Team 9, a Joint Venture
3700 Industry Avenue, Suite 102
Lakewood, CA 90712
Tel: (562) 989-8494
Fax: (562) 989-8537

May 28, 2008

TDD No. TO5-09-07-04-0002
Contract No. EP-S9-06-01

Tom Dunkelman, Federal On-Scene Coordinator
United States Environmental Protection Agency
Emergency Response Office
901 South Stewart Street
Carson City, Nevada 89701

Subject: Anaconda Ponds Assessment Report
Former Anaconda Copper Mine
102 Burch Drive
Yerington, Nevada 92274
Latitude 38.994° North; Longitude 119.198° West

Dear Mr. Dunkelman,

The Team 9 Superfund Technical Assessment and Response Team is pleased to provide the following Anaconda Ponds Assessment Report describing sampling activities conducted at the former Arimetco heap leach processing system ponds at the former Anaconda Mine site in July and August 2007.

If you have any questions or require any additional information regarding this submittal, please do not hesitate to contact me at 415-828-9419.

Sincerely,

Mike Schwennesen
Team 9 Project Manager

cc: Electronic Deliverable Systems 2
START Project File

Anaconda Ponds Assessment Report

INTRODUCTION

The United States Environmental Protection Agency, Region 9, Emergency Response Section (U.S. EPA) tasked Team 9's Superfund Technical Assessment and Response Team (START) to conduct soil sampling at leach ponds located at the former Anaconda copper mine in Yerington, Lyon County, Nevada. Over the period July 30 through August 1, 2007, the START and personnel from the U.S. EPA Environmental Response Team's Response Engineering and Analytical Contract (REAC) utilized direct-push drilling equipment to collect samples from the surface and from discrete depths below each of eight leach ponds. This report describes the field sampling activities conducted, and presents the analytical results for the sampling.

SITE LOCATION AND DESCRIPTION

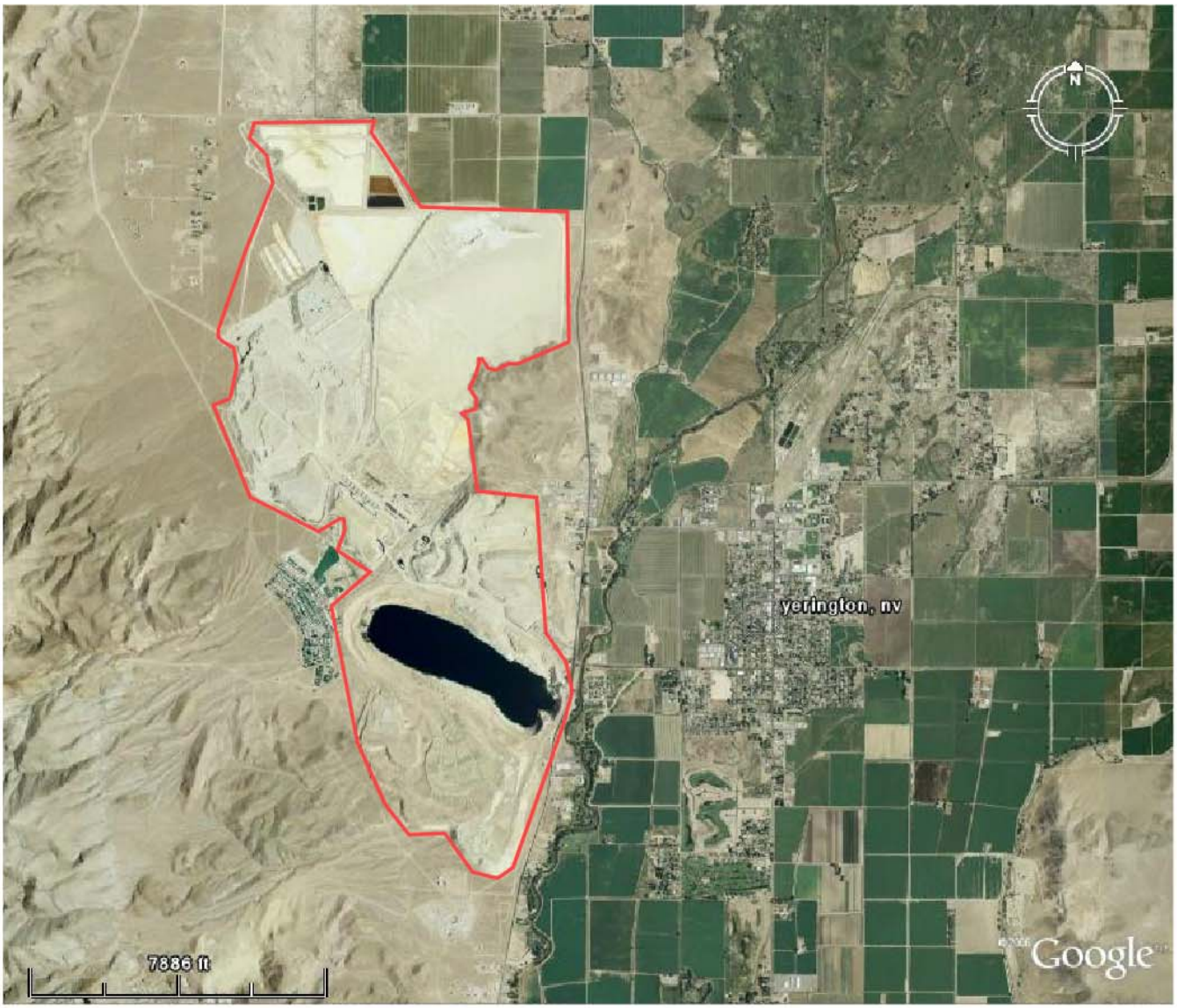
The former Anaconda mine site is an open-pit copper mine and related processing areas, evaporation ponds, and stockpiles comprising an area of more than 3400 acres. Mining operations at the site began in approximately 1918, and ceased in 2000. The mine is located at 102 Burch Drive, off Highway 95 approximately two miles west of the town of Yerington, Lyon County, Nevada (Figure 1). The geographic coordinates for the site are 38.994° North latitude and 119.198° West longitude. The mine site is bordered to the north by agricultural land, to the east by Highway 95, to the west and southwest by the Singatse mountain range and the town of Weed Heights, and to the south by United States Bureau of Land Management land.

PURPOSE OF SAMPLING

A copper recovery process employed at the site by Arimetco from approximately 1988 to 2000 involved the leaching of dilute sulfuric acid through spent mine tailings and the subsequent collection of the copper-rich acidic leachate in ponds which were lined with a synthetic membrane. The ponds are described by the U.S. EPA as being part of Arimetco's "heap leach fluids draindown management system." As a first step toward the removal and closure of the ponds, U.S. EPA federal On-Scene Coordinator (FOSC) Tom Dunkelman requested that the START and REAC conduct stratified soil sampling below these ponds to determine whether metals, acids, or other contaminants have infiltrated below the pond liner barriers. Such an infiltration could adversely affect the groundwater in the area.

LEACH POND SOIL SAMPLING

Soil sampling at the site was conducted according to a START-prepared sampling plan, *EPA Emergency Response Section (ERS) And Superfund Technical Assessment and Response Team (START) Emergency Response and Time Critical Quality Assurance Sampling Plan For Soil, Water and Miscellaneous Matrix Sampling*, July 6, 2007 (QASP)(Attachment 1). All ponds were dry or nearly dry at the time of sampling. All of the ponds had dried leachate sludge contained above the pond liner, which was sampled in addition to sub-liner soil samples. The U.S. EPA's Emergency and Rapid Response Services (ERRS) removal contractor provided personnel to operate an excavator, which was



Approximate Boundary
of Mine Site

Figure 1
Site Location Map
Former Anaconda Copper Mine
Yerington, Nevada

used to construct ramps for the direct-push drill rig to enter some of the ponds that had steep sidewalls. The excavator was also used to create stepped platforms on some pond sidewalls, from which the drill rig could operate.

Ponds Sampled

Eight leach ponds were designated for sampling by FOSC Dunkelman: South Slot, Mega, Phase 1, Phase 1 Sediment, Bathtub, Old Raffinate, New Raffinate, and Plant Feed. The locations of the leach ponds are shown on Figure 2.

Analytical Parameters Investigated

The analytical parameters investigated and the analytical methods employed for the samples were determined by consensus of the U.S. EPA, the START, and REAC prior to the initiation of the field work. The parameters and analytical methods are presented below. Target analyte list metals were investigated, and because historically an extractant product called ACORGA® was mixed with kerosene and the solution used in the Raffinate ponds in a solvent-extraction process to recover copper, volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and total petroleum hydrocarbons (TPH, both as kerosene and motor oil) were also investigated. A photoionization detector and flame ionization detector were used to scan all soil cores from all leach ponds for any volatile organic compounds. Only the Old Raffinate and New Raffinate pond soils showed detectable readings with the instruments, and therefore only the samples from those two ponds were analyzed for VOCs, SVOCs, and TPH.

Analytical Parameters Investigated
Anaconda Ponds Assessment

Parameter	Analytical Method
Target Analyte List metals (23 metals) plus boron and molybdenum	U.S. EPA Method 6010B, 7471A
Volatile Organic Compounds (VOCs) (Old and New Raffinate ponds, below the liner only)	U.S. EPA Method 8260B
Semivolatile Organic Compounds (SVOCs) (Old and New Raffinate ponds)	U.S. EPA Method 8270C
pH (Soil)	U.S. EPA Method 9045
Total Petroleum Hydrocarbons (TPH) (as kerosene and motor oil)	U.S. EPA Method 8015m
Radiological Parameters:	
Radium-226	Radon Emanation following U.S. EPA 903.0
Gross Alpha and Beta	U.S. EPA 900.0 (modified)
Gamma-Emitting Radionuclides	U.S. EPA 901.1 (modified)

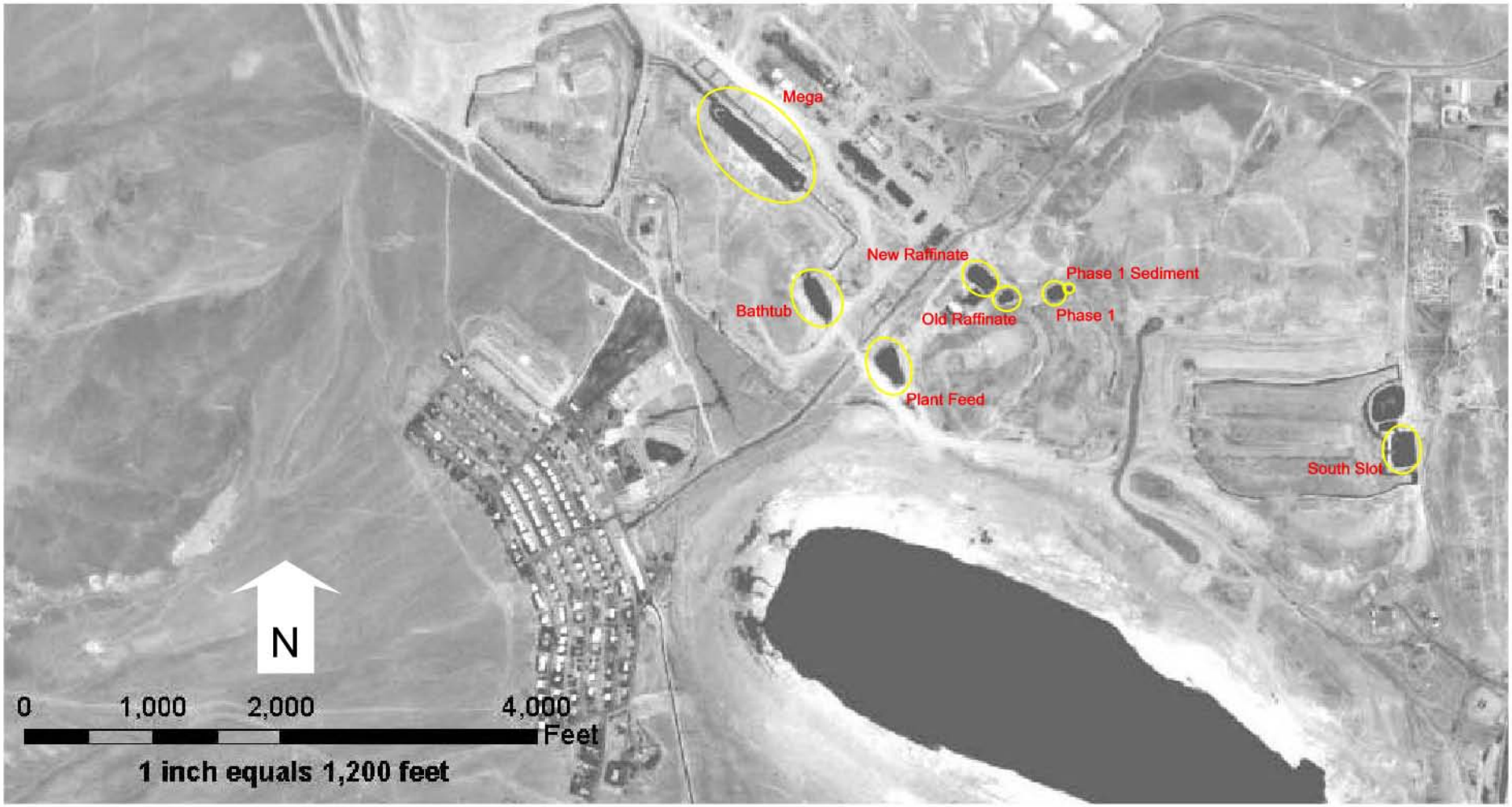


Figure 2
Leach Ponds Sampled by the START and REAC
Anaconda Ponds Assessment
July-August 2007

One sample from each soil boring was also collected for radiological parameters analysis. The soil samples collected for radiological parameters analyses were maintained under REAC chain of custody, and were analyzed by a REAC laboratory.

Action Levels

Site-specific action levels have not been determined. However, potential site-specific action levels are discussed below.

Potential site-specific action levels for metals, VOCs, and SVOCs analytes are the 2004 U.S. EPA Preliminary Remediation Goals (PRGs) for industrial soil or residential soil. However, in the case of the metal arsenic, the industrial PRG of 1.6 milligrams per kilogram (mg/kg) is well below the typical concentration of arsenic found at the site. For the arsenic parameter, background studies will likely be required in order to establish an appropriate action level.

The potential site-specific action level for total petroleum hydrocarbons (TPH) is 100 mg/kg, of either kerosene or motor oil, which is the Nevada Department of Environmental Protection (NDEP) corrective action level.

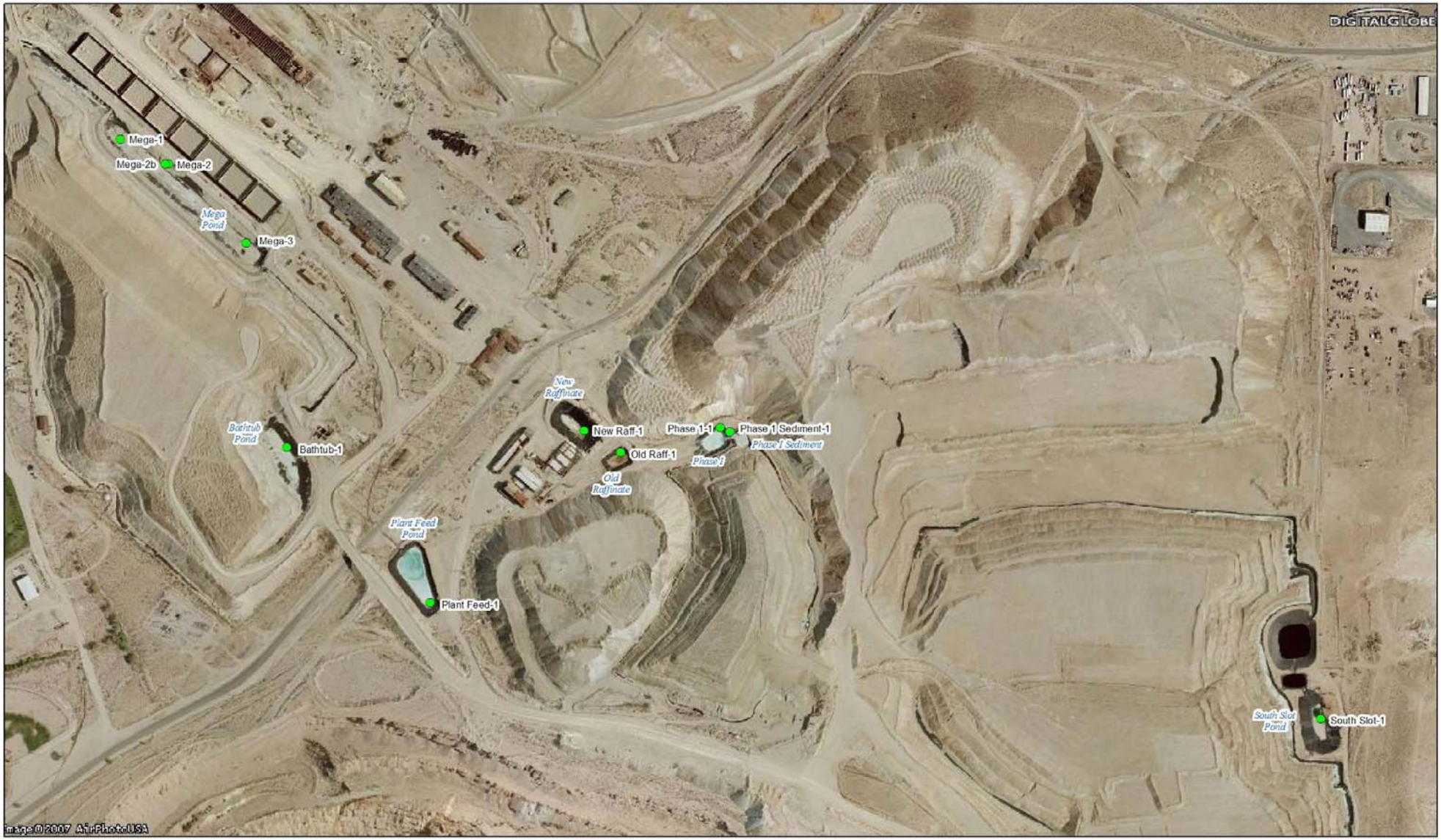
There are currently no site-specific action levels for the radiological parameters. Potential action levels for non-radiological analyses are included with the tabulated analytical results which are presented in Attachment 2, Tables 1-4.

Sampling Procedures

At every leach pond sampled, the START first collected a sample of the dried pond sludge above the synthetic pond liner. Direct-push drilling equipment was then used to push through the synthetic pond liner and drill to a maximum 30-foot depth below the pond liner, or until the direct-push equipment could go no further. Continuous sample cores were collected in acrylic sleeves and temporarily stored pending completion of sampling. Soil samples were collected from the acrylic sample cores at 1-, 2-, 5-, 10-, 20-, and 30-foot depths. In some cases the 30-foot depth could not be achieved, and a sample was collected at the refusal depth. Upon completion of the boring to the 30-foot depth or to refusal depth, a polyvinyl chloride (PVC) pipe was temporarily placed down-hole and a gamma radiation detection instrument was slowly dropped down through the PVC to determine the depth of highest gamma-radiation count. A sample was then collected out of the stored sample cores from the depth of highest gamma reading, or, if a sample had already been collected from that depth for chemical analysis, the radiological sample was collected from an interval as close to that depth as possible. When all sampling had been completed in a soil boring, the soil boring was backfilled with bentonite grout. A global positioning system instrument was then used to document the soil boring location.

Figure 3 presents the locations of the soil borings in each of the eight ponds. One soil boring was drilled into each leach pond, with the exception of the Mega leach pond, at which three soil borings were drilled and sampled.

The Mega leach pond contained several feet of dried sludge which had to be penetrated to reach the pond liner. At the first Mega leach pond soil boring, Mega-1, sampling was discontinued at 10 feet below the surface of the liner when liquid began infiltrating the hole. As a result, the Mega-1 soil boring was immediately sealed with bentonite grout. It is suspected that the dried sludge above the



LEGEND

- Soil boring location

N

400 0 400 Feet

START REGION 9	Anaconda Ponds Assessment	Leach Pond Soil Boring Locations	*Figure 3*
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liner actually had a liquid component at depth, which was released when the pond liner was punctured. Because of the liquid infiltration, the second and third soil boring locations in the Mega pond were drilled from steps constructed on the sidewall of the pond. When the drill rig was operated from a stepped sidewall of any pond, measurements were obtained in order to determine the vertical depth to the pond floor. That depth was then used as the starting point for the collection of sub-pond-floor samples. At the Mega-2 soil boring, refusal was reached at approximately 20 feet below the pond liner. An adjacent soil boring, Mega-2B, was therefore drilled, and the 20-foot and 30-foot samples were successfully collected in this adjacent soil boring.

Subsurface soil and dried pond sludge samples were collected into 8-ounce glass jars using disposable trowels. Blind duplicate samples were prepared by placing a double-volume of soil from a soil core into a baggie, homogenizing the soil, and then splitting the soil between two jars. One jar was then identified with the appropriate sampling interval in the sample name, while the other was given a fictitious sample name. Additional samples were therefore at times analyzed in addition to the 1-, 2-, 5-, 10-, 20-, and 30-foot depths. The sample results for blind duplicate samples with fictitious sample names are not included in the Attachment 2 tables, but they were an important element in the data validation process conducted by the START on all generated leach pond data.

All soil samples except the radiological samples were shipped to the U.S. EPA's Region 9 laboratory in Richmond, California for analysis. The radiological samples were maintained under REAC custody and analyzed by a REAC laboratory. The laboratory data reporting sheets are appended to this report in Attachment 3. All results, including the radiological sample results, were validated by a START chemist following *Quality Assurance/ Quality Control Guidance for Removal Activities, Sampling QA/QC Plan Validation Procedures*, OSWER Directive 9360.4-1, April 1990. The START data validation reports are submitted under separate cover. The data were found to be acceptable as definitive category data, and determined to be usable to meet project use objectives.

Three sample jars were broken during transit to the laboratory, and could not be analyzed. The samples lost were Mega-2-1', Mega-2-10', and Mega-2-30'.

ANALYTICAL RESULTS

Results for the non-radiological samples are presented in Attachment 2, Tables 1-4. Table 1 presents the total metals and pH results; Table 2 presents the TPH results; Table 3 presents the SVOC results, and Table 4 presents the VOC results. When applicable, more-stringent U.S. EPA residential PRGs are included in the tables along with the industrial PRGs.

Radiological sample results are presented in Attachment 2, Table 5. For comparative purposes, results for three background samples collected by a separate START team on August 7, 2007 are also included in the table.

Non-Radiological Parameters

<u>Volatile Organic Compounds</u>

No START-investigated VOC analytes were detected, in any of the samples collected, at concentrations above their respective residential or industrial PRGs, which are potential site-specific action levels.

Semivolatile Organic Compounds

No START-investigated SVOC analytes were detected, in any of the samples collected, at concentrations above their respective residential or industrial PRGs, which are potential site-specific action levels. Tentatively-identified hydrocarbon compounds identified by the SVOC analytical method did exceed the NDEP TPH action level, and this data was corroborated by the TPH analysis discussed below.

Total Petroleum Hydrocarbons

TPH (as kerosene) was found in the Old Raffinate leach pond at concentrations that exceeded the NDEP action level of 100 mg/kg, at all depths from the surface down to 23 feet below ground surface. A 30-foot-depth sample from this pond indicated a TPH concentration of 5 mg/kg.

TPH (as kerosene) was also found in the surface sample of the New Raffinate pond, which was collected above the pond liner. All samples collected below the liner indicated TPH concentrations well below the NDEP action level of 100 mg/kg.

The TPH analyses were conducted by a gas chromatography (GC) technique. Tentatively identified compounds (TICs) were found in some of the Old Raffinate and New Raffinate leach pond samples analyzed for VOCs and SVOCs by gas chromatography/mass spectrometry (GC/MS). These TICs are listed with other analytes in the individual sample data reporting sheets (Attachment 3). Because these compounds are only tentatively identified (no calibration standards were used by the laboratory to confirm their identification), Tables 3 and 4 in Attachment 2 present the TICs as a total hydrocarbon component. The TIC concentrations support the TPH (by GC) analytical finding that TPH contamination in the Old Raffinate leach pond extends to at least 23 feet below the surface of the pond.

Metals

Three metals, copper, iron, and lead, were found at concentrations exceeding a potential site-specific action level. A fourth metal, thallium, is also discussed below.

Copper was found in five samples from five different ponds at concentrations exceeding the residential PRG potential site-specific action level. These five samples were all collected from the surfaces of the ponds, above the pond liners. In no case was a concentration of copper found in a sample collected below a pond liner that exceeded a potential site-specific action level. None of the samples collected exceeded the industrial PRG for copper.

Iron concentrations exceeding the residential PRG potential site-specific action level were found in two ponds (Bathtub and South Slot) at one and two feet below the pond surface. These samples were collected below the pond liners. Concentrations of iron typically dropped with depth. None of the samples collected exceeded the industrial PRG for iron.

Lead concentrations exceeding either the residential or industrial PRG potential site-specific action levels were found in the surface samples (above the pond liner) of the Old Raffinate, New

Raffinate, and Phase 1 ponds. In no case was a concentration of lead found in a sample collected below a pond liner that exceeded a potential site-specific action level.

Thallium was not found to exceed its industrial PRG potential site-specific action level in any of the samples collected. However, the residential PRG concentration for thallium is near or below the detection limit achievable for the samples, and therefore it is uncertain whether the thallium residential PRG potential site-specific action level has been exceeded.

pH

The pH analytical results indicate that the dried surface sludge from each leach pond has a pH of between 2 and 3. The pH of the subsurface soils then generally rises with depth. Although near-neutral soils were expected to be found below the synthetic liner, they were not. This indicates that the synthetic leach pond liners may not have provided a complete barrier for this parameter.

Radiological Parameters

Attachment 2, Table 5 presents the results of the radiological analyses conducted on one sample collected from each pond. For comparative purposes, data for background samples collected from other areas of the mine site on August 7, 2007 are also presented. The background samples were collected as part of a separate U.S. EPA investigation, and the radiological methods used were not always identical.

The background samples were investigated for gross alpha and gross beta parameters by U.S. EPA Method 900.0; and for element-specific parameters by the U.S. EPA National Air and Radiation Environmental Laboratory, gamma spectroscopy analysis (GAM-01) method and the U.S. Department of Energy, Environmental Measurements Laboratory, Health and Safety Laboratory HASL-300, 4.5.2.3 method.

The pond samples were investigated for gross alpha and gross beta parameters by U.S. EPA Method 900.0, and for element-specific parameters by U.S.EPA Methods 901.1 and 903.0.

Gross Alpha

Gross alpha concentrations in all samples (including background samples) except the Bathtub pond sample were similar and indicate no significant elevated levels. The Bathtub pond sample contains a relatively greater concentration of gross alpha than the other samples; however, the START forwarded the data to a U.S. EPA radiation expert and a U.S. EPA-contracted radiation expert for review, and their consensus was that the difference was not significant.

Gross Beta

Background samples and the Bathtub sample contained elevated concentrations of the gross beta parameter relative to other samples. However, as with the gross alpha parameter, the START had the data reviewed by U.S. EPA experts who determined that the differences were not significant.

Radioactive Elements

Radioactive elements investigated showed no elevated or significant concentrations.

CONCLUSIONS

A START investigation of subsurface soils below eight leach ponds has indicated that seven of the ponds showed no significant contamination below their synthetic liners, with the exception of the parameters iron and pH. One leach pond, the Old Raffinate pond, was found to have TPH contamination down to at least 23 feet below ground surface.

While it is clear that low-pH fluids have migrated to the subsurface in the ponds, it does not appear that other contaminants (such as metals) have migrated significantly into the subsurface.

The data presented in this report support closure of seven of the eight ponds in place, and suggest that additional investigation or remediation may be necessary in the case of the Old Raffinate pond.

ATTACHMENT 1

Quality Assurance Sampling Plan

EPA Emergency Response Section (ERS)
And Superfund Technical Assessment and Response Team (START)

Emergency Response and Time Critical
Quality Assurance Sampling Plan
For
Soil, Water and Miscellaneous Matrix Sampling

Site: Anaconda Ponds Assessment
Former Anaconda Mine
102 Burch Drive, Yerington, Nevada

TDD No. 09-07-04-0002

Date: July 6, 2007

Prepared by: Mike Schwennesen

Reviewed by: Howard Edwards

Approved by: Tom Dubbert

This sampling plan was prepared and delivered to the EPA OSC (select one):
☒ **Prior to Sampling** ☐ **Post Sampling (within one month of sampling)**

This emergency sampling plan is intended to be used in conjunction with the EPA Region 9 Emergency Response Section's Generic Data Quality Objectives (DQOs) for Emergency Responses and Time Critical Evaluations. This sampling plan has been designed to assist field responders with the collection, analysis, shipping, storing and handling of samples collected during an emergency response. The use of this generic sampling plan will involve forethought and planning that should help direct the sampling and analytical work. It is meant to be used in the case of emergency responses or time-critical responses when sampling teams may not have the opportunity to write a more thorough sampling plan. Sampling teams should always reference standard quality procedures, standard operations procedures, and standard methods for sampling and analytical guidance.

The development of this generic plan will improve the documentation, communication, planning, and overall quality associated with the sampling and analysis by:

1) encouraging field teams to consider their goals and objectives before the generation of environmental data,
2) documenting predetermined information in a standardize format,
3) increasing the communication between sampling personnel and decision makers, and
4) detailing expectations and objective before samples are collected.

1.0 Introduction and Background. *Describe the site and specify the geographic boundaries for the site and any specific areas of concern. What is the problem, what precipitated the response, which agencies and other entities (e.g., contractors) are on site, who has taken the lead for the response and for environmental clean-up actions?*

The Anaconda open-pit copper mine site covers more than 3,400 acres in the Mason Valley, near the city of Yerington, in Lyon County, central Nevada, approximately 65 miles southeast of Reno. The mine began operations in 1918 as the Empire Nevada Mine. From 1941 to 1978, Anaconda conducted mining and milling operations, processing both copper oxide and copper sulfide ores. They removed the overburden, dug the ore out of the pit, processed it, and created liquid and solid wastes. Also, the processing of the copper oxide ore involved large quantities of sulfuric acid, made in an on-site sulfuric acid manufacturing plant. In 1977, Atlantic Richfield Company (ARCO) bought Anaconda, and a decrease in copper prices, lower priced foreign imports, declining grade and amount of ore available forced the closure of Anaconda's operations in 1978. The property was sold to Don Tibbals, who conducted some mining operations and leased portions of the site to various companies. Following Anaconda's sale of the site, portions of the site were used for extracting copper from the tailing and waste rock piles and as a metal salvage and transformer recycling facility. Arimetco bought the property from Don Tibbals in 1988 and pursued leaching operations on the site, eventually building an electro-winning plant and five heap leach pads. They used piles left by Anaconda, and added some new ore, built heap leach piles and produced copper. Arimetco went bankrupt in 2000 and abandoned the site. The Nevada Division of Environmental Protection (NDEP) performed emergency removals from the site starting in 2001 until 2003 and assumed maintenance of the site in 2000.

Because of impacted groundwater and fugitive dusts at the site, the EPA proposed placing the site on the National Priorities List (NPL) in 2001. However, the State of Nevada objected since they were working on the site under a voluntary agreement with Atlantic Richfield Company. The EPA agreed to defer listing at that time in order to allow the State to continue that approach while reserving the right to reconsider listing on the NPL if that approach did not prove effective. The EPA negotiated a Scope of Work and Memorandum of Understanding with Nevada and the Bureau of Land Management (BLM) to cover further site investigations and cleanup activities, with NDEP retaining lead responsibility and the EPA providing oversight. In late 2004, NDEP requested that the EPA take the regulatory lead at the site, due to the increased complexity of contaminants at the site such as radioactive contamination. In early 2005, the EPA assumed regulatory lead of the site and issued a Unilateral Administrative Order to ARCO.

In addition to the open-pit mine, the site includes mill buildings, tailing piles, waste rock areas, liquid waste ponds, leach vats, heap leach pads, evaporation ponds, and an electrowinning plant. The open pit was dewatered to dig ore. When Anaconda operations ceased in 1978, groundwater pumping stopped, resulting in the Pit Lake. It is now about one mile long, 800 feet deep, and contains around 40,000 acre-feet of water. Anaconda mining operations generated approximately 360 million tons of ore and debris from the open pit; 15 million tons of overburden; 400 acres of waste rock placed south of the Pit; 3,000 acres of contaminated tailings; 1,377 acres of disposal ponds; 850,000 tons of copper metal; 162,000 tons of oxide and sulfide ore; and 189,000 tons of waste.

As part of the cleanup activities, the EPA and NDEP will investigate leach ponds associated with the heap leach pads, for potential closure. The heap leach pads were piles of processed ore which were washed with a dilute concentration of sulfuric acid in order to leach out additional copper from the ore. The leach ponds were the collection point for the leachate. The ponds have synthetic liners which are in poor to fairly-good condition. The heap leach process has not been conducted for years, and therefore the ponds only contain rainwater, or are dry.
(continued)

This sampling plan describes the objectives and protocols for surface and subsurface soil and sediment sampling at the leach ponds. A work plan describing the work to be performed, using drilling and direct-push equipment, will be prepared by the U.S. Environmental Response Team (ERT).

Eight leach ponds will be investigated under this sampling plan: South Slot (1 boring), Phase 1 (1 boring), Phase 1 Sediment (1 boring), Old Raffinate (1 boring), New Raffinate (1-2 borings), Mega (3-4 borings), Plant Feed (1-2 borings), and Bathtub (1 boring). Some of the ponds may not be dry at the date of the investigation, and others may not be accessible to direct-push equipment, due to steep side-slopes. Any such ponds will be investigated via angled borings drilled from outside the confines of the pond.

2.0 Objectives. *Brief statement on the general project objective. What is the overall goal or objective? Specific objectives are summarized in Table D.*

The goal of the surface and subsurface leach pond sampling is to obtain data which will be used by the EPA and NDEP for the determination of whether the ponds can be closed and potentially removed.

2.1 Data Use Objectives. (How will the data be used?)

Data that are generated will be used: (Select Appropriate Boxes)

1 ☐ To be compared with a background or reference sample(s).
2 ☐ To be compared with an available detection or quantification level.
3 ☒ To assist in determining the presence or absence of a hazardous material or substance at levels above an available detection or quantification level.
4 ☒ To assist with determining the area of impact due to a hazardous material release. (i.e., horizontal and lateral extent).
5 ☒ To be compared with site-specific action levels or risk-based action levels (e.g., EPA PRGs) to assist in determination if health threats exist.
6 ☒ As definitive confirmatory data for confirmation of non-definitive (screening) data.
7 ☐ Other objectives:

2.2 Sampling Objectives. (What are you proposing to do?)

1 ☐ Sampling to determine only the presence or absence of a hazardous substance within the area of concern.
2 ☒ Sampling to determine:

Metals, petroleum hydrocarbons, pH, and radiological contaminant levels at and below the leach ponds.

3 ☐ Sampling to determine the location of hot spots within the area of concern.

4 ☐ Surface soil sampling to estimate the lateral extent of contamination
_ of specific source area(s) or areas of concern
_ over entire site

5 ☒ Sub-surface sampling to estimate the vertical extent of contamination
☒ of specific source area(s) or areas of concern
_ over entire site.

6 ☐ Sampling off site to determine:

2.3 Sample Matrices

1 ☒ Surface soils

2 ☒ Subsurface soil
Depth(s): 1, 2, 5, 10, 20, and 30 feet below ground surface (bgs); or depths resulting from angled drilling.

3 ☐ Surface water

4 ☐ Groundwater
Depth(s):

5 ☐ Other aqueous matrices
Please specify:

6 ☐ Wipe samples

7 ☐ Biota
Please specify:

8 ☒ Other matrices: sediment residue in the bottom of pond (when found).

2.4 Data Type

In general, data type and data needs should be decided prior to data generation. The data can be generally divided into three categories: definitive methodology data (generally data generated using standardize methods), non-definitive methodology data (also referred to as screening data) and screening data with at least 10% definitive conformation. The generation of definitive data is preferable, however in emergency

and time critical situations where definitive data is not available, non-definitive data should be generated. Note that the data type is not an indicator of precision, accuracy or documentation completeness, or quality! Reported data should be verified (by a party other than the laboratory) as meeting specific quality control and data category requirements by following a verification or validation procedure. Refer to the START or ERS Quality Assurance Plans for specific quality parameters and requirements.

Check appropriate box(es):

1 ☐ Screening data will be generated. The data by itself may not be verifiable. **Due to the time critical situation, the data must be reported and may be used to make decisions.**

2a ☐ Screening data with at least 10 percent definitive data will be generated. Data using non-definitive analytical methodologies will be generated. **Due to the time critical situation, the data must be reported and may be used to make decisions prior to generation of definitive data.** The screening data by itself may not be verifiable. Screening data will be evaluated and reported with definitive data at a later time.

2b ☐ Screening data with 10 percent definitive data will be generated. Data using non-definitive analytical methodologies will be generated. **Data will not be reported until it is evaluated against definitive data.**

3a ☐ Definitive data will be generated. The sampling and analysis must be done on an emergency basis. **Due to the time critical situation, the preliminarily data must be reported and used for comparison without validation. Analytical data packages will be required**. **However, since the data was not used or intended for decision making, validation of the data package will not be performed.** (Document generic DQO deviation in Section 4.4)

3b ☒ Definitive data will be generated. **Preliminary data may be reported and may be used to make decisions without validation. The generated analytical documentation packages will be reviewed and validated. Qualified data will be reported after validation.**

3c ☐ Definitive data will be generated. **Full documentation will be required. Analytical data packages will be reviewed and validated prior to reporting.**

2.5 Contaminants of Concern

Potential contaminants of potential concern (COPC), proposed analytical method, proposed action levels and available reporting limit are summarized in Table 1.

Table 1
Contaminants of Concern

Parameter	Proposed Analytical Method	Proposed Action Level	Available Reporting Limit (approximate)
Total metals, target analyte list (23 metals) plus boron and molybdenum	EPA Method 6010B, 7471A	EPA PRGs for industrial soil*	1.0-10 mg/Kg
Toxic characteristic leaching potential (TCLP) metals (selected samples)	EPA Method 6010B, 7471A	See 40 CFR 261.24	0.01-0.5 mg/L
Volatile Organic Compounds (selected samples)	EPA Method 8260B	EPA PRGs for industrial soil	0.001-0.5 mg/Kg
Semivolatile Organic Compounds (selected samples)	EPA Method 8270C	EPA PRGs for industrial soil	0.3-1.6 mg/Kg
Radium-226	Radon Emanation following EPA 903.1 or by Gamma Spectroscopy counting DOE EML HASL-300, Th-01-RC Modified or similar method	EPA Radiation PRG for Residential Soil (0.0124 pCi/g) or Outdoor Worker Soil (0.0258 pCi/g)	1 pCi/g
Gross Alpha and Beta	EPA 900, Flow Proportional Counting	To Be Determined	To Be Determined
Gamma Emitting Radionuclides	Gamma Spectroscopy following EPA 901.1	EPA Radiation PRGs dependent on detected	1 pCi/g
pH (Soil)	SW-846 Method 9045	>10, <4	<±0.1 pH unit

Total Petroleum Hydrocarbons (as kerosene) (selected samples)	EPA Method 8015m	100 mg/Kg	10 mg/kg
Other Data Collection Activity (non-chemical) *(circle all that apply)*	GPS Photography		

*NOTE: PRG = EPA Region 9 Preliminary Remediation Goal. For some analytes , e.g., arsenic, use of the PRG as an action level will not be appropriate, due to elevated background concentrations for the analyte in the area of the site. In such a case, the action level will be determined by statistical means based on data currently being generated, by entities other than the START, regarding background site conditions.

3.0 Approach and Sampling Methodologies

3.1 Sampling Approach

Indicate sampling approaches to be used (select approach)

1 ☐ Due to the lack of site information the approach will be determined in the field based on professional judgment of START.

2 ☐ Due to the lack of site information the approach will be determined in the field based on professional judgment of US EPA.

3 ☐ Due to the lack of site information the approach will be determined in the field based on professional judgment of local regulator.

4 ☒ Judgmental (Biased)

5 ☐ Random

6 ☐ Systematic

7 ☐ Transects

8 ☐ Search-Grid

3.2 Field Analysis Equipment

Field analysis equipment requirements are summarized in Table 2.

Table 2
Field Analytical Equipment

Analysis Equipment Specify the field analytical procedures to be used. Select the appropriate boxes.	**Model**	**Analyses**	**Matrix**	**Resource/ Contractor**
☐ X-Ray Fluorescence (XRF) Device [for metals]				
☐ Lumex (XRF) Mercury Instrument				
☐ Oil Analysis Kit [for oils]				
☐ Immunoassay Test Kits [pesticides, oils, chlorinated substances]				
☐ Chlor-N-Soil/Chlor-N-Oil test kits[PCBs, chlorinated substances]				
☐ pH Meter				
☒ Other field tests – pH soils (pH paper)	N/A	pH	Soil	START
☒ Radiation Meters	Ludlum Model 19	Gross gamma radiation (µR/hr)	Surface Soil	EPA Region 9, ORIA
☒ Radiation Meters	Ludlum Model 2241-2 with Model 44-10 or Model 44-20	Gross gamma radiation (cpm)	Surface Soil	EPA Region 9, ORIA
☒ Radiation Meters	Ludlum 2241-3 with Model 44-62	Gross gamma radiation (cpm)	Subsurface soil	ORIA
☒ Photoionization detector (PID)	MultiRae	Field VOCs	Soil	START

☒ Flame Ionization Detector (FID)	TVA-1000	Field VOCs	Soil	START
☐				

3.3 Field Sampling Equipment

Field equipment requirements are summarized in Table 3.

Table 3
Field Sampling and Decontamination Equipment

Analyses and Matrix	Sampling Equipment	Dedicated or Reusable	Decontamination Solution	Resource/ Contractor
All laboratory analyses for surface sediments	Trowels, mixing bucket for composites and duplicate samples	Dedicated	NA	START
All laboratory analyses for subsurface soils	End caps for direct-push probe sleeves or split spoon sample sleeves. Hand auger for 1- and 2-foot depth samples	Dedicated Non-dedicated	N/A Deionized water/ Alconox	START
pH (soil)	Wooden spatulas, disposable cups, pH paper, squirt bottle of deionized water	Dedicated (except for squirt bottle)	N/A	START
VOCs	Encore® samplers	Dedicated	N/A	START

Add additional pages if necessary.

3.4 Field Methods and Procedures

3.4.1 Sample Locations and Sampling Procedures

The leach ponds to be sampled have been specified by the EPA. Soil boring locations in each pond will be determined in the field, and will be placed at the lowest point in the pond, when possible. Otherwise, the boring locations for single-boring ponds will be located as close to the center of each pond as possible. For ponds which will require more than one soil boring, the borings will be evenly distributed throughout the pond area, to the extent practicable. In some instances, due to steep pond walls or liquid in the pond, it will not be possible to mobilize the drilling equipment into the pond, and angled borings will be advanced from an accessible side of the pond. The rationale for the sampling depths (specified in Section 2.3) is to attempt to adequately characterize the vertical subsurface below the ponds. The depths were determined by EPA/ERT/START consensus. The specific ponds which will be sample are:

South Slot (1 boring)
Phase 1 (1 boring)
Phase 1 Sediment (1 boring)
Old Raffinate (1 boring)
New Raffinate (1-2 borings)
Mega (3-4 borings)
Plant Feed (1-2 borings)
Bathtub (1 boring)

Pond locations are shown on Figure 1. Direct-push drilling equipment will be used whenever possible, and samples will be collected in an acetate or similar-type sleeve, glass sample jar, or (for VOCs analyses) Encore® samplers. Hollow-stem or sonic drilling techniques may be utilized, which will require the use of a split spoon sampling system to collect undisturbed samples when VOCs analyses are required (see below). Surface- through 2-foot-depth samples may be collected by hand, using dedicated, disposable trowels and a hand auger.

VOCs and SVOCs samples will only be collected in the Raffinate ponds, where kerosene was known to be used, unless a field photoionization detector or flame ionization detector instrument indicates volatile organics concentrations greater than background for a particular boring or sampling interval (determined by placing the detector probe into the borehole, next to the drill cuttings, or in the split spoon shoe (if used).

Once a surface sample has been collected, the composite pond liner will be cut to allow subsurface access. Upon backfilling of the completed boring with a bentonite grout, the pond liner will be restored to a watertight integrity, unless the EPA indicates that such is not necessary for a particular pond.

Table 4 lists the soil boring analytical parameters for each leach pond.

Map of the site and any areas of concern:

Figure 1 **Sample Location Map**
See Attached Figure 1

Add additional maps if necessary.

Fig 1

Table 4
Soil Boring Analytical Parameters
Anaconda Ponds Assessment
July-August, 2007

Team 9 TDD: TO5-09-07-04-0002

Leach Pond	No. of Soil Borings*	Analytical Parameters
South Slot	1	- RAD* ALL SAMPLE DEPTHS: - Total Metals (25 metals) - pH
Bathtub	1	Same as South Slot
Plant Feed	1-2	Same as South Slot
Old Raffinate	1	Same as above, plus: - TPH (kerosene) - VOCs (possibly just shallower depths - screen w/ field PID and/or FID) - SVOCs (all samples for which VOCs are analyzed)
Phase 1 Sediment	1	Same as South Slot
Phase 1	1	Same as South Slot
Mega	3-4	Same as South Slot
New Raffinate	1-2	Same as Old Raffinate

*-Sampling depths are: surface, 1 foot, 2 feet, 5 feet, 10 feet, 20 feet, and 30 feet bgs. If angled borings must be used, sampling depths will be based on calculations based on the angle of the drill, and will approximate the above intervals to the extent practicable.
** - RAD = Radionuclide analytical parameters and sampling intervals to be determined by downhole gross gamma monitoring with a Ludlum 2241-3 and Model 44-62 sodium iodide scintillation detector.

3.4.2 Sample Labeling and Documentation

Sample Jar/Sleeve Labels
Sample labels will clearly identify the particular sample and should include the following:

1. Site name
2. Time and date samples were taken
3. Sample preservation
4. Analysis requested
5. Sample location and/or identification number

Sample labels will be securely affixed to the sample container.

Chain of Custody Record
A chain of custody record will be maintained from the time the sample is taken to its final deposition. Every transfer of custody must be noted and signed for, and a copy of this record kept by each individual who has signed. When samples (or groups of samples) are not under direct control of the individual responsible for them, they must be stored in a secured container sealed with a custody seal.

The chain of custody record should include (at minimum) the following:

1. Sample identification number
2. Sample information
3. Sample location
4. Sample date and time
5. Names(s) and signature(s) of sampler(s)
6. Signature(s) of any individual(s) with control over samples

Custody Seals

Custody seals demonstrate that a sample container has not been tampered with or opened. The individual in possession of the sample(s) will sign and date the seal, affixing it in such a manner that the container cannot be opened without breaking the seal. The name of this individual, along with a description of the samples= packaging, should be noted in the field book.

All sample documents will be completed legibly in ink. Any corrections or revisions will be made by lining through the incorrect entry and by initialing the error. These include the logbooks, the chain of custody forms, this field sampling plan and any other tracking forms.

Field Logbook

The field logbook is essentially a descriptive notebook detailing site activities and observations so that an accurate account of field procedures can be reconstructed in the writer's absence. All entries will be dated and signed by the individuals making the entries and will include the following:

1. Site name and project number
2. Names of sampling personnel
3. Dates and times of all entries (military time preferred)
4. Descriptions of all site activities, especially sampling start and ending times. Include site entry and exit times
5. Noteworthy events and discussions
6. Weather conditions
7. Site observations
8. Identification and description of samples and locations
9. Subcontractor information and names of on-site personnel
10. Date and time of sample collections, along with chain of custody information
11. Record of photographs
12. Site sketches
13. Exact times of various activities and occurrences related to sampling
14. Deviations from standard procedures or methods and the rational for the deviations.

3.4.3 Sample Containers and Preservatives

Containers and preservatives are summarized in Table 5.

Table 5

Containers and Preservatives			
Analyses and Matrix	**Container Type (per sample)**	**Preservation Method**	**Holding Time**
Total Metals –EPA Method 6010B/7471A Sediment/Soil	One 8-ounce glass jar or one 6-inch sleeve for all analyses on the left	Ice	180 days 28 days (mercury)
pH Sediment/Soil			ASAP
Total Petroleum Hydrocarbons (as kerosene) EPA 8015m			14 days to extract; 40 days to analyze
TCLP metals - EPA Method 6010B, 7471A			180 days 28 days (mercury)
Semivolatile Organic Compounds - EPA Method 8270C			7 days to extract; 40 days to analyze
VOCs – EPA Method 8260B	Encore® Sampler	Ice	48 hours to extract; 14 days to analyze
Radiological	1 quart ziplock bag	None	180 days

Add additional pages if necessary.

3.5 Analytical Methods and Procedures

The analytical methods per sample and sample location are presented in Table 6. General field QC considerations and requirements are presented in Table 7.

Table 6 **Sample Locations and Data Objective** **Summary**					
Sampling Locations and Identifiers should correspond to location indicated on Figure 1					
Sample Location(s) **(should match with 3.3.1 and Figure A)**	**Sample Identifiers**	**Analytical Method** **Refer to Table A**	**Data Use Objective(s)** **Refer to Section 2.1**	**Data Category** **Refer to Section 2.3**	**Samples Matrix**
All leach ponds	Leach pond name (complete or abbreviated) - boring number – depth (E.g, RAFF-1-5; Phase1Sed-1-30)	All	Compare with industrial PRGs or site-specific action levels which are TBD	Surface and subsurface soils/sediment	Soil/sediment

Add additional pages if necessary.

3.6 Quality Assurance and Quality Control

General field QA/QC considerations and requirements are presented in Table 7.

Table 7
Quality Control Samples and Data Quality Indicator Goals

QC Sample	Number/Frequency	Data Quality Indicator Goals & Evaluation Criteria	Comments/Exceptions *Site specific remarks:*
FIELD SPECIFIED QA/QC			
Background or reference sample	At least one sample should be collected from an area believed to be unaffected by source contamination.	Source samples should be at least 3 times background.	Surface soil *Not part of project scope.*
Field Blanks	1 per SDG[1], per matrix, per method	Source samples should be at least 3 times the blank.	Water only. *: Not Required*
Travel Blanks	1 per SDG, per matrix, per method	Source samples should be at least 3 times the blank.	Volatile analytes, water only. *: Not Required*
Equipment Blanks	1 per SDG, per matrix, per method	Source samples should be at least 3 times the blank.	Only when the use of decontaminated non-dedicated equipment is involved. *One equipment blank water sample will be prepared from the hand auger (if used).*
Field Duplicates or Replicates	1 per SDG, per matrix, per method	Water - 25% RPD[2] Soil - 35% RPD[2] Other - 35%	As needed by sampling objectives. The procedure for collecting duplicate samples can greatly effect the reproducibility. *: One field duplicate will be prepared for every 20 samples collected, for each analytical parameter.*
Performance Standards	1 per project, per matrix, per method	75 -125 %R[3]	If available. *: Not Required*
SELECTED LABORATORY QA/AC			
Method Blank	1 per SDG, per matrix, per method	Stds and samples should be at least 3 times the blank.	Mandatory.
Matrix Spike	1 per SDG, per matrix, per method on field designated sample.	75 -125 %R	Designate sample on COC.
Matrix Spike Duplicate or Replicate	1 per SDG, per matrix, per method on field designated sample.	≤50 RPD for organics; ≤20 RPD for metals	Designate sample on COC.
Reference Standards	1 per SDG, per matrix, per method	75 -125 %R	If available.
Internal Standards	All samples	50 -200 %R	All GC/MS and some GC analyses only.
Laboratory Control Standards	1 per SDG, per matrix, per method	75 - 125 %R	Per method for organic analyses.

[1] SDG = Sample Delivery Group (Maximum 20 samples)
[2] RPD = Relative Percent Difference
[3] %R = Percent Recovery

4.0 Project Organization and Responsibilities

4.1 Schedule of Sampling Activities

Sampling activities are summarized in Table 8.

Table 8
Proposed Schedule of Work For Sampling Activities

Activity	Start Date	End Date
Sample Leach Ponds	07/29/07	08/14/07

Add additional pages if necessary.

4.2 Project Laboratories

Laboratories used for this project are summarized in Table 9.

Table 9
Laboratories

Lab Name/ Location	Methods
USEPA Region 9 Laboratory, Richmond, CA	All (except radiological analyses)
Radiological samples laboratory (to be determined by ERT)	All radiological analyses

Add additional pages if necessary.

4.3 Project Personnel and Responsibilities

Personnel and responsibilities are summarized in Table 10.

Table 10
Sample Team(s) Personnel

Personnel (Agency)	Responsibility
Michael Schwennesen or designee (START)	Sample Collection, QA/QC
Patrick Aiken (START)	Sample Collection, Health & Safety
Tom Dunkelman (EPA)	Overall project management

Add additional pages if necessary.

4.4 Modification or Additions to the Generic Data Quality Objective for Emergency and Time Critical Sampling

Project specific modification to the generic DQO statements for this are summarized in Table 11. Also indicate which DQO step corresponds to the addition or modification.

Table 11
DQO Modifications and Additions

Additions or Modifications to the Generic DQO Output Statements	DQO Step
NONE	

Add additional pages if necessary.

ATTACHMENT 2

Tables

Table 1
Validated Soil Sample Results
Total Metals and pH
USEPA 6000/7000 Series Methods and 9045C Method
Anaconda Ponds Assessment
Metals Concentrations in Milligrams per Kilogram, dry weight
Samples Collected 7/30/07 - 8/1/07

	Mercury	Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium (III)	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Molybdenum	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	pH
2004 USEPA PRG (Residential)*→	23	76000	31	0.39**	5400	150	16000	37	-	100000	900	3100	23000	400	-	1800	390	-	-	390	390	-	5.2	78	23000	-
2004 USEPA PRG (Industrial)*→	310	100000	410	1.6**	67000	1900	100000	450	-	100000	1900	41000	100000	800	-	19000	5100	-	-	5100	5100	-	67	1000	100000	-
Old Raff 1-Surface	6.8	13000	<2.7	7.9	140	0.92	12	<0.67	910	21	20	2800 J	6600	**46000**	7900 J	270 J	7	23	1200	3.3	0.74	1500 J	<6.7	8.9	29	2.3 J
Old Raff 1-1'	0.053	12000	<2.2	5.2	72	0.37	<11	<0.54	10000 J	11	4.8	440	16000	4.7	4700 J	140	<5.4	6.7	1900	<2.2	<1.1	270	<5.4	41	25	4.0 J
Old Raff 1-2'	0.070	11000	<2.1	4.8	84	0.33	<11	<0.53	6900 J	12	4.5	400	21000	4.4	4500 J	130	<5.3	6.9	2400	<2.1	<1.1	250	<5.3	59	27	3.7 J
Old Raff 1-5'	0.097	11000	<2.2	4.4	54	0.36	<11	<0.54	9900 J	8.1	4.5	460	12000	3.5	3600 J	120	<5.4	7.7	1400	<2.2	<1.1	220	<5.4	28	27	4.2 J
Old Raff 1-10'	0.021	18000	<2.2	6.0	48	0.70	9.5	<0.55	13000 J	12	10	680	19000	4.2	5000 J	240	<5.5	10	2600	<2.2	<1.1	280	<5.5	44	37	4.3 J
Old Raff 1-20'	0.10	13000	<2.2	6.5	89	0.52	13	<0.56	8200 J	10	12	97	17000	5.8	6000 J	460	<5.6	12	2100	<2.2	<1.1	460	<5.6	40	30	7.3 J
Old Raff 1-22'	<0.028	14000	<2.3	9.1	110	0.28	14	<0.57	28000 J	9.1	6.5	220	9100	5.3	7600 J	470	<5.7	8.4	2800	<2.3	<1.1	560	<5.7	41	34	7.7 J
Old Raff 1-30'	<0.027	780	<2.1	6.9	60	0.14	9.2	<0.53	9400 J	6.8	4.7	59	6500	5.1	4700 J	180	<5.3	5.6	1500	<2.1	<1.1	290	<5.3	35	20	8.1 J
New Raff 1-Surface	17	10000	<2.1	4.7	100	0.64	<10	<0.52	4000	36	15	2100 J	9100	**7500**	6000 J	200 J	6.5	33	5000	1.2	<1.0	2100 J	<5.2	11	24	2.5 J
New Raff 1-1'	0.38	3600	<2.2	<2.2	49	0.05	<11	<0.54	7000 J	2.0	1.5	360	1400	3.3	1300 J	19	2.8	<5.4	1200	<2.2	<1.1	290	<5.4	8.0	<8.6	2.4 J
New Raff 1-2'	0.13	5700	<2.2	2.6	45	0.04	<11	<0.54	5300 J	8.1	3.2	450	1200	<3.2	4700 J	39	4.5	5.7	3900	2.2	<1.1	670	<5.4	20	11	2.8 J
New Raff 1-5'	<0.26	6900	<2.0	<2.0	66	0.11	<9.9	<0.50	4100 J	7.4	3.0	68	6700	3.5	3500 J	72	<5.0	4.6	1700	<2.0	<0.99	180	<5.0	34	17	3.4 J
New Raff 1-10'	0.014	11000	<2.1	6.7	80	0.23	6.0	<0.53	11000 J	14	5.7	200	9900	5.0	4000 J	140	<5.3	9.0	2000	<2.1	<1.1	520	<5.3	56	28	3.7 J
New Raff 1-20' (refusal depth)	<0.07	15000	<2.2	7.2	83	0.36	11	<0.54	21000 J	8.3	11	240	7000	3.2	6200 J	260	<5.4	14	2000	<2.2	<1.1	580	<5.4	37	35	6.8 J
Bathtub 1-Surface	0.043	26000	<2.8	<2.8	16	2.0	<14	0.37	4700	7.4	47	**5600 J**	4900	<4.2	22000 J	550 J	<6.9	35	950	<2.8	<1.4	3600 J	<6.9	9.4	67	2.2 J
Bathtub 1-1'	0.46	15000	<2.5	14	77	0.53	<13	<0.63	8000	15	11	630 J	**24000**	3.2	10000 J	130 J	<6.3	13	3500	2.4	<1.3	500 J	6.3	40	23	2.9 J
Bathtub 1-2'	0.033	11000	<2.2	9.1	69	0.38	<11	<0.55	7900	14	6.2	460 J	**27000**	4.9	4900 J	110 J	<5.5	7.5	2700	<2.2	<1.1	1400 J	<5.5	56	25	3.1 J
Bathtub 1-5'	<0.027	11000	<2.0	6.9	72	0.43	7.1	<0.50	14000	16	5.8	360 J	20000	3.7	5200 J	120 J	<5.0	7.2	2200	<2.0	<1.0	500 J	<5.0	65	26	3.4 J
Bathtub 1-10'	0.12	20000	1.5 J	14	95	1.2	13	0.28	10000	12	11	2400 J	20000	5.4	4800 J	260 J	<5.4	11	2400	<2.2	<1.1	370 J	<5.4	36	30	4.0 J
Bathtub 1-12'	0.045	18000	<2.2	8.8	91	1.0	10	<0.54	11000	11	13	1400 J	16000	4.3	5100 J	290 J	<5.4	11	2300	<2.2	<1.1	390 J	<5.4	37	37	4.0 J
Bathtub 1-20'	<0.027	9000	<2.1	4.5	64	0.36	5.8	<0.53	6500	7.6	4.5	72 J	12000	3.8	5200 J	270 J	<5.3	7.5	2200	<2.1	<1.1	380 J	<5.3	31	22	8.1 J
Bathtub 1-30'	<0.026	7600	<2.1	5.3	65	0.30	<10	<0.52	5900	7.9	4.4	60 J	12000	3.4	4800 J	220 J	<5.2	6.2	1200	<2.1	<1.0	640 J	<5.2	31	20	8.1 J
Plant Feed 1-Surface	0.36	17000	<2.1	2.4	24	1.1	5.3	<0.53	27000 J	8.9	34	2200	8500	30	12000	410 J	<5.3	23	1600	<2.1	<1.1	1500	<5.3	14	39	2.9 J
Plant Feed 1-1'	0.45	9700	<2.2	4.8	56	0.31	<11	<0.56	6600 J	15	5.7	370	18000	3.6	7400	77 J	<5.6	10	2900	1.1	<1.1	250	<5.6	34	17	3.2 J
Plant Feed 1-2'	0.060	11000	<2.2	5.6	65	0.45	<11	<0.54	9200 J	8.3	11	650	12000	4.3	4600	210 J	<5.4	8.3	1800	<2.2	<1.1	370	<5.4	31	28	3.6 J
Plant Feed 1-5'	0.016	8900	<2.1	7.1	44	0.34	8.0	<0.52	8100 J	7.4	4.6	82	12000	4.0	5200	230 J	<5.2	6.3	1600	<2.1	<1.0	530	<5.2	34	24	8.1 J
Plant Feed 1-10'	<0.026	7800	<2.0	6.7	87	0.36	7.4	<0.50	6400 J	7.3	3.9	79	11000	4.3	3300	190 J	<5.0	5.0	1400	<2.0	<0.99	1100	<5.0	31	22	8.9 J
Plant Feed 1-20'	<0.027	8100	<2.1	9.7	67	0.38	11	<0.53	13000 J	6.5	4.5	110	11000	3.9	4700	160 J	<5.3	6.0	1600	<2.1	<1.1	1100	<5.3	32	19	9.0 J
Plant Feed 1-27'	<0.027	9300	<2.1	6.0	66	0.37	11	<0.53	7000 J	7.6	5.0	81	12000	4.9	4500	240 J	<5.3	6.2	1700	<2.1	<1.1	1100	<5.3	34	24	8.5 J
Plant Feed 1-30'	<0.028	15000	<2.2	12	100	0.55	21	<0.56	28000 J	9.4	5.9	95	16000	5.0	6600	300 J	<5.6	7.8	3100	<2.2	<1.1	1600	<5.6	39	33	8.5 J
S. Slot-1-Surface	0.58	29000	<2.1	8.2	47	1.9	14	0.50	8300	9.8	67	2700	13000	<3.2	25000	710	<5.3	44	2400	<2.1	<1.1	3200	<5.3	36	78	2.8 J
S. Slot 1-1'	0.033	33000	<2.4	31	170	1.3	85	0.66	33000	18	12	390	**30000**	11	15000	620	4.1	17	8100	<2.4	<1.2	3400	<6.0	90	69	7.9 J
S. Slot 1-2'	<0.030	30000	<2.4	17	160	1.2	42	0.57	49000	15	11	300	**27000**	9.6	14000	520	<6.0	14	6200	<2.4	<1.2	3800	<6.0	69	62	8.8 J
S. Slot 1-5'	<0.030	17000	<2.4	10	86	0.72	26	0.36	38000	14	9.1	120	19000	6.5	6800	310	<6.0	10	4400	<2.4	<1.2	2200	<6.0	57	40	9.2 J
S. Slot 1-10'	<0.028	17000	<2.2	5.9	100	0.63	19	<0.56	4500	11	5.9	170	18000	5.1	6300	220	<5.6	10	3800	<2.2	<1.1	2200	<5.6	43	35	8.4 J
S. Slot 1-20'	<0.027	11000	<2.2	6.9	89	0.73	7.6	<0.55	5300	8.3	4.8	350	12000	3.5	5000	150	<5.5	7.2	1700	<2.2	<1.1	360	<5.5	34	20	6.1 J
S. Slot 1-24' (refusal depth)	<0.026	11000	<2.1	1.4	9.5	0.33	<10	<0.62	2900	1.6	2.5	96	2600	<3.1	14000	26	<5.2	5.0	990	<2.1	<1.0	61	<5.2	5.8	5.5	5.0 J
Mega-1-Surface	0.063	43000	<5.7	3.0	26	4.9	<57	0.85	4300	17	98	**6100**	9700	11	32000	1500	<14	54	<2900	<5.7	<2.9	4400	<14	14	100	2.7 J
Mega-1-1'	0.18	7900	<2.1	7.5	50	0.50	<10	<0.52	5600	9.8	3.8	500	11000	<3.1	5200	79	<5.2	8.3	1900	4.2	<1.0	130	<5.2	38	16	4.0 J
Mega-1-2'	0.18	7800	<2.1	9.8	70	0.30	<10	<0.52	5500	7.4	4.6	260	14000	4.2	3400	170	<5.2	5.8	1500	5.1	<1.0	300	<5.2	34	20	7.8 J
Mega-1-3'	<0.026	7900	<2.1	5.4	60	0.33	6.0	<0.52	5700	7.1	3.6	31	12000	3.6	2900	210	<5.2	4.9	1400	<2.1	<1.0	430	<5.2	34	24	8.7 J
Mega-1-5'	<0.026	7400	<1.9	4.9	55	0.32	6.3	<0.49	5000	6.4	3.3	31	11000	4.0	2700	220	<4.9	4.4	1200	<1.9	<0.97	360	<4.9	29	22	8.9 J
Mega-1-10' (end depth)***	<0.026	5500	<2.1	4.5	56	0.27	<10	<0.52	4400	5.1	2.7	56	9400	2.8	2100	160	<5.2	3.8	950	<2.1	<1.0	330	<5.2	23	17	8.9 J
Mega-2-Surface	0.017	44000	<2.8	<2.8	<14	2.9	<28	0.46	480	10	130	**7500**	3000	<4.2	54000	1000	<6.9	84	<1400	<2.8	<1.4	6500	<6.9	8.9	150	3.0 J
Mega-2-1'	No analytical results. Sample jar broken during shipment to laboratory.																									
Mega-2-2'	<0.026	6400	<2.1	5.1	41	0.26	<10	<0.52	5600	6.0	3.6	60	10000	2.8	3000	160	<5.2	4.5	1300	<2.1	<1.0	200	<5.2	29	17	8.3 J
Mega-2-5'	<0.026	7200	<2.1	4.5	52	0.27	<10	<0.52	3900	8.1	3.8	48	11000	3.6	2900	190	<5.2	5.1	1400	<2.1	<1.0	280	<5.2	33	20	8.0 J
Mega-2-10'	No analytical results. Sample jar broken during shipment to laboratory.																									
Mega-2-20'	0.062	19000	<2.2	8.9	110	0.82	12	0.39	7200 J	14	7.4	110	22000	8.0	6800 J	390	<5.6	11	3900 J	<2.2	<1.1	530	<5.6	52	48	8.2 J

Table 1
Validated Soil Sample Results
Total Metals and pH
USEPA 6000/7000 Series Methods and 9045C Method
Anaconda Ponds Assessment
Metals Concentrations in Milligrams per Kilogram, dry weight
Samples Collected 7/30/07 - 8/1/07

	Mercury	Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium (III)	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Molybdenum	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	pH
2004 USEPA PRG (Residential)*→	23	76000	31	0.39**	5400	150	16000	37	-	100000	900	3100	23000	400	-	1800	390	-	-	390	390	-	5.2	78	23000	-
2004 USEPA PRG (Industrial)*→	310	100000	410	1.6**	67000	1900	100000	450	-	100000	1900	41000	100000	800	-	19000	5100	-	-	5100	5100	-	67	1000	100000	-
Mega-2-30'	No analytical results. Sample jar broken during shipment to laboratory.																									
Mega-3-Surface	0.15	18000	<2.1	2.5	30	1.5	<11	0.29	3500	13	34	2500 J	11000	<3.2	14000	380 J	<5.3	25	1500	<2.1	<1.1	1600	<5.3	18	43	2.9 J
Mega-3-1'	0.014	8600	<2.1	5.4	60	0.32	<10	<0.52	4800	12	4.4	81 J	14000	3.6	3500	200 J	2.8	6.2	1600	<2.1	<1.0	280	<5.2	36	23	8.0 J
Mega-3-2'	<0.026	6600	<2.1	4.3	43	0.24	<10	<0.52	5400	6.5	3.4	45 J	12000	2.6	2800	170 J	<5.2	4.3	1100	<2.1	<1.0	250	<5.2	31	19	8.3 J
Mega-3-5'	<0.026	5400	<2.1	4.2	44	0.21	<10	<0.52	7300	6.4	2.9	58 J	9600	<3.1	2600	130 J	<5.2	4.7	920	<2.1	<1.0	220	<5.2	26	15	8.7 J
Mega-3-10'	<0.026	8500	<2.1	6.1	55	0.33	6.4	<0.52	9300	8.6	4.3	81 J	14000	3.3	4100	220 J	<5.2	5.9	1500	<2.1	<1.0	350	<5.2	38	23	8.9 J
Mega-3-20'	<0.027	14000	<22	<22	99	1.1	<110	<5.4	5900	11	<22	79 J	17000	<33	4500	330 J	<54	<54	2700	<22	<11	470	<54	42	48	8.6 J
Mega-3-30'	<0.026	6100	<2.1	4.8	50	0.27	<10	<0.52	3700	5.8	3.5	48 J	12000	2.6	2800	180 J	<5.2	4.1	1100	<2.1	<1.0	460	<5.2	30	20	9.8 J
Phase 1-1-Surface	0.43	34000	<4.3	<4.3	30	2.6	<22	<1.1	1800	9.7	81	**6200 J**	5100	**470**	27000	890 J	<11	50	1000	<4.3	<2.2	3400	<11	8.0	80	2.2 J
Phase 1-1-1'	0.30	11000	<2.2	6.8	57	0.25	<11	<0.54	5000	7.0	4.7	1100 J	15000	2.9	7900	86 J	3.5	7.6	1800	3.0	<1.1	170	<5.4	33	15	4.0 J
Phase 1-1-2'	0.083	12000	<2.2	4.9	90	0.40	6.4	<0.54	6400	9.6	4.9	420 J	15000	4.0	4900	210 J	<5.4	7.2	2100	<2.2	<1.1	320	<5.4	40	31	7.7 J
Phase 1-1-5'	0.022	8700	<2.1	4.3	59	0.33	<11	<0.53	9600	6.9	4.0	70 J	12000	3.1	3800	190 J	<5.3	6.2	1300	<2.1	<1.1	260	<5.3	31	22	8.3 J
Phase 1-1-10'	<0.026	6200	<2.1	5.8	41	0.38	<10	<0.52	3400	8.8	3.4	26 J	18000	2.7	2500	190 J	<5.2	4.7	1100	<2.1	<1.0	250	<5.2	43	22	8.5 J
Phase 1-1-15'	0.021	16000	<2.3	10	130	0.59	17	<0.57	26000	12	7.2	78 J	19000	6.2	7000	380 J	<5.7	10	3000	<2.3	<1.1	600	<5.7	51	38	8.5 J
Phase 1-1-20'	<0.l027	11000	<2.1	10	110	0.53	8.3	<0.53	6700	7.4	5.6	100 J	18000	5.4	4600	340 J	<5.3	6.1	2200	<2.1	<1.1	500	<5.3	46	30	8.7 J
Phase 1-1-28' (refusal depth)	<0.026	11000	<2.1	7.7	98	0.46	15	<0.53	14000	7.7	5.1	100 J	16000	4.5	4900	270 J	<5.3	6.6	2300	<2.1	<1.1	720	<5.3	40	27	9.4 J
Phase 1 Sediment-1-Surface	0.067	40000	<2.1	<2.1	8.2	2.1	<21	0.41	860	5.7	98	**8500 J**	3200	55	32000	1000 J	<5.1	48	<1000	<2.1	<1.0	4500	<5.1	4.9	93	2.4 J
Phase 1 Sediment-1-1'	0.34	11000	1.1 J	6.1	59	0.22	<10	<0.52	4900	7.2	4.9	690 J	14000	4.2	8900	66 J	3.3	7.8	1600	3.2	<1.0	160	<5.2	28	12	3.6 J
Phase 1 Sediment-1-2'	0.31	9600	<2.1	7.0	50	0.18	<11	<0.53	4900	6.1	3.3	680 J	14000	3.1	7100	49 J	2.7	6.1	1300	3.4	<1.1	120	<5.3	28	10	3.7 J
Phase 1 Sediment 1-5'	0.015	16000	<2.2	7.3	88	0.64	12	<0.56	14000	12	5.9	74 J	18000	5.7	5900 J	210 J	<5.6	8.5	2700	<2.2	<1.1	1100 J	<5.6	42	35	8.9 J
Phase 1 Sediment 1-10'	<0.026	7700	<2.1	8.1	59	0.30	5.8	<0.53	13000	6.8	3.7	59 J	11000	3.7	3700 J	240 J	<5.3	5.3	1400	<2.1	<1.1	1000 J	<5.3	31	22	9.6 J
Phase 1 Sediment 1-20'	<0.028	11000	<2.2	13	68	0.42	13	<0.56	24000	8.3	6.2	76 J	15000	5.1	5500 J	260 J	<5.6	7.9	1900	<2.2	<1.1	1300 J	<5.6	39	28	9.5 J
Phase 1 Sediment 1-27' (refusal depth)	0.014	12000	<2.2	9.6	61	0.56	14	<0.54	6300	10	7.9	270 J	16000	4.3	4700 J	210 J	<5.4	7.5	2100	<2.2	<1.1	510 J	<5.4	45	28	4.4 J

J - Estimated concentration or pH value

*-USEPA Preliminary Remediation Goal (PRG) for Residential/Industrial Soil

**- For the Anaconda Ponds site, which has arsenic concentrations well above the PRG, a potential action level has not yet been determined.

*** - Mega-1 boring sampling was discontinued after ten-foot depth due to pond liquids infiltrating down-hole.

Results in **bold** exceed either the industrial or residential PRG potential site-specific action level

Table 2
Validated Soil Sample Results
Total Petroleum Hydrocarbons by USEPA Method 8015B
Anaconda Ponds Assessment
Milligrams per Kilogram, dry weight
Samples Collected 8/1/07

	TPH (as kerosene)	TPH (as motor oil)
Nevada Corrective Action Level→	100	100
Old Raff 1-Surface	**75000 J**	NF
Old Raff 1-1'	**3400**	NF
Old Raff 1-2'	**7200**	NF
Old Raff 1-5'	**5200**	NF
Old Raff 1-10'	**7300 J**	NF
Old Raff 1-20'	**5000 J**	NF
Old Raff 1-23'	**7200 J**	NF
Old Raff 1-30'	5.0	NF
New Raff 1-Surface	**9200 J**	**5800 J**
New Raff 1-1'	22	NF
New Raff 1-2'	5.9 J	NF
New Raff 1-5'	<5.3 UJ	NF
New Raff 1-10'	3.7 J	NF
New Raff 1-20'	<5.4 UJ	NF

Results in **bold** exceed site-specific action level
J - Estimated concentration
UJ - Estimated concentration, non-detected analyte
NF - Not found

Table 3
Validated Sample Results
Semivolatile Organic Compounds by USEPA Method 8270D
Anaconda Ponds Assessment
Detected Compounds Only
Micrograms per Kilogram, dry weight (ug/kg)
Samples Collected 8-1-07

	2-Methyl-naphthalene	1-Methyl-naphthalene	Fluorene	Phenanthrene	Di-n-butyl phthalate	Bis(2-ethylhexyl) phthalate	Di-n-octyl phthalate	Total Tentatively Identified Compounds (as total hydrocarbon)
USEPA PRG (Residential)→	56000 (naphthalene)		2700000	--	6100000	35000	2400000	100000*
USEPA PRG (Industrial)→	190000 (naphthalene)		26000000	--	62000000	120000	25000000	
Old Raff 1-Surface	<11000 R	<11000 R	21000 J	95000 J	<11000 R	11000 J	<11000 R	**32000000** J
Old Raff 1-1'	600	980	990	1700	<350	<350	<350	**980000** J
Old Raff 1-2'	440	1200	1300	2300	<350	<350	<350	**2400000** J
Old Raff 1-5'	<350	<350	400 J	400 J	<350	<350	<350	**1800000** J
Old Raff 1-10'	370	2700	1200	3100	<360	<360	<360	**2200000** J
Old Raff 1-20'	1000	2800	1000	1300	<370	<370	<370	**1900000** J
Old Raff 1-23'	900	3300	1300	1400	<400	<400	<400	**3693000** J
Old Raff 1-30'	<35 UJ	<35 UJ	<35 UJ	<35 UJ	<35 UJ	<35 UJ	<35 UJ	620 J
New Raff 1-Surface	<1400	<1400	2300 J	9700 J	<1400	1500 J	890 J	**2500000** J
New Raff 1-1'	<35	<35	<35	<35	34	<35	<35	1820 J
New Raff 1-2'	<35	<35	<35	<35	38	<35	<35	210 J
New Raff 1-5'	<35	<35	<35	<35	30	<35	<35	NF
New Raff 1-10'	<35	<35	<35	<35	<35	<35	<35	NF
New Raff 1-20'	<35	<35	<35	<35	35	<35	<35	NF

* - Nevada Corrective Action Level
Results in **bold** exceed a potential site-specific action level
J - Estimated concentration
UJ - Estimated reporting limit, non-detected analyte
R - Due to poor surrogate recovery, the reported reporting limit concentration above which the analyte was not found cannot be relied upon.
NF - Not found

Table 4
Validated Soil Sample Results
Volatile Organic Compounds by USEPA Method 8260B
Anaconda Ponds Assessment
Detected Compounds Only
Micrograms per Kilogram, dry weight (ug/kg)
Samples Collected 7/30/07 - 8/1/07

	Trichloro-fluoromethane	Acetone	Ethyl-benzene	m&p-Xylene	o-Xylene	1,3,5-Trimethylbenzene	1,2,4-Trimethylbenzene	Total Tentatively Identified Compounds (as total hydrocarbon)
USEPA PRG (Residential)→	390000	14000000	400000	270000 (total)		21000	52000	100000*
USEPA PRG (Industrial)→	2000000	54000000	400000	420000 (total)		70000	170000	
Old Raff-1-1'	6.3	<18	<2.3	<4.6	<2.3	4.1	2.9	5800 J
Old Raff-1-2'	<2.2	<18	<2.2	<4.4	<2.2	10	5.9	8300 J
Old Raff-1-5'	<2.4	<19	<2.4	<4.7	<2.4	10	3.2	8800 J
Old Raff-1-10'	3.7	15	<2.4	<4.9	1.4	42	14	10000 J
Old Raff-1-20'	2.6	11	<2.3	8.1	4.6	34	55	9400 J
Old Raff-1-23'	4.3	15	1.6	13	7.4	63	100	**150000** J
Old Raff-1-30'	<2.3	<19	<2.3	<4.7	<2.3	<2.3	<2.3	340 J
New Raff 1-1'	<2.7	16	<2.7	<5.4	<2.7	<2.7	<2.7	290 J
New Raff 1-2'	<2.7	21 J	<2.7	<5.4	<2.7	<2.7	<2.7	250 J
New Raff 1-5'	<2.6	35 J	<2.6	<5.3	<2.6	<2.6	<2.6	NF
New Raff 1-10'	<2.3	20 J	<2.3	<4.6	<2.3	<2.3	<2.3	NF
New Raff 1-20'	<2.3	<18	<2.3	<4.5	<2.3	<2.3	<2.3	NF

* - Nevada Corrective Action Level
Results in **bold** exceed a potential site-specific action level
J - Estimated concentration
NF - Not found

Table 5
Validated Radioactive Parameter Results
Anaconda Ponds Assessment
Picocuries per Gram (pCi/g)
Samples Collected 7/30/07-8/1/07

Sample ID	Gross Alpha by EPA 900.0	Gross Beta by EPA 900.0	Radium-223 by GAM-01	Radium-224 by GAM-01	Radium-226 by EML HASL 300, 4.5.2.3	Radium-226 by GAM-01	Radium-226 by EPA 903.0	Radium-228 by GAM-01	Actinium-228 by EPA 901.1m	Bismuth-212 by GAM-01
SS-01*	5.86 ± 3.33 J	28.9 ± 4.61 J	NF	0.866 ± 0.31	1.06 ± 0.143 J	2.07 ± 0.36	NA	1.14 ± 0.14	NA	1.19 ± 0.20
SS-02*	6.71 ± 3.53 J	23.3 ± 4.45 J	0.258 ± 0.064	0.729 ± 0.28	0.922 ± 0.144 J	1.97 ± 0.34	NA	1.16 ± 0.14	NA	1.13 ± 0.19
SS-03*	9.57 ± 4.23 J	30.3 ± 5.16 J	0.198 ± 0.058	0.517 ± 0.25	1.77 ± 0.231 J	2.27 ± 0.36	NA	0.899 ± 0.11	NA	0.909 ± 0.15
South Slot 1-21.5'	8.37 ± 1.41	7.96 ± 1.86 J	NA	NA	NA	NA	2.68 ± 0.617 J	NA	2.45 ± 0.428	NA
Mega 1-10'	3.79 ± 1.05	4.14 ± 1.81 J	NA	NA	NA	NA	1.64 ± 0.438 J	NA	1.39 ± 0.301	NA
Mega 2B-14'	5.91 ± 1.16	7.66 ± 1.70 J	NA	NA	NA	NA	1.42 ± 0.399	NA	2.01 ± 0.283	NA
Mega 3-19'	5.72 ± 1.30	6.76 ± 1.89 J	NA	NA	NA	NA	2.52 ± 0.532	NA	2.21 ± 0.325	NA
Bathtub-1.5'	16.5 ± 1.91	12.2 ± 1.92 J	NA	NA	NA	NA	2.12 ± 0.528	NA	2.82 ± 0.744	NA
Phase One Sediment-15'	4.13 ± 1.17	2.62 ± 1.67 J	NA	NA	NA	NA	2.60 ± 0.636	NA	1.88 ± 0.330	NA
Phase One-17.5'	5.18 ± 1.29	5.32 ± 1.87 J	NA	NA	NA	NA	2.93 ± 0.670	NA	1.9 ± 0.291	NA
Old Raff 1-17'	5.15 ± 1.15	4.05 ± 1.64 J	NA	NA	NA	NA	1.90 ± 0.469 J	NA	1.65 ± 0.372	NA
New Raff 1-15'	5.17 ± 1.21	5.19 ± 1.69 J	NA	NA	NA	NA	2.06 ± 0.496 J	NA	1.98 ± 0.348	NA
Plant Feed 1-10'	3.94 ± 1.08	4.45 ± 1.64 J	NA	NA	NA	NA	2.81 ± 0.814 J	NA	1.58 ± 0.309	NA

Background samples SS-01 through SS-03 collected August 7, 2007
NF- Not found
J - Validator qualified as estimated
NA - Not analyzed

Table 5
Validated Radioactive Parameter Results
Anaconda Ponds Assessment
Picocuries per Gram (pCi/g)
Samples Collected 7/30/07-8/1/07

Sample ID	Bismuth-214 by GAM-01	Bismuth-214 by EPA 901.1m	Cesium-137 by GAM-01	Potassium-40 by GAM-01	Potassium-40 by EPA 901.1m	Protactinium-234m by EPA 901.1m	Uranium-235 by GAM-01	Lead-212 by GAM-01	Lead-212 by EPA 901.1m
SS-01*	1.06 ± 0.12	NA	<0.023	22.3 ± 2.6	NA	NA	0.13 ± 0.022	1.11 ± 0.13	NA
SS-02*	0.969 ± 0.11	NA	0.0572 ± 0.013	25.6 ± 3.0	NA	NA	NF	1.05 ± 0.13	NA
SS-03*	1.17 ± 0.14	NA	0.0177 ± 0.0079	19.2 ± 2.2	NA	NA	0.143 ± 0.022	0.818 ± 0.098	NA
South Slot 1-21.5'	NA	2.26 ± 0.344	NA	NA	45.0 ± 4.71	<10.7	NA	NA	3.11 ± 0.363
Mega 1-10'	NA	1.21 ± 0.212	NA	NA	34.0 ± 3.21	<5.78	NA	NA	1.61 ± 0.175
Mega 2B-14'	NA	1.89 ± 0.345	NA	NA	29.6 ± 3.26	<7.26	NA	NA	1.98 ± 0.203
Mega 3-19'	NA	1.77 ± 0.242	NA	NA	33.7 ± 3.29	<5.89	NA	NA	2.25 ± 0.222
Bathtub-1.5'	NA	2.10 ± 0.338	NA	NA	29.3 ± 3.49	<9.28	NA	NA	2.94 ± 0.275
Phase One Sediment-15'	NA	1.79 ± 0.261	NA	NA	32.5 ± 3.40	<7.27	NA	NA	2.08 ± 0.235
Phase One-17.5'	NA	1.63 ± 0.245	NA	NA	29.4 ± 3.16	14.1 ± 10.6	NA	NA	1.92 ± 0.215
Old Raff 1-17'	NA	1.66 ± 0.265	NA	NA	33.5 ± 3.59	<8.72	NA	NA	1.69 ± 0.193
New Raff 1-15'	NA	1.56 ± 0.239	NA	NA	33.6 ± 3.52	<7.75	NA	NA	2.18 ± 0.242
Plant Feed 1-10'	NA	1.47 ± 0.280	NA	NA	30.2 ± 3.32	<7.27	NA	NA	1.92 ± 0.187

Background samples SS-01 through SS-03 collected August 7, 2007
NF- Not found
J - Validator qualified as estimated
NA - Not analyzed

Table 5
Validated Radioactive Parameter Results
Anaconda Ponds Assessment
Picocuries per Gram (pCi/g)
Samples Collected 7/30/07-8/1/07

Sample ID	Lead-214 by GAM-01	Lead-214 by EPA 901.1m	Thorium-234 by GAM-01	Thorium-234 by EPA 901.1m	Thallium-208 by GAM-01	Thallium-208 by EPA 901.1m
SS-01*	1.13 ± 0.13	NA	NF	NA	0.358 ± 0.044	NA
SS-02*	1.01 ± 0.12	NA	0.442 ± 0.22	NA	0.325 ± 0.04	NA
SS-03*	1.25 ± 0.15	NA	0.401 ± 0.20	NA	0.256 ± 0.032	NA
South Slot 1-21.5'	NA	2.23 ± 0.269	NA	3.88 ± 2.79	NA	1.95 ± 0.394
Mega 1-10'	NA	1.47 ± 0.160	NA	2.64 ± 1.95	NA	1.38 ± 0.227
Mega 2B-14'	NA	1.86 ± 0.189	NA	2.09 ± 1.64	NA	1.57 ± 0.280
Mega 3-19'	NA	1.79 ± 0.221	NA	2.72 ± 2.29	NA	1.94 ± 0.270
Bathtub-1.5'	NA	2.50 ± 0.273	NA	4.85 ± 2.92	NA	2.33 ±0.375
Phase One Sediment-15'	NA	1.59 ± 0.256	NA	3.67 ± 3.03	NA	1.60 ± 0.266
Phase One-17.5'	NA	1.77 ± 0.242	NA	2.85 ± 2.16	NA	1.52 ± 0.245
Old Raff 1-17'	NA	1.62 ± 0.234	NA	5.67 ± 1.97	NA	1.27 ± 0.259
New Raff 1-15'	NA	1.95 ± 0.210	NA	3.96 ± 2.44	NA	1.75 ± 0.281
Plant Feed 1-10'	NA	1.45 ± 0.199	NA	3.95 ± 2.21	NA	1.68 ± 0.365

Background samples SS-01 through SS-03 collected August 7, 2007
NF- Not found
J - Validator qualified as estimated
NA - Not analyzed

ATTACHMENT 3

Laboratory Data Reporting Sheets

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : START 3 TEAM 9
Address : 3700 Industry Ave.
Suite 102
Lakewood, California 90712
Contact: Ms. Mindy Song
Project: **Anaconda Mine Removal-RAD # 60005003.92.60**

Report Date: March 11, 2008

Client Sample ID: SS-03
Sample ID: 203079003
Matrix: Solid
Collect Date: 07-AUG-07 ~~10:19~~ 10:35
Receive Date: 08-FEB-08
Collector: Client

Project: CTEE00207
Client ID: CTEE002

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Rad Gas Flow Proportional Counting											
GFPC, Gross A/B, solid											
Alpha	Hh	9.57	+/-4.23	3.85	4.00	pCi/g	J HT, MS, D-I	MXP1 03/11/08	1025	734496	1
Beta	Hh	30.3	+/-5.16	4.71	10.0	pCi/g	J HT, MS-L				

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	SXH1	02/20/08	1550	728657

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 900.0 Modified	

5-11-08 BRO

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : START 3 TEAM 9
Address : 3700 Industry Ave.
Suite 102
Lakewood, California 90712
Contact: Ms. Mindy Song
Project: **Anaconda Mine Removal-RAD # 60005003.92.60**

Report Date: February 22, 2008

Client Sample ID: SS-03
Sample ID: 202515004
Matrix: Solid
Collect Date: 07-AUG-07 ~~10:19~~ 10:35
Receive Date: 08-FEB-08
Collector: Client

Project: CTEE00207
Client ID: CTEE002

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Rad Gamma Spec Analysis											
Gamma, Ra226 only Solid							J HT-I				
Radium-226	Hh	1.77	+/-0.231	0.119	1.00	pCi/g		MJH1 02/19/08	1229	726837	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	BXJ1	02/11/08	1521	725664

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EML HASL 300, 4.5.2.3	

5-12-08 JLO

U.S.ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY

SDG #0700023

SAMPLE ANALYSIS REPORT

Sample #:	A7.05309N (SS-02)	QC batch #:	0004637R
Matrix:	SOIL	Assay batch #:	0011817W
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	7.340e+02 GWET	Analysis procedure:	NAREL GAM-01
Dry/wet weight:	99.69 %	Analyst:	RL
Ash/dry weight:	98.00 %	QC type:	ANA
Sample description:	N/A		
Comment:	N/A		

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
08/28/2007 21:36	300.0	GE14	RCL

ANALYTICAL RESULTS

Analyte		Activity	± 2 σ Uncertainty	MDC	Unit	Date
Ba140		ND		2.1e-01	PCI/GDRY	08/07/2007
Bi212		1.13e+00	1.9e-01		PCI/GDRY	08/07/2007
Bi214	*	9.69e-01	1.1e-01		PCI/GDRY	08/07/2007
Co60		ND		2.0e-02	PCI/GDRY	08/07/2007
Cs137		5.72e-02	1.3e-02		PCI/GDRY	08/07/2007
I131		ND		1.2e-01	PCI/GDRY	08/07/2007
K40		2.56e+01	3.0e+00		PCI/GDRY	08/07/2007
Pb212		1.05e+00	1.3e-01		PCI/GDRY	08/07/2007
Pb214	*	1.01e+00	1.2e-01		PCI/GDRY	08/07/2007
Ra223	*	2.58e-01	6.4e-02		PCI/GDRY	08/07/2007
Ra224		7.29e-01	2.8e-01		PCI/GDRY	08/07/2007
Ra226	*	1.97e+00	3.4e-01		PCI/GDRY	08/07/2007
Ra228		1.16e+00	1.4e-01		PCI/GDRY	08/07/2007
Th234	*	4.42e-01	2.2e-01		PCI/GDRY	08/07/2007
Tl208		3.25e-01	4.0e-02		PCI/GDRY	08/07/2007

* An asterisk indicates a result that may be significantly under or overestimated

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : START 3 TEAM 9
Address : 3700 Industry Ave.
Suite 102
Lakewood, California 90712
Contact: Ms. Mindy Song
Project: **Anaconda Mine Removal-RAD # 60005003.92.60**

Report Date: March 11, 2008

Client Sample ID: SS-02
Sample ID: 203079002
Matrix: Solid
Collect Date: 07-AUG-07 ~~10:19~~ 10:53
Receive Date: 08-FEB-08
Collector: Client

Project: CTEE00207
Client ID: CTEE002

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Rad Gas Flow Proportional Counting											
GFPC, Gross A/B, solid											
Alpha	Hh	6.71	+/-3.53	3.36	4.00	pCi/g J MS, HT, D-I		MXP1 03/11/08	1025	734496	1
Beta	Hh	23.3	+/-4.45	3.90	10.0	pCi/g J HT, MS-L					

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	SXH1	02/20/08	1550	728657

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 900.0 Modified	

5-11-08
DRG

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : START 3 TEAM 9
Address : 3700 Industry Ave.
Suite 102
Lakewood, California 90712
Contact: Ms. Mindy Song
Project: **Anaconda Mine Removal-RAD # 60005003.92.60**

Report Date: February 22, 2008

Client Sample ID: SS-02
Sample ID: 202515003
Matrix: Solid
Collect Date: 07-AUG-07 ~~10:19~~ 10:53
Receive Date: 08-FEB-08
Collector: Client

Project: CTEE00207
Client ID: CTEE002

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Rad Gamma Spec Analysis											
Gamma, Ra226 only Solid							J HT-I				
Radium-226	Hh	0.922	+/-0.144	0.095	1.00	pCi/g		MJH1 02/19/08	1214	726837	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	BXJ1	02/11/08	1521	725664

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EML HASL 300, 4.5.2.3	

5-12-08 JLW

U.S.ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY

SDG #0700023

SAMPLE ANALYSIS REPORT

Sample #:	A7.05307L (SS-01)	QC batch #:	0004637R
Matrix:	SOIL	Assay batch #:	0011817W
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	7.390e+02 GWET	Analysis procedure:	NAREL GAM-01
Dry/wet weight:	99.45 %	Analyst:	RL
Ash/dry weight:	98.40 %	QC type:	ANA
Sample description:	N/A		
Comment:	N/A		

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
08/28/2007 16:20	500.0	GE13	RCL

ANALYTICAL RESULTS

Analyte		Activity	± 2 σ Uncertainty	MDC	Unit	Date
Ba140		ND		2.1e-01	PCI/GDRY	08/07/2007
Bi212		1.19e+00	2.0e-01		PCI/GDRY	08/07/2007
Bi214	*	1.06e+00	1.2e-01		PCI/GDRY	08/07/2007
Co60		ND		2.1e-02	PCI/GDRY	08/07/2007
Cs137		ND		2.3e-02	PCI/GDRY	08/07/2007
I131		ND		1.1e-01	PCI/GDRY	08/07/2007
K40		2.23e+01	2.6e+00		PCI/GDRY	08/07/2007
Pb212		1.11e+00	1.3e-01		PCI/GDRY	08/07/2007
Pb214	*	1.13e+00	1.3e-01		PCI/GDRY	08/07/2007
Ra224		8.66e-01	3.1e-01		PCI/GDRY	08/07/2007
Ra226	*	2.07e+00	3.6e-01		PCI/GDRY	08/07/2007
Ra228		1.14e+00	1.4e-01		PCI/GDRY	08/07/2007
Tl208		3.58e-01	4.4e-02		PCI/GDRY	08/07/2007
U235	*	1.30e-01	2.2e-02		PCI/GDRY	08/07/2007

* An asterisk indicates a result that may be significantly under or overestimated

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : START 3 TEAM 9
Address : 3700 Industry Ave.
Suite 102
Lakewood, California 90712
Contact: Ms. Mindy Song
Project: **Anaconda Mine Removal-RAD # 60005003.92.60**

Report Date: March 11, 2008

Client Sample ID: SS-01
Sample ID: 203079001
Matrix: Solid
Collect Date: 07-AUG-07 10:19
Receive Date: 08-FEB-08
Collector: Client

Project: CTEE00207
Client ID: CTEE002

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Rad Gas Flow Proportional Counting											
GFPC, Gross A/B, solid							J HT, MS, D-L				
Alpha	Hh	5.86	+/-3.33	3.62	4.00	pCi/g		MXP1 03/11/08	1024	734496	1
Beta	Hh	28.9	+/-4.61	3.61	10.0	pCi/g	J HT, MS-L				

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	SXH1	02/20/08	1550	728657

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 900.0 Modified	

5-11-08

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : START 3 TEAM 9
Address : 3700 Industry Ave.
Suite 102
Lakewood, California 90712
Contact: Ms. Mindy Song
Project: **Anaconda Mine Removal-RAD # 60005003.92.60**

Report Date: February 22, 2008

Client Sample ID: SS-01
Sample ID: 202515001
Matrix: Solid
Collect Date: 07-AUG-07 ~~10:19~~ 10:19
Receive Date: 08-FEB-08
Collector: Client

Project: CTEE00207
Client ID: CTEE002

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Rad Gamma Spec Analysis											
Gamma, Ra226 only Solid											
Radium-226	Hh	1.06	+/-0.143	0.0697	1.00	pCi/g	J HT-I	MJH1 02/19/08	1142	726837	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	BXJ1	02/11/08	1521	725664

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EML HASL 300, 4.5.2.3	

5-12-08 JLC

Table 1.1 Results of the Analysis for Radium 226, Gross Alpha, Gross Beta and Gamma Spectroscopy in Soil
WA# 0-200, Yerrington Mine Site
Based on Dry Weight

Methods: Radium 226 EPA 903.0 Modified, Gross Alpha/Gross Beta EPA 900.0 Modified and Gamma Spectroscopy 901.1 Modified

Sample #	Location	Ra-226 (pCi/g) MDA	Result	F	+/- Uncertainty	Gross Alpha (pCi/g) MDA	Result	F	+/- Uncertainty	Gross Beta (pCi/g) MDA	Result	F	+/- Uncertainty	Percent Solids
Method Blank	NA	0.101	0.112		0.129	0.269	U		0.135	0.511	U		0.299	NA
SOUTH SLOT 1-21.5 ft	NA	0.175	2.68	J	0.617	1.01	8.37		1.41	2.68	7.96	J	1.86	87
MEGA 1-10 ft	NA	0.190	1.64	J	0.438	1.18	3.79		1.05	2.87	4.14	J	1.81	97
MEGA 2B-14 ft	NA	0.122	1.42		0.399	0.935	5.91		1.16	2.38	7.66	J	1.70	95
MEGA 3-19 ft	NA	0.151	2.52		0.532	1.38	5.72		1.30	2.83	6.76	J	1.89	94
BATHTUB-1.5 ft	NA	0.183	2.12		0.528	0.907	16.5		1.91	2.53	12.2	J	1.92	82
PHASE ONE SEDIMENT-15 ft	NA	0.215	2.60		0.636	1.40	4.13		1.17	2.71	2.62	J	1.67	94
PHASE ONE -17.5 ft	NA	0.226	2.93		0.67	1.28	5.18		1.29	2.88	5.32	J	1.87	90
OLD RAFF 1-17 ft	NA	0.265	1.90	J	0.469	1.19	5.15		1.15	2.56	4.05	J	1.64	94
NEW RAFF 1-15 ft	NA	0.220	2.06	J	0.496	1.24	5.17		1.21	2.57	5.19	J	1.69	93
PLANTFEED 1-10 ft	NA	0.387	2.81	J	0.814	1.14	3.94		1.08	2.52	4.45	J	1.64	94

Gamma Spectroscopy

Sample #	Location	Actinium-228 (pCi/g) MDA	Result	F	+/- Uncertainty	Bismuth-214 (pCi/g) MDA	Result	F	+/- Uncertainty	Potassium-40 (pCi/g) MDA	Result	F	+/- Uncertainty	Protactinium-234m (pCi/g) MDA	Result	F	+/- Uncertainty
Method Blank	NA	0.121	U		0.0549	0.0719	U		0.0373	0.146	U		0.338	3.80	U		2.10
SOUTH SLOT 1-21.5 ft	NA	0.583	2.45		0.428	0.284	2.26		0.344	1.34	45.0		4.71	19.4	U		10.7
MEGA 1-10 ft	NA	0.318	1.39		0.301	0.166	1.21		0.212	0.717	34.0		3.21	10.3	U		5.78
MEGA 2B-14 ft	NA	0.439	2.01		0.283	0.210	1.89		0.345	0.903	29.6		3.26	13.5	U		7.26
MEGA 3-19 ft	NA	0.337	2.21		0.325	0.183	1.77		0.242	0.700	33.7		3.29	10.8	U		5.89
BATHTUB-1.5 ft	NA	1.16	2.82		0.744	0.265	2.10		0.338	1.32	29.3		3.49	17.5	U		9.28
PHASE ONE SEDIMENT-15 ft	NA	0.443	1.88		0.330	0.199	1.79		0.261	0.890	32.5		3.40	13.6	U		7.27
PHASE ONE -17.5 ft	NA	0.401	1.90		0.291	0.192	1.83		0.245	0.904	29.4		3.16	9.88	14.1		10.6
OLD RAFF 1-17 ft	NA	0.473	1.65		0.372	0.222	1.66		0.265	1.12	33.5		3.59	15.8	U		8.72
NEW RAFF 1-15 ft	NA	0.375	1.98		0.348	0.217	1.56		0.239	0.917	33.6		3.52	14.1	U		7.75
PLANTFEED 1-10 ft	NA	0.351	1.58		0.309	0.452	1.47		0.280	1.07	30.2		3.32	13.0	U		7.27

Sample #	Location	Lead-212 (pCi/g) MDA	Result	F	+/- Uncertainty	Lead-214 (pCi/g) MDA	Result	F	+/- Uncertainty	Thorium-234 (pCi/g) MDA	Result	F	+/- Uncertainty	Thallium-208 (pCi/g) MDA	Result	F	+/- Uncertainty
Method Blank	NA	0.0569	0.0350		0.0289	0.0636	U		0.0373	0.538	U		0.267	0.0947	U		0.0484
SOUTH SLOT 1-21.5 ft	NA	0.192	3.11		0.363	0.270	2.23		0.289	2.46	3.88		2.79	0.435	1.95		0.394
MEGA 1-10 ft	NA	0.125	1.61		0.175	0.155	1.47		0.180	1.65	2.64		1.95	0.236	1.38		0.227
MEGA 2B-14 ft	NA	0.140	1.98		0.203	0.181	1.86		0.189	1.86	2.09		1.64	0.281	1.57		0.280
MEGA 3-19 ft	NA	0.133	2.25		0.222	0.180	1.79		0.221	1.86	2.72		2.29	0.249	1.94		0.270
BATHTUB-1.5 ft	NA	0.184	2.94		0.275	0.233	2.50		0.273	2.45	4.85		2.92	0.362	2.33		0.375
PHASE ONE SEDIMENT-15 ft	NA	0.152	2.08		0.235	0.204	1.59		0.256	2.08	3.67		3.03	0.307	1.60		0.268
PHASE ONE -17.5 ft	NA	0.149	1.92		0.215	0.189	1.77		0.242	1.96	2.85		2.16	0.267	1.52		0.245
OLD RAFF 1-17 ft	NA	0.164	1.69		0.193	0.194	1.62		0.234	1.99	5.67		1.97	0.288	1.27		0.259
NEW RAFF 1-15 ft	NA	0.159	2.18		0.242	0.207	1.95		0.210	2.22	3.96		2.44	0.289	1.75		0.281
PLANTFEED 1-10 ft	NA	0.131	1.92		0.187	0.186	1.45		0.199	1.67	3.95		2.21	0.551	1.68		0.365

pCi/L - picocuries per liter
µg/L - micrograms per liter
F - data validation flag
U - not detected
J - estimated value
UJ - not detected at an estimated MDA
MDA - minimum detectable activity
+/- uncertainty - 2-sigma

5/13/08 DRO

U.S.ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AIR AND RADIATION ENVIRONMENTAL LABORATORY

SDG #0700023

SAMPLE ANALYSIS REPORT

Sample #:	A7.05311G (SS Ø3)	QC batch #:	0004637R
Matrix:	SOIL	Assay batch #:	0011817W
Sample type:	SAM	Prep procedure:	N/A
Amount analyzed:	8.670e+02 GWET	Analysis procedure:	NAREL GAM-01
Dry/wet weight:	99.54 %	Analyst:	RL
Ash/dry weight:	98.80 %	QC type:	ANA
Sample description:	N/A		
Comment:	N/A		

COUNTING INFORMATION

Date and time	Duration (min)	Detector ID	Operator
08/29/2007 15:56	300.0	GE14	RCL

ANALYTICAL RESULTS

Analyte		Activity	± 2 σ Uncertainty	MDC	Unit	Date
Ba140		ND		2.0e-01	PCI/GDRY	08/07/2007
Bi212		9.09e-01	1.5e-01		PCI/GDRY	08/07/2007
Bi214	*	1.17e+00	1.4e-01		PCI/GDRY	08/07/2007
Co60		ND		1.7e-02	PCI/GDRY	08/07/2007
Cs137		1.77e-02	7.9e-03		PCI/GDRY	08/07/2007
I131		ND		1.2e-01	PCI/GDRY	08/07/2007
K40		1.92e+01	2.2e+00		PCI/GDRY	08/07/2007
Pb212		8.18e-01	9.8e-02		PCI/GDRY	08/07/2007
Pb214	*	1.25e+00	1.5e-01		PCI/GDRY	08/07/2007
Ra223	*	1.98e-01	5.8e-02		PCI/GDRY	08/07/2007
Ra224		5.17e-01	2.5e-01		PCI/GDRY	08/07/2007
Ra226	*	2.27e+00	3.6e-01		PCI/GDRY	08/07/2007
Ra228		8.99e-01	1.1e-01		PCI/GDRY	08/07/2007
Th234	*	4.01e-01	2.0e-01		PCI/GDRY	08/07/2007
Tl208		2.56e-01	3.2e-02		PCI/GDRY	08/07/2007
U235	*	1.43e-01	2.2e-02		PCI/GDRY	08/07/2007

* An asterisk indicates a result that may be significantly under or overestimated

ATTACHMENT 4

Photodocumentation

PHOTOGRAPH 1:

Direct-push soil boring in progress at South Slot leach pond

Date: July 30, 2007

Photographer: Mike Schwennesen, Team 9

Direction: facing south

PHOTOGRAPH 2:

Gamma radiation down-hole survey, South Slot leach pond

Date: July 30, 2007

Photographer: Mike Schwennesen, Team 9

Direction: facing southwest

PHOTOGRAPH 3:

Sampling in progress at Mega-2 leach pond location.

Date: July 31, 2007

Photographer: Mike Schwennesen, Team 9

Direction: facing south

PHOTOGRAH 4:

Soil cores in acrylic sleeves temporarily stored for review and sampling.

Date: July 30, 2007

Photographer: Mike Schwennesen, Team 9

Direction: N/A

PHOTOGRAPH 5:

Direct-push drilling in progress at Phase 1 leach pond.

Date: July 31, 2007

Photographer: Mike Schwennesen, Team 9

Direction: facing southeast

PHOTOGRAPH 6:

Direct-push drilling in progress on New Raffinate leach pond.

Date: August 1, 2007

Photographer: Mike Schwennesen, Team 9

Direction: facing northwest