5 | 205003050 | Field Duplicate | Water | Low | 06/05/2014 9:48 |
| | (b) (6) WELL | 205003051 | Site Sample | Water | Low | 06/02/2014 11:30 |
| **Conventionals** | | | | | | |
| | DW-03 | 205003030 | Site Sample | Water | Low | 06/04/2014 8:41 |
| | GSGP-22 | 205003031 | Site Sample | Water | Low | 06/04/2014 9:06 |
| | TEPA-9H (9G) | 205003032 | Site Sample | Water | Low | 06/04/2014 9:30 |
| | DW-01 | 205003033 | Site Sample | Water | Low | 06/04/2014 10:03 |

## E1 - Sample Identification Cross-Reference Table

Site Samples Sorted by Fraction

Deleite Metals
205003A

Lab: **PACE / PACE** SDG ID: **205003A**

| Fraction | Client Sample | Lab Sample | Sample Type | Matrix | Level | Sampling Date/Time |
|---|---|---|---|---|---|---|
| | MW-01 | 205003034 | Site Sample | Water | Low | 06/04/2014 10:33 |
| | TEPA-6H | 205003035 | Site Sample | Water | Low | 06/04/2014 11:01 |
| | MW-02 | 205003037 | Site Sample | Water | Low | 06/04/2014 13:30 |
| | TEPA-P9 | 205003038 | Site Sample | Water | Low | 06/04/2014 14:26 |
| | TEPA-P6 | 205003039 | Site Sample | Water | Low | 06/04/2014 15:05 |
| | TEPA-1H | 205003040 | Site Sample | Water | Low | 06/04/2014 15:26 |
| | TEPA-P10 | 205003041 | Site Sample | Water | Low | 06/04/2014 15:40 |
| | TEPA-P7D | 205003042 | Site Sample | Water | Low | 06/04/2014 15:50 |
| | DUPLICATE #3 | 205003043 | Field Duplicate | Water | Low | 06/04/2014 8:41 |
| | DUPLICATE #4 | 205003044 | Field Duplicate | Water | Low | 06/04/2014 14:26 |
| | BA-09 | 205003045 | Site Sample | Water | Low | 06/05/2014 10:33 |

## Metal Results

Delatte Metals
205003A

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | CA-41 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (dissolved) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003001 | Sampling Date/Time: | 06/02/2014 9:45 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic, Dissolved | 6020 | 1 | 1 | 2.3 | µg/L |
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 2.6 | µg/L |
| 7440-43-9 | Cadmium, Dissolved | 6020 | 1 | 1 | 1 U | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-92-1 | Lead, Dissolved | 6020 | 1 | 1 | 1.4 | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 2.3 | µg/L |
| 7439-96-5 | Manganese, Dissolved | 6020 | 1 | 1 | 99.7 | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 112 | µg/L |
| 7440-02-0 | Nickel, Dissolved | 6020 | 1 | 1 | 2.6 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 3 | µg/L |
| 7440-66-6 | Zinc, Dissolved | 6020 | 1 | 5 | 26.2 | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 22.3 | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

## Metal Results

**Delatte Metals**
**205003A**

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | CA-51 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (dissolved) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003002 | Sampling Date/Time: | 06/02/2014 9:30 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic, Dissolved | 6020 | 1 | 1 | 2.1 | µg/L |
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 2.6 | µg/L |
| 7440-43-9 | Cadmium, Dissolved | 6020 | 1 | 1 | 1 U | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-92-1 | Lead, Dissolved | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 2.2 | µg/L |
| 7439-96-5 | Manganese, Dissolved | 6020 | 1 | 1 | 88.3 | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 114 | µg/L |
| 7440-02-0 | Nickel, Dissolved | 6020 | 1 | 1 | 2.3 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 3.1 | µg/L |
| 7440-66-6 | Zinc, Dissolved | 6020 | 1 | 5 | 14.7 | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 22.4 | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

## Metal Results

**Delatte Metals**
**205003A**

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | GSGP-03 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (total) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003003 | Sampling Date/Time: | 06/02/2014 9:10 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 3.3 | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 830 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 1 U | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 5 U | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

## Metal Results

**Defalte Metals**
**205003A**

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | **BRIDGE** | Matrix: | **Water** | Lab ID: | **PACE** |
| Sample Type: | **Site Sample (dissolved)** | % Solids: | **NA** | SDG ID: | **205003A** |
| Lab Sample ID: | **205003004** | Sampling Date/Time: | **06/02/2014 10:15** | SDG Page: | **0** |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic, Dissolved | 6020 | 1 | 1 | 2.2 | µg/L |
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 2.7 | µg/L |
| 7440-43-9 | Cadmium, Dissolved | 6020 | 1 | 1 | 1 U | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-92-1 | Lead, Dissolved | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 2.1 | µg/L |
| 7439-96-5 | Manganese, Dissolved | 6020 | 1 | 1 | 97.6 | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 108 | µg/L |
| 7440-02-0 | Nickel, Dissolved | 6020 | 1 | 1 | 2.5 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 3 | µg/L |
| 7440-66-6 | Zinc, Dissolved | 6020 | 1 | 5 | 15.3 | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 21.4 | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

## Metal Results

Delatte Metals
205003A

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | CL-05 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (dissolved) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003005 | Sampling Date/Time: | 06/02/2014 10:50 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic, Dissolved | 6020 | 1 | 1 | 1.5 | µg/L |
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 1.7 | µg/L |
| 7440-43-9 | Cadmium, Dissolved | 6020 | 1 | 1 | 1 U | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-92-1 | Lead, Dissolved | 6020 | 1 | 1 | 4.4 | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 6.2 | µg/L |
| 7439-96-5 | Manganese, Dissolved | 6020 | 1 | 1 | 426 | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 462 | µg/L |
| 7440-02-0 | Nickel, Dissolved | 6020 | 1 | 1 | 2.3 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 2.7 | µg/L |
| 7440-66-6 | Zinc, Dissolved | 6020 | 1 | 5 | 23.3 | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 25.8 | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

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| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | CL-19 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (dissolved) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003006 | Sampling Date/Time: | 06/02/2014 11:10 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic, Dissolved | 6020 | 1 | 1 | 2.1 | µg/L |
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 2 | µg/L |
| 7440-43-9 | Cadmium, Dissolved | 6020 | 1 | 1 | 1 U | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-92-1 | Lead, Dissolved | 6020 | 1 | 1 | 5.7 | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 6.1 | µg/L |
| 7439-96-5 | Manganese, Dissolved | 6020 | 1 | 1 | 392 | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 409 | µg/L |
| 7440-02-0 | Nickel, Dissolved | 6020 | 1 | 1 | 2.4 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 2.6 | µg/L |
| 7440-66-6 | Zinc, Dissolved | 6020 | 1 | 5 | 21.4 | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 24.4 | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

## Metal Results

**Delalte Metals**
**205003A**

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | WW-04 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (total) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003008 | Sampling Date/Time: | 06/02/2014 11:40 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 1 U | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 3.1 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 1 U | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 5 U | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

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## Metal Results

Delatte Metals
205003A

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | BC-03 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (total) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003009 | Sampling Date/Time: | 06/02/2014 12:53 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 1 U | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 15.5 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 1 U | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 5 U | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

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## Metal Results

Delatte Metals
205003A

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | MW-06 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (total) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003010 | Sampling Date/Time: | 06/02/2014 13:51 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 1.8 | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 19.3 | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 1,470 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 12 | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 38.2 | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

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## Metal Results

Delatte Metals
205003A

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | GSGP-18 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (total) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003011 | Sampling Date/Time: | 06/02/2014 14:15 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 1 U | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 96.4 | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 1.1 | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 572 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 20.7 | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 151 | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

## Metal Results

**Delatte Metals**
**205003A**

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | GSGP-19 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (total) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003012 | Sampling Date/Time: | 06/02/2014 14:34 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 4.3 | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 65.6 | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 2.3 | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 2,710 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 50.4 | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 6 | 172 | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

**Metal Results**

**Delatte Metals**
**205003A**

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | MW-03 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (total) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003013 | Sampling Date/Time: | 06/02/2014 15:01 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 1 U | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 1.4 | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 994 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 1.4 | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 5 U | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | **BC-25** | Matrix: | **Water** | Lab ID: | **PACE** |
| Sample Type: | **Site Sample (total)** | % Solids: | **NA** | SDG ID: | **205003A** |
| Lab Sample ID: | **205003014** | Sampling Date/Time: | **06/02/2014 15:19** | SDG Page: | **0** |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 1 | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 6.9 | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 205 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 2.1 | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 5 U | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

## Metal Results

Delatte Metals
205003A

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | DUPLICATE #1 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Field Duplicate (total) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003015 | Sampling Date/Time: | 06/02/2014 11:40 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 1 U | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 3.3 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 1 U | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 5 U | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

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## Metal Results

Delatte Metals
205003A

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | BC-07 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (total) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003016 | Sampling Date/Time: | 06/03/2014 9:08 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 1.1 | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 43 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 1.2 | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 5 U | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

## Metal Results

Delatte Metals
205003A

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | DW-04 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (total) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003017 | Sampling Date/Time: | 06/03/2014 9:42 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 2.3 | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 101 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 1 U | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 5 U | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

## Metal Results

Delatte Metals
205003A

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | BC-19 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (total) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003018 | Sampling Date/Time: | 06/03/2014 10:06 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 1 U | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 146 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 1.7 | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 9.8 | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

## Metal Results

**Delatte Metals**
**205003A**

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | **SOUTHWELL** | Matrix: | **Water** | Lab ID: | **PACE** |
| Sample Type: | **Site Sample (total)** | % Solids: | NA | SDG ID: | **205003A** |
| Lab Sample ID: | 205003019 | Sampling Date/Time: | 06/03/2014 10:40 | SDG Page: | **0** |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 1 U | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-92-1 | **Lead** | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 3.7 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 1 U | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 11.5 | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

## Metal Results

Delatte Metals
205003A

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | NORTHWELL | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (total) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003020 | Sampling Date/Time: | 06/03/2014 10:57 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 1 U | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 3.3 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 1 U | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 5 U | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the Instrument detection limit (IDL) and the RL

## Metal Results

Delatte Metals
205003A

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | BC-17 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (total) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003021 | Sampling Date/Time: | 06/03/2014 11:36 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 1.2 | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 23.7 | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 306 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 1.4 | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 5 U | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

## Metal Results

Delatte Metals
205003A

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | BC-21R | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (total) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003022 | Sampling Date/Time: | 06/03/2014 13:00 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 1 U | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 672 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 1.9 | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 5 U | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

**Metal Results**

Delatte Metals
205003A

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | BA-01 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (total) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003023 | Sampling Date/Time: | 06/03/2014 13:57 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 3 | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 1,280 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 41.4 | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 50 | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

## Metal Results

Delatte Metals
205003A

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | DW-02 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (total) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003024 | Sampling Date/Time: | 06/03/2014 14:21 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 17.4 | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 27.4 | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 36.6 | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 9,360 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 307 | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 571 | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

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## Metal Results

**Delatte Metals**
**205003A**

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | BA-05 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (total) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003025 | Sampling Date/Time: | 06/03/2014 14:52 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 1.8 | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 13,300 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 46.6 | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 5 U | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

## Metal Results

Delatte Metals
205003A

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | MW-A | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (total) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003026 | Sampling Date/Time: | 06/03/2014 15:15 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 1 U | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 7.2 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 1 U | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 6 U | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

## Metal Results

**Delatte Metals**
**205003A**

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | GSGP-15 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (total) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003027 | Sampling Date/Time: | 06/03/2014 15:44 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 1.7 | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 4.5 | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 6.5 | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 491 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 18 | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 37.6 | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

## Metal Results

**Delatte Metals**
**205003A**

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | **PW-04** | Matrix: | **Water** | Lab ID: | **PACE** |
| Sample Type: | **Site Sample (total)** | % Solids: | **NA** | SDG ID: | **205003A** |
| Lab Sample ID: | **205003028** | Sampling Date/Time: | **06/03/2014 16:03** | SDG Page: | **0** |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 2.6 | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1.4 | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 1.2 | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 1,580 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 28 | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 65.6 | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | **DUPLICATE #2** | Matrix: | **Water** | Lab ID: | **PACE** |
| Sample Type: | **Field Duplicate (total)** | % Solids: | **NA** | SDG ID: | **205003A** |
| Lab Sample ID: | **205003029** | Sampling Date/Time: | **06/03/2014 9:06** | SDG Page: | **0** |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 1.3 | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 48 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 1.2 | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 5 U | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

## Metal Results

**Delatte Metals**
**205003A**

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | DW-03 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (total) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003030 | Sampling Date/Time: | 06/04/2014 8:41 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 13.6 | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1.4 | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 5.3 | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 3,620 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 119 | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 148 | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

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## Metal Results

**Delatte Metals**
205003A

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | GSGP-22 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (total) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003031 | Sampling Date/Time: | 06/04/2014 9:06 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 14.1 | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 15,000 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 345 | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 63.4 | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

## Metal Results

Detatte Metals
205003A

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | TEPA-9H (9G) | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (total) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003032 | Sampling Date/Time: | 06/04/2014 9:30 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 21 | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 7,740 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 142 | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 109 | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

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## Metal Results

**Delatte Metals**
**205003A**

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | DW-01 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (total) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003033 | Sampling Date/Time: | 06/04/2014 10:03 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 109 | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 66.6 | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 9.7 | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 3,440 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 32.5 | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 213 | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

## Metal Results

Delatte Metals
205003A

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | MW-01 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (total) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003034 | Sampling Date/Time: | 06/04/2014 10:33 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 12.2 | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1.6 | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 2.2 | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 4,650 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 133 | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 122 | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

## Metal Results

**Delatte Metals**
**205003A**

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | TEPA-6H | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (total) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003035 | Sampling Date/Time: | 06/04/2014 11:01 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 8.6 | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 4,920 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 1 U | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 5 U | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | BA-03 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (dissolved) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003036 | Sampling Date/Time: | 06/04/2014 12:52 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic, Dissolved | 6020 | 1 | 1 | 1.4 | µg/L |
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 2 | µg/L |
| 7440-43-9 | Cadmium, Dissolved | 6020 | 1 | 1 | 52.2 | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 53.1 | µg/L |
| 7439-92-1 | Lead, Dissolved | 6020 | 1 | 1 | 35 | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 39.4 | µg/L |
| 7439-96-5 | Manganese, Dissolved | 6020 | 1 | 1 | 1,020 | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 1,030 | µg/L |
| 7440-02-0 | Nickel, Dissolved | 6020 | 1 | 1 | 30.3 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 31.4 | µg/L |
| 7440-66-6 | Zinc, Dissolved | 6020 | 1 | 5 | 123 | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 123 | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

## Metal Results

Delatte Metals
205003A

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | MW-02 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (total) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003037 | Sampling Date/Time: | 06/04/2014 13:30 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 1.5 | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 99.4 | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 8.6 | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 1,470 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 56.4 | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 204 | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

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## Metal Results

Delatte Metals
205003A

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | TEPA-P9 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (total) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003038 | Sampling Date/Time: | 06/04/2014 14:25 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 2.1 | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 125 | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 6.4 | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 2,800 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 53.3 | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 219 | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

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## Metal Results

**Delatte Metals**
**205003A**

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | TEPA-P6 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | **Site Sample (total)** | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003039 | Sampling Date/Time: | 06/04/2014 15:05 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 4.6 | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 194 | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 79.8 | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 2,620 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 60 | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 278 | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the Instrument detection limit (IDL) and the RL

## Metal Results

Delatte Metals
205003A

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | TEPA-1H | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (total) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003040 | Sampling Date/Time: | 06/04/2014 15:26 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 12.5 | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 2,860 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 2.1 | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 5 U | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

## Metal Results

Delatte Metals
205003A

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | TEPA-P10 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (total) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003041 | Sampling Date/Time: | 06/04/2014 15:40 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 4.3 | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 191 | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 69 | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 5,020 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 85.7 | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 328 | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

## Metal Results

Delatte Metals
205003A

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | TEPA-P7D | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (dissolved) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003042 | Sampling Date/Time: | 06/04/2014 15:50 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic, Dissolved | 6020 | 1 | 1 | 2 | µg/L |
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 1 | µg/L |
| 7440-43-9 | Cadmium, Dissolved | 6020 | 1 | 1 | 113 | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 114 | µg/L |
| 7439-92-1 | Lead, Dissolved | 6020 | 1 | 1 | 20.1 | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 17.9 | µg/L |
| 7439-96-5 | Manganese, Dissolved | 6020 | 1 | 1 | 2,570 | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 2,570 | µg/L |
| 7440-02-0 | Nickel, Dissolved | 6020 | 1 | 1 | 49.9 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 50.4 | µg/L |
| 7440-66-6 | Zinc, Dissolved | 6020 | 1 | 5 | 182 | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 183 | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

## Metal Results

**Delaite Metals**
**205003A**

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | **DUPLICATE #3** | Matrix: | **Water** | Lab ID: | **PACE** |
| Sample Type: | **Field Duplicate (total)** | % Solids: | **NA** | SDG ID: | **205003A** |
| Lab Sample ID: | **205003043** | Sampling Date/Time: | **06/04/2014 8:41** | SDG Page: | **0** |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 16.4 | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1.4 | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 9.9 | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 3,600 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 119 | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 147 | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

## Metal Results

Delatte Metals
205003A

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | DUPLICATE #4 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Field Duplicate (total) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003044 | Sampling Date/Time: | 06/04/2014 14:26 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 2.2 | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 126 | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 6.6 | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 2,740 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 64.9 | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 220 | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

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## Metal Results

**Delatte Metals**
**205003A**

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | **BA-09** | Matrix: | **Water** | Lab ID: | **PACE** |
| Sample Type: | **Site Sample (total)** | % Solids: | **NA** | SDG ID: | **205003A** |
| Lab Sample ID: | **205003045** | Sampling Date/Time: | **08/05/2014 10:33** | SDG Page: | **0** |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 9.8 | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 1,510 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 73.7 | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 90.4 | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

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## Metal Results

Delatte Metals
205003A

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | BA-09A | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (total) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003046 | Sampling Date/Time: | 06/05/2014 9:46 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 2.2 | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 35.1 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 1 U | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 5 U | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

## Metal Results

Delatte Metals
205003A

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | GSGP-6 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (total) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003047 | Sampling Date/Time: | 06/05/2014 9:21 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 7.5 | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 2,760 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 234 | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 57.6 | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

## Metal Results

Delatte Metals
205003A

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | MW-4 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (dissolved) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003048 | Sampling Date/Time: | 06/05/2014 11:00 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic, Dissolved | 6020 | 1 | 1 | 1 U | µg/L |
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 1 U | µg/L |
| 7440-43-9 | Cadmium, Dissolved | 6020 | 1 | 1 | 1 U | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-92-1 | Lead, Dissolved | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 3.4 | µg/L |
| 7439-96-5 | Manganese, Dissolved | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 68.7 | µg/L |
| 7440-02-0 | Nickel, Dissolved | 6020 | 1 | 1 | 1 U | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 1.8 | µg/L |
| 7440-66-6 | Zinc, Dissolved | 6020 | 1 | 5 | 5 U | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 5 U | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

## Metal Results

**Delatte Metals**
**205003A**

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | WW-09 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (total) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003049 | Sampling Date/Time: | 06/05/2014 11:10 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 1 U | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 18.1 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 1 U | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 5 U | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

**Metal Results**

**Delatte Metals**
**205003A**

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | **DUPLICATE #5** | Matrix: | **Water** | Lab ID: | **PACE** |
| Sample Type: | **Field Duplicate (total)** | % Solids: | **NA** | SDG ID: | **205003A** |
| Lab Sample ID: | **205003050** | Sampling Date/Time: | **06/05/2014 9:48** | SDG Page: | **0** |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 2.2 | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 33.9 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 1 U | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 5 U | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

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## Metal Results

Delatte Metals
205003A

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | (b) (6) [redacted] WELL | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample (total) | % Solids: | NA | SDG ID: | 205003A |
| Lab Sample ID: | 205003051 | Sampling Date/Time: | 06/02/2014 11:30 | SDG Page: | 0 |

| CAS Number | Analyte Name | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 6020 | 1 | 1 | 1.5 | µg/L |
| 7440-43-9 | Cadmium | 6020 | 1 | 1 | 1 U | µg/L |
| 7439-92-1 | Lead | 6020 | 1 | 1 | 1.1 | µg/L |
| 7439-96-5 | Manganese | 6020 | 1 | 1 | 41.6 | µg/L |
| 7440-02-0 | Nickel | 6020 | 1 | 1 | 1 U | µg/L |
| 7440-66-6 | Zinc | 6020 | 1 | 5 | 5 U | µg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

## Conventional Results

**Delatte Metals**
**205003A**

| | | | |
|---|---|---|---|
| Client Sample ID: | DW-03 | Matrix: Water | Lab ID: PACE |
| Sample Type: | Site Sample | | SDG ID: 205003A |
| Lab Sample ID: | 205003030 | | SDG Page: 0 |

| CAS Number | Analyte Name | Sampling D/T | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|---|
| 18496-25-8 | Sulfide | 06/04/2014 8:41 | 9034 | 1 | 25 | 25 U | mg/L |
| 14808-79-8 | Sulfate | 06/04/2014 8:41 | 9056 | 2000 | 2,000 | 4,580 | mg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - Analyte detected between the method detection limit (MDL) and the reporting limit (RL)

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## Conventional Results

**Delatte Metals**
**205003A**

Client Sample ID: **GSGP-22** | Matrix: **Water** | Lab ID: **PACE**
Sample Type: **Site Sample** | SDG ID: **205003A**
Lab Sample ID: **205003031** | SDG Page: **0**

| CAS Number | Analyte Name | Sampling D/T | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|---|
| 18496-25-8 | Sulfide | 06/04/2014 9:06 | 9034 | 1 | 25 | 25 U | mg/L |
| 14808-79-8 | Sulfate | 06/04/2014 9:06 | 9056 | 2000 | 2,000 | 29,100 | mg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - Analyte detected between the method detection limit (MDL) and the reporting limit (RL)

## Conventional Results

**Delatte Metals**
**205003A**

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | **TEPA-9H (9G)** | Matrix: | Water | Lab ID: | **PACE** |
| Sample Type: | **Site Sample** | | | SDG ID: | **205003A** |
| Lab Sample ID: | **205003032** | | | SDG Page: | **0** |

| CAS Number | Analyte Name | Sampling D/T | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|---|
| 18496-25-8 | Sulfide | 06/04/2014 9:30 | 9034 | 1 | 25 | 28 | mg/L |
| 14808-79-8 | Sulfate | 06/04/2014 9:30 | 9056 | 1000 | 1,000 | 11,200 | mg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - Analyte detected between the method detection limit (MDL) and the reporting limit (RL)

## Conventional Results

Delatte Metals
205003A

Client Sample ID: DW-01
Sample Type: Site Sample
Lab Sample ID: 205003033

Matrix: Water

Lab ID: PACE
SDG ID: 205003A
SDG Page: 0

| CAS Number | Analyte Name | Sampling D/T | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|---|
| 18496-25-8 | Sulfide | 06/04/2014 10:03 | 9034 | 1 | 25 | 25 U | mg/L |
| 14808-79-8 | Sulfate | 06/04/2014 10:03 | 9056 | 100 | 100 | 1,210 | mg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - Analyte detected between the method detection limit (MDL) and the reporting limit (RL)

## Conventional Results

**Delatte Metals**
**205003A**

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | MW-01 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample | | | SDG ID: | 205003A |
| Lab Sample ID: | 205003034 | | | SDG Page: | 0 |

| CAS Number | Analyte Name | Sampling D/T | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|---|
| 18496-25-8 | Sulfide | 06/04/2014 10:33 | 9034 | 1 | 25 | 25 U | mg/L |
| 14808-79-8 | Sulfate | 06/04/2014 10:33 | 9056 | 1000 | 1,000 | 12,300 | mg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - Analyte detected between the method detection limit (MDL) and the reporting limit (RL)

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## Conventional Results

**Delatte Metals**
**205003A**

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | TEPA-6H | Matrix | Water | Lab ID: | PACE |
| Sample Type: | Site Sample | | | SDG ID: | 205003A |
| Lab Sample ID: | 205003035 | | | SDG Page: | 0 |

| CAS Number | Analyte Name | Sampling D/T | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|---|
| 18496-25-8 | Sulfide | 06/04/2014 11:01 | 9034 | 1 | 25 | 25 U | mg/L |
| 14808-79-8 | Sulfate | 06/04/2014 11:01 | 9056 | 100 | 100 | 1,110 | mg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - Analyte detected between the method detection limit (MDL) and the reporting limit (RL)

## Conventional Results

Delatte Metals
205003A

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | MW-02 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample | | | SDG ID: | 205003A |
| Lab Sample ID: | 205003037 | | | SDG Page: | 0 |

| CAS Number | Analyte Name | Sampling D/T | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|---|
| 18496-25-8 | Sulfide | 06/04/2014 13:30 | 9034 | 1 | 25 | 25 U | mg/L |
| 14808-79-8 | Sulfate | 06/04/2014 13:30 | 9056 | 200 | 200 | 1,600 | mg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - Analyte detected between the method detection limit (MDL) and the reporting limit (RL)

## Conventional Results

Delatte Metals
205003A

Client Sample ID: TEPA-P9
Sample Type: Site Sample
Lab Sample ID: 205003038

Matrix: Water

Lab ID: PACE
SDG ID: 205003A
SDG Page: 0

| CAS Number | Analyte Name | Sampling D/T | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|---|
| 18496-25-8 | Sulfide | 06/04/2014 14:26 | 9034 | 1 | 25 | 25 U | mg/L |
| 14808-79-8 | Sulfate | 06/04/2014 14:26 | 9056 | 200 | 200 | 1,600 | mg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - Analyte detected between the method detection limit (MDL) and the reporting limit (RL)

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## Conventional Results

Delatte Metals
205003A

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | TEPA-P6 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample | | | SDG ID: | 205003A |
| Lab Sample ID: | 205003039 | | | SDG Page: | 0 |

| CAS Number | Analyte Name | Sampling D/T | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|---|
| 18496-25-8 | Sulfide | 06/04/2014 15:05 | 9034 | 1 | 25 | 25 U | mg/L |
| 14808-79-8 | Sulfate | 06/04/2014 15:05 | 9056 | 200 | 200 | 1,570 | mg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - Analyte detected between the method detection limit (MDL) and the reporting limit (RL)

## Conventional Results

Dalatte Metals
205003A

Client Sample ID: TEPA-1H
Sample Type: Site Sample
Lab Sample ID: 205003040

Matrix: Water

Lab ID: PACE
SDG ID: 205003A
SDG Page: 0

| CAS Number | Analyte Name | Sampling D/T | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|---|
| 18496-25-8 | Sulfide | 06/04/2014 15:26 | 9034 | 1 | 25 | 25 U | mg/L |
| 14808-79-8 | Sulfate | 06/04/2014 15:26 | 9056 | 50 | 50 | 408 | mg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - Analyte detected between the method detection limit (MDL) and the reporting limit (RL)

## Conventional Results

**Delatte Metals**
**205003A**

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | TEPA-P10 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Site Sample | | | SDG ID: | 205003A |
| Lab Sample ID: | 205003041 | | | SDG Page: | 0 |

| CAS Number | Analyte Name | Sampling D/T | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|---|
| 18496-25-8 | Sulfide | 06/04/2014 15:40 | 9034 | 1 | 25 | 25 U | mg/L |
| 14808-79-8 | Sulfate | 06/04/2014 15:40 | 9056 | 500 | 500 | 2,130 | mg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - Analyte detected between the method detection limit (MDL) and the reporting limit (RL)


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## Conventional Results

**Delatte Metals**
**205003A**

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | TEPA-P7D | Matrix | **Water** | Lab ID: | **PACE** |
| Sample Type: | **Site Sample** | | | SDG ID: | **205003A** |
| Lab Sample ID: | **205003042** | | | SDG Page: | **0** |

| CAS Number | Analyte Name | Sampling D/T | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|---|
| 18496-25-8 | Sulfide | 06/04/2014 16:50 | 9034 | 1 | 25 | 25 U | mg/L |
| 14808-79-8 | Sulfate | 06/04/2014 15:50 | 9056 | 100 | 100 | 1,260 | mg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - Analyte detected between the method detection limit (MDL) and the reporting limit (RL)


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## Conventional Results

Delatte Metals
205003A

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID: | DUPLICATE #3 | Matrix: | Water | Lab ID: | PACE |
| Sample Type: | Field Duplicate | | | SDG ID: | 205003A |
| Lab Sample ID: | 205003043 | | | SDG Page: | 0 |

| CAS Number | Analyte Name | Sampling D/T | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|---|
| 18496-25-8 | Sulfide | 06/04/2014 6:41 | 9034 | 1 | 25 | 25 U | mg/L |
| 14808-79-8 | Sulfate | 06/04/2014 6:41 | 9056 | 1000 | 1,000 | 9,340 | mg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - Analyte detected between the method detection limit (MDL) and the reporting limit (RL)

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## Conventional Results

Delatte Metals
205003A

Client Sample ID: DUPLICATE #4
Sample Type: Field Duplicate
Lab Sample ID: 205003044

Matrix: Water

Lab ID: PACE
SDG ID: 205003A
SDG Page: 0

| CAS Number | Analyte Name | Sampling D/T | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|---|
| 18496-25-8 | Sulfide | 06/04/2014 14:26 | 9034 | 1 | 25 | 25 U | mg/L |
| 14808-79-8 | Sulfate | 06/04/2014 14:26 | 9056 | 200 | 200 | 1,580 | mg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - Analyte detected between the method detection limit (MDL) and the reporting limit (RL)

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## Conventional Results

Deletta Metals
205003A

Client Sample ID: **BA-09**
Sample Type: **Site Sample**
Lab Sample ID: **205003045**

Matrix: **Water**

Lab ID: **PACE**
SDG ID: **205003A**
SDG Page: **0**

| CAS Number | Analyte Name | Sampling D/T | Method | D/F | RL | Lab Result | Units |
|---|---|---|---|---|---|---|---|
| 18496-25-8 | Sulfide | 06/05/2014 10:33 | 9034 | 1 | 25 | 25 U | mg/L |
| 14808-79-8 | Sulfate | 06/05/2014 10:33 | 9056 | 500 | 500 | 6,460 | mg/L |



U - Non-detected
J - Estimated
R - Unusable
RL - Reporting limit

B - Analyte detected between the method detection limit (MDL) and the reporting limit (RL)

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# DELATTE METALS PROJECT

## MISCELLANEOUS DOCUMENTS

**SDG: 205003**

*Prepared for:*

SEMS, Inc.
Baton Rouge, LA

TerraBase Project Number: 207
July 2014

Pace Analytical
www.pacelabs.com

# CHAIN-OF-CUSTODY / Analytic

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant

**WO#: 205003**

PM: WRS Due Date: 06/19/14

CLIENT: 20-sems Met SEMS Metairie

| Section A Required Client Information: | | Section B Required Project Information: | | Section C Invoice Information: | |
|---|---|---|---|---|---|
| Company: | SEMS Inc | Report To: | Nick Rodenhorst | Attention: | Brian Sullivan |
| Address: | 3801 N. Causeway Blvd. | Copy To: | Brian Sullivan | Company Name: | SEMS, Inc |
| | Metairie, LA 70002 | | | Address: | 3801 N. Causeway Blvd. |
| Email To: | nrodenhorst@semsinc.com | Purchase Order No.: | | Pace Quote Reference: | 9893 |
| Phone: | (504) 251-8087 | Fax: | | Pace Project Manager: | Randy Shackelford |
| Requested Due Date/TAT: | 10 WD | Project Name: | Delatte Metals | Pace Profile #: | 6306 L-1 |
| | | Project Number: | 84383 | | |

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☒ RCRA ☐ OTHER

Site Location: STATE: LA

Requested Analysis Filtered (Y/N)

| Item # | SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE | MATRIX CODE (use valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start Date | Composite Start Time | Composite End/Grab Date | Composite End/Grab Time | Sample Temp at Collection | # of Containers | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test Y/N | Total Metals | Dissolved Metals | Sulfate | Sulfide | Residual Chlorine (Y/N) | Pace Project No./Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | CA-41 | W | G | | | 6/2/14 | 945 | | 2 | | | 2 | | | | | | | X | X | | | | 001 |
| 2 | CA-51 | | | | | | 930 | | 2 | | | 2 | | | | | | | X | X | | | | 002 |
| 3 | GSGP-03 | | | | | | 910 | | 1 | | | 1 | | | | | | | X | | | | | 003 |
| 4 | Bridge | | | | | | 1015 | | 2 | | | 2 | | | | | | | X | X | | | | 004 |
| 5 | CL-05 | | | | | | 1050 | | 2 | | | 2 | | | | | | | X | X | | | | 005 |
| 6 | CL-19 | | | | | | 1110 | | 2 | | | 2 | | | | | | | X | X | | | | 006 |
| 7 | (b) (6) [redacted] Well | | | | | | 1130 | | 1 | | | 1 | | | | | | | X | | | | | 007 |
| 8 | WW-04 | | | | | | 1140 | | 1 | | | 1 | | | | | | | X | | | | | 008 |
| 9 | BC-03 | | | | | | 1253 | | 1 | | | 1 | | | | | | | X | | | | | 009 |
| 10 | MW-06 | | | | | | 1351 | | 1 | | | 1 | | | | | | | X | | | | | 010 |
| 11 | GSGP-18 | | | | | | 1415 | | 1 | | | 1 | | | | | | | X | | | | | 011 |
| 12 | GSGP-19 | | | | | | 1434 | | 1 | | | 1 | | | | | | | X | | | | | 012 |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS |
|---|---|---|---|---|---|---|---|
| Metals = As,Cd,Pb,Mn,Ni,Zn | Nick Rodenhorst / SEMS | 6/5/14 | 1515 | Rachel Ferrari | 6/5/14 | 1540 | |
| Dissolved Metals are | Rachel | 6/5/14 | 1625 | | 6/5/14 | 1525 | 0.1 |
| Field-filtered | | | | | | | 0.2 |
| | | | | | | | 0.1 |

| Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N) |
|---|---|---|---|
| | | | |

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Nick Rodenhorst

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY): 6/5/14

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.



F-ALL-Q-020rev.07, 15-Feb-2007

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# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 2 of 5

| Section A Required Client Information: | | Section B Required Project Information: | | Section C Invoice Information: | |
|---|---|---|---|---|---|
| Company: | SEMS Inc | Report To: | Nick Rodenhorst | Attention: | Brian Sullivan |
| Address: | 3801 N. Causeway Blvd. | Copy To: | Brian Sullivan | Company Name: | SEMS, Inc |
| | Metairie, LA 70002 | | | Address: | 3801 N. Causeway Blvd. |
| Email To: | nrodehorst@semsinc.com | Purchase Order No.: | | Pace Quote Reference: | 9893 |
| Phone: | (504) 451-8083 Fax: | Project Name: | Delaite Metals | Pace Project Manager: | Randy Shackelford |
| Requested Due Date/TAT: | 10 WD | Project Number: | 84383 | Pace Profile #: | |

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☒ RCRA ☐ OTHER

Site Location STATE: LA

Section D Required Client Information

Valid Matrix Codes

| MATRIX | CODE |
|---|---|
| DRINKING WATER | DW |
| WATER | WT |
| WASTE WATER | WW |
| PRODUCT | P |
| SOIL/SOLID | SL |
| OIL | OL |
| WIPE | WP |
| AIR | AR |
| OTHER | OT |
| TISSUE | TS |

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED COMPOSITE START DATE | COLLECTED COMPOSITE START TIME | COLLECTED COMPOSITE END/GRAB DATE | COLLECTED COMPOSITE END/GRAB TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test Y/N | Total Metals | Dissolved Metals | Sulfate 9056 | Sulfide 9034 | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | MW-03 | W | G | | | 6/2/14 | 1502 | | 1 | | | 1 | | | | | | | X | | | | | 013 |
| 2 | BC-25 | | | | | | 1519 | | 1 | | | 1 | | | | | | | X | | | | | 014 |
| 3 | MS-GSGP-03 | | | | | | 910 | | 1 | | | 1 | | | | | | | X | | | | | 013 |
| 4 | MSD-GSGP-03 | | | | | | 910 | | 1 | | | 1 | | | | | | | X | | | | | 013 |
| 5 | Duplicate #1 | | | | | | 1140 | | 1 | | | 1 | | | | | | | X | | | | | 015 |
| 6 | BC-07 | | | | | 6/3/14 | 906 | | 1 | | | 1 | | | | | | | X | | | | | 016 |
| 7 | DW-04 | | | | | | 942 | | 1 | | | 1 | | | | | | | X | | | | | 017 |
| 8 | BC-19 | | | | | | 1006 | | 1 | | | 1 | | | | | | | X | | | | | 018 |
| 9 | South Well | | | | | | 1040 | | 1 | | | 1 | | | | | | | X | | | | | 019 |
| 10 | North Well | | | | | | 1057 | | 1 | | | 1 | | | | | | | X | | | | | 020 |
| 11 | BC-17 | | | | | | 1136 | | 1 | | | 1 | | | | | | | X | | | | | 021 |
| 12 | BC-21R | | | | | | 1309 | | 1 | | | 1 | | | | | | | X | | | | | 022 |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Metals = As,Cd,Pb,Mn,Ni,Zn | Nick Rodenhorst / SEMS | 6/5/14 | 1515 | [signature] | 6/5/14 | 1540 | | | | |
| | [signature] | 6/5/14 | 1625 | [signature] | 6/5/14 | 1625 | 0.1 | [signature] | [signature] | [signature] |
| | | | | | | | 0.2 | | | |
| | | | | | | | 0.1 | | | |

| SAMPLER NAME AND SIGNATURE | | | |
|---|---|---|---|
| PRINT Name of SAMPLER: | Nick Rodenhorst | | |
| SIGNATURE of SAMPLER: | [signature] | DATE Signed (MM/DD/YY): | 6/5/14 |

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-Feb-2007

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# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.



**Section A** Required Client Information:

| | |
|---|---|
| Company: | SEMS Inc |
| Address: | 3801 N. Causeway Blvd. |
| | Metairie, LA 70002 |
| Email To: | nrodehorst@semsinc.com |
| Phone: | (504) 451-8583 |
| Fax: | |
| Requested Due Date/TAT: | 10 WD |

**Section B** Required Project Information:

| | |
|---|---|
| Report To: | Nick Rodenhorst |
| Copy To: | Brian Sullivan |
| Purchase Order No.: | |
| Project Name: | Delaide Metals |
| Project Number: | 84883 |

**Section C** Invoice Information:

| | |
|---|---|
| Attention: | Brian Sullivan |
| Company Name: | SEMS, Inc |
| Address: | 3801 N. Causeway Blvd. |
| Pace Quote Reference: | 9853 |
| Pace Project Manager: | Randy Shackelford |
| Pace Profile #: | |

**REGULATORY AGENCY**

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☒ RCRA ☐ OTHER

Site Location STATE: LA

**Section D** Required Client Information

Valid Matrix Codes

| MATRIX | CODE |
|---|---|
| DRINKING WATER | DW |
| WATER | WT |
| WASTE WATER | WW |
| PRODUCT | P |
| SOIL/SOLID | SL |
| OIL | OL |
| WIPE | WP |
| AIR | AR |
| OTHER | OT |
| TISSUE | TS |

| ITEM # | SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED: COMPOSITE START DATE | COMPOSITE START TIME | COMPOSITE END/GRAB DATE | COMPOSITE END/GRAB TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test (Y/N) | Total Metals | Dissolved Metals | Sulfate 9056 | Sulfide 9034 | | | | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | BA-01 | W | G | | | 6/5/14 | 1357 | | 1 | | | 1 | | | | | | | X | | | | | | | | 023 |
| 2 | DW-02 | | | | | | 1420 | | 1 | | | 1 | | | | | | | X | | | | | | | | 024 |
| 3 | BA-05 | | | | | | 1452 | | 1 | | | 1 | | | | | | | X | | | | | | | | 025 |
| 4 | MW-A | | | | | | 1515 | | 1 | | | 1 | | | | | | | X | | | | | | | | 026 |
| 5 | GSGP-15 | | | | | | 1544 | | 1 | | | 1 | | | | | | | X | | | | | | | | 027 |
| 6 | PW-04 | | | | | | 1603 | | 1 | | | 1 | | | | | | | X | | | | | | | | 028 |
| 7 | Duplicate #2 | | | | | | 906 | | 1 | | | 1 | | | | | | | X | | | | | | | | 029 |
| 8 | MS-PW-04 | | | | | | 1603 | | 1 | | | 1 | | | | | | | X | | | | | | | | 028 |
| 9 | MSD-PW-04 | | | | | | 1603 | | 1 | | | 1 | | | | | | | X | | | | | | | | 028 |
| 10 | DW-03 | | | | | 6/4/14 | 841 | | 3 | 1 | | 1 | | | | | 1 | | X | | X | X | | | | | 030 |
| 11 | GSGP-22 | | | | | | 906 | | 3 | 1 | | 1 | | | | | 1 | | X | | X | X | | | | | 031 |
| 12 | TEPA-9H (99) | | | | | | 930 | | 3 | 1 | | 1 | | | | | 1 | | X | | X | X | | | | | 032 |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS |
|---|---|---|---|---|---|---|---|
| Metals = As,Cd,Pb,Mn,Ni,Zn | Nick Rodenhorst / SEMS | 6/5/14 | 1615 | Rachel | 6/5/14 | 1615 | |
| | Rachel | 6/5/14 | 1625 | | 6/5/14 | 1625 | 01 |
| | | | | | | | 02 |
| | | | | | | | 01 |

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Nick Rodenhorst

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 6/5/14

| Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N) |
|---|---|---|---|
| | | | |

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Pace Analytical

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.



**Section A** Required Client Information:

| | |
|---|---|
| Company: | SEMS Inc |
| Address: | 3801 N. Causeway Blvd. |
| | Metairie, LA 70002 |
| Email To: | nrodechorst@semsinc.com |
| Phone: | Fax: |
| Requested Due Date/TAT: | 10 WD |

**Section B** Required Project Information:

| | |
|---|---|
| Report To: | Nick Rodechorst |
| Copy To: | Brian Sullivan |
| Purchase Order No.: | |
| Project Name: | Delatte Metals |
| Project Number: | 84383 |

**Section C** Invoice Information:

| | |
|---|---|
| Attention: | Brian Sullivan |
| Company Name: | SEMS, Inc |
| Address: | 3801 N. Causeway Blvd. |
| Pace Quote Reference: | 9893 |
| Pace Project Manager: | Randy Shackelford |
| Pace Profile #: | |

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☒ RCRA ☐ OTHER

Site Location STATE: LA

Requested Analysis Filtered (Y/N)

**Section D** Required Client Information

Valid Matrix Codes

| MATRIX | CODE |
|---|---|
| DRINKING WATER | DW |
| WATER | WT |
| WASTE WATER | WW |
| PRODUCT | P |
| SOIL/SOLID | SL |
| OIL | OL |
| WIPE | WP |
| AIR | AR |
| OTHER | OT |
| TISSUE | TS |

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED COMPOSITE START DATE | COMPOSITE START TIME | COMPOSITE END/GRAB DATE | COMPOSITE END/GRAB TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test (Y/N) | Total Metals | Dissolved Metals | Sulfate 9056 | Sulfide 9034 | | | | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | DW-01 | W | G | | | 6/4/14 | 1003 | | 3 | 1 | | 1 | | | | | 1 | | X | | X | X | | | | | 033 |
| 02 | MW-01 | | | | | | 1033 | | 3 | 1 | | 1 | | | | | 1 | | X | | X | X | | | | | 034 |
| 3 | TEPA-6H | | | | | | 1101 | | 3 | 1 | | 1 | | | | | 1 | | X | | X | X | | | | | 035 |
| 4 | BA-03 | | | | | | 1255 | | 2 | | | 2 | | | | | | | X | X | | | | | | | 036 |
| 5 | MW-02 | | | | | | 1330 | | 3 | 1 | | 1 | | | | | 1 | | X | | X | X | | | | | 037 |
| 6 | TEPA-P9 | | | | | | 1426 | | 3 | 1 | | 1 | | | | | 1 | | X | | X | X | | | | | 038 |
| 7 | TEPA-P6 | | | | | | 1505 | | 3 | 1 | | 1 | | | | | 1 | | X | | X | X | | | | | 039 |
| 8 | TEPA-1H | | | | | | 1526 | | 3 | 1 | | 1 | | | | | 1 | | X | | X | X | | | | | 040 |
| 9 | TEPA-P10 | | | | | | 1540 | | 3 | 1 | | 1 | | | | | 1 | | X | | X | X | | | | | 041 |
| 10 | TEPA-P7D | | | | | | 1550 | | 2 | | | 2 | | | | | 1 | | X | X | X | X | | | | | 042 |
| 11 | Duplicate #3 | | | | | | 1341 | | 3 | 1 | | 1 | | | | | 1 | | X | | X | X | | | | | 043 |
| 12 | Duplicate #4 | W | G | | | | 1426 | | 3 | 1 | | 1 | | | | | 1 | | X | | X | X | | | | | 044 |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS |
|---|---|---|---|---|---|---|---|
| Metals = As,Cd,Pb,Mn,Ni,Zn | Nick Rodechorst / SEMS | 6/5/14 | 1515 | Rachel | 6/5/14 | 1540 | |
| Dissolved metals are field filtered | Rachel | 6/5/14 | 1625 | | 6/5/14 | 1625 | Temp in °C: 0.7, 0.2, 0.1 |

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Nick Rodechorst

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 6/5/2014

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Pace Analytical

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.



**Section A** Required Client Information:

| | |
|---|---|
| Company: | SEMS Inc |
| Address: | 3801 N. Causeway Blvd. |
| | Metairie, LA 70002 |
| Email To: | nrodenhorst@semsinc.com |
| Phone: | (504) 451-8085 Fax: |
| Requested Due Date/TAT: | 10 WD |

**Section B** Required Project Information:

| | |
|---|---|
| Report To: | Nick Rodenhorst |
| Copy To: | Brian Sullivan |
| Purchase Order No.: | |
| Project Name: | Delaitte Metals |
| Project Number: | 84383 |

**Section C** Invoice Information:

| | |
|---|---|
| Attention: | Brian Sullivan |
| Company Name: | SEMS, Inc |
| Address: | 3801 N. Causeway Blvd. |
| Pace Quote Reference: | 9693 |
| Pace Project Manager: | Randy Shackelford |
| Pace Profile #: | |

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☒ RCRA ☐ OTHER

Site Location STATE: LA

Requested Analysis Filtered (Y/N)

**Section D** Required Client Information

Valid Matrix Codes: WATER CODE; DRINKING WATER DW; WATER WT; WASTEWATER WW; PRODUCT P; SOLID/SOIL SL; OIL OL; WIPE WP; AIR AR; OTHER OT; TISSUE TS

| ITEM # | SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE | MATRIX CODE | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start Date | Composite Start Time | Composite End/Grab Date | Composite End/Grab Time | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test Y/N | Total Metals | Dissolved Metals | Sulfate | Sulfide | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | MS-MW-02 | W | G | | | 6/4/14 | 1330 | | 3 | 1 | | 1 | | | | | 1 | | X | | X X | X | | 037 |
| 02 | MSD-MW-02 | | | | | | 1330 | | 3 | 1 | | 1 | | | | | 1 | | X | | X X | X | | 037 |
| 03 | BA-09 | | | | | 6/5/14 | 1033 | | 3 | 1 | | 1 | | | | | 1 | | X | | X X | X | | 045 |
| 04 | BA-09A | | | | | | 948 | | 1 | 1 | | 1 | | | | | | | X | | | | | 046 |
| 05 | GSGP-6 | | | | | | 921 | | 1 | | | 1 | | | | | | | X | | | | | 047 |
| 06 | MW-4 | | | | | | 1100 | | 2 | | | 2 | | | | | | | X | X | | | | 048 |
| 07 | MW-09 | | | | | | 1110 | | 1 | | | 1 | | | | | | | X | | | | | 049 |
| 08 | Duplicate #5 | | | | | | 948 | | 1 | | | 1 | | | | | | | X | | | | | 050 |
| 09 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS |
|---|---|---|---|---|---|---|---|
| Metals = As,Cd,Pb,Mn,Ni,Zn | Nick Rodenhorst / SEMS | 6/5/14 | 1515 | [illegible] | 6/6/14 | 1545 | |
| Dissolved Metals are | [illegible] | 6/5/14 | 1625 | [illegible] | 6/6/14 | 1625 | 0.1 |
| field filtered | | | | | | | 0.2 |
| | | | | | | | 0.1 |

| | Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N) |
|---|---|---|---|---|
| | | Y | Y | Y |

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Nick Rodenhorst

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 6/5/14

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

**ATTACHMENT E**

**LEVEL IV DATA PACKAGE**

**(CD ATTACHED)**