Technical Memorandum
Results of October 2010 Sampling

Blue Ledge Mine
Rogue River National Forest
Siskiyou County, California

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ACRONYMS AND ABBREVIATIONS

AMD	acid mine drainage
ATLh	State of Oregon acute toxicity levels for humans
CDM	CDM Federal Programs Corporation
COC	chain of custody
DO	Dissolved Oxygen
DQO	data quality objective
eDMS	electronic data management system
EIL	Environmental International Ltd.
EPA	United States Environmental Protection Agency
FSP	Field Sampling Plan
GANDA	Garcia and Associates
GIS	geographic information system
GPS	global positioning system
ITSI	Innovative Technical Solutions, Inc.
MCL	Maximum Contaminant Level
mg/kg	milligram per kilogram
mg/L	milligram per liter
Mine	Blue Ledge Mine
ODEQ	Oregon Department of Environmental Quality
ORP	oxidation/reduction potential
PAS	Preliminary Assessment Screen
QAPP	Quality Assurance Project Plan
RAC	Remedial Action Contract II
RSL	Regional Screening Level
SAP	Sampling and Analysis Plan
Site	Blue Ledge Mine Site
SOP	standard operating procedure
TO	Task Order
ug/L	micrograms per liter
URS	URS Corporation
USFS	United States Forest Service

1.0 INTRODUCTION

The United States Environmental Protection Agency, Region 9 (EPA) is conducting a preliminary, screening-level investigation to evaluate the presence of contaminants from the Blue Ledge Mine (Mine) in the watersheds of Joe Creek and Elliott Creek in Siskiyou County, California. The purpose of this screening-level investigation is to evaluate whether contaminants from the Blue Ledge Mine have the potential to adversely impact the health of residents at the community of Joe Bar and recreational users of Joe Bar and Elliott Creeks. Field work was conducted during the period of October 25 – 29, 2010, and was performed according to the approved Field Sampling Plan (FSP) (ITSI, 2010a). This technical memorandum documents the sampling locations, strategy, and results from the October 2010 event. Because this effort was preliminary in nature, interpretation of the results is limited and does not include data collected by others. A more detailed evaluation and interpretation of the results and incorporating the results of historic and recent sampling efforts by others is planned as part of an evaluation of historical mining activities at Blue Ledge Mine and its impacts on the environment.

The objective of this preliminary, screening-level sampling effort is to provide additional information about potential adverse impacts to human health from contaminants released from the Mine and the surrounding area. Previous investigations conducted by the United States Forest Service (USFS) and others have identified arsenic, cadmium, copper, iron, lead, and zinc as the primary contaminants of interest in the Joe Creek and Elliott Creek watersheds. Additionally, mercury, which had not been analyzed during past sampling efforts, represents a potential data gap in assessing human health concerns to the local residents and recreational users. This is due to the potential presence of mercury in the source rock or overburden at Blue Ledge Mine, its potential presence in the watersheds of Joe Creek and Elliott Creek from other naturally occurring sources (e.g., according to local residents, a former cinnabar mine is located further upstream in the Elliott Creek watershed), and from atmospheric deposition.

Previous investigations have provided very limited fish tissue results, especially for those species reportedly consumed by the local residents and recreational users (B. Lara, 2010). Thus, fish

species harvested for food by local residents and recreational users were specifically targeted in this investigation, in addition to water, sediment, and soil samples. These fish were harvested to evaluate both the potential impacts from the primary contaminants of interest, and to evaluate the potential presence of mercury.

2.0 BACKGROUND

The Blue Ledge Mine Site (Site) includes an inactive copper mine located approximately three miles south of the Oregon-California border, on privately owned land within the Rogue River National Forest, in Siskiyou County, California. The mine lies at the upper headwaters of the Joe Creek watershed, on a steep, generally north-facing slope above the confluence of Joe Creek and an unnamed tributary to Joe Creek. Joe Creek flows north to Elliott Creek, which in turn is a tributary to the Middle Fork of the Applegate River. The Applegate River flows north across the California-Oregon border to Applegate Reservoir.

The mine includes multiple adits as well as large deposits of mine waste rock, much of which has been moved to a newly constructed repository north of the Mine. The waste rock relocation is part of an ongoing removal action by the USFS. Groundwater currently discharges to the ground surface from the adits and from seeps.

Prior investigations conducted by or on behalf of the USFS have included:

- A preliminary assessment screen (PAS) performed by various parties and reported by Environmental International Ltd. (EIL) in 2002 (EIL, 2002).
- A site inspection by URS Corporation (URS) in 2008 (URS, 2009).

These prior investigations have established the following:

- The presence of acid mine drainage (AMD) from the mine has adversely impacted groundwater, surface water, soil, and sediment within the Joe Creek watershed. In addition to the ongoing AMD, the waste rock has been described as being "highly productive in terms of creation of AMD and releases of metals and sulfuric acid" (URS, 2009).

- Drinking water samples collected from residences nearest the mine in the community of Joe Bar (URS, 2009) did not contain contaminants exceeding either the Federal or California State Maximum Contaminant Levels (MCLs) for drinking water. However, all of the analyzed samples were reported to have exceeded the more conservative EPA Regional Screening Level (RSL) for arsenic in tap water.

- Fish surveys have indicated there are no fish in Joe Creek, and that the macroinvertebrate populations in Joe Creek downstream of the Site are also significantly degraded. The absence of fish in Joe Creek provides some evidence that mine-related impacts to sediment and/or surface water quality are preventing fish species, known to be present in Elliott Creek and the Middle Fork of the Applegate River, from occupying Joe Creek.

As part of the mitigation measures for the ongoing removal action by the USFS, additional sampling of the Joe Bar residents' wells was conducted in summer 2010, along with some additional sampling of Joe Creek surface water and sediments. Additional sampling is planned by the USFS after completion of the removal action.

3.0 FIELD ACTIVITIES

The sampling efforts along Joe Creek, Elliott Creek, and Applegate River were conducted during the period of October 25 – 29, 2010. The sampling efforts targeted surface water, sediment, riparian soil, upland soil, and fish, at five locations along Elliott Creek identified in the FSP. Collection of fish samples was completed more quickly than expected, and thus there was enough time to collect surface water and/or sediment samples at additional locations during the field efforts.

Fifteen locations were sampled as part of this sampling event. Table 1 lists the individual sample locations and the rationale for their selection. The additional sampling locations were selected and added during the field effort, in coordination with the EPA, to provide a better understanding of the influence of the Mine on Joe Creek, the influence of Joe Creek on Elliott Creek, and, ultimately, the influence of the Mine on Applegate River. At each of the five primary locations identified in the FSP, samples were collected along a transect, perpendicular to the stream, from the channel up the bank to a point beyond the likely effective high water level during peak storm

runoff events. Fish were collected within a segment of the creek several hundred feet long, centered on the transect.

This sampling effort was performed during the late Fall season, which was marked by intermittent rainfall and low temperatures in the area. Heavy rainfall was particularly significant on the fourth day (October 28) when sampling activities were focused on Joe Creek at the Blue Ledge Mine area. The waters of Joe Creek were observed to be highly turbid, with a significant suspended sediment load. The cause of the high turbidity conditions in Joe Creek was subsequently explained by a USFS representative, who indicated that a slope adjacent to the recently removed mine waste piles had failed. Surface water runoff consequently carried debris and sediments into Joe Creek.

At each location identified in the field, the coordinates of a point representing the transect or sample location were obtained using a Garmin 60CSX[1] portable global positioning system (GPS) receiver and noted in the field notes. Copies of the field collection notes are provided in Attachment 1.

Sampling of the various media (sediment, soil, and surface water) was performed in accordance with the approved FSP (ITSI, 2010a). Each sample was placed into appropriate laboratory containers, labeled, sealed, and placed inside a cooler with ice. The samples were noted on a sample collection log, recorded in FORMS II Lite (for Contract Laboratory Program [CLP] laboratory services) and on an ITSI chain-of-custody (COC) form (for non-CLP laboratory services), consistent with requirements outlined in the approved Quality Assurance Project Plan (QAPP; ITSI, 2010b).

Soil, sediment and water samples were submitted to and analyzed by the CLP laboratory Bonner Analytical Testing Company, located in Hattiesburg, Mississippi. Fish samples were submitted to Lancaster Laboratories located in Philadelphia. The sample location information, analytical

[1] A Trimble GeoHX GPS receiver capable of sub-foot accuracy was also used, but this unit was unable to obtain a clear signal due to significant overhead vegetation.

results, and results of data validation efforts were entered into ITSI's electronic data management system (eDMS) for subsequent use in producing tables and figures for this memorandum.

3.1 SEDIMENT SAMPLING

Sediments within the stream channels were collected at locations as close as possible to the selected surface water sampling points, based on the presence of accumulated sediment sufficient to sample. A disposable plastic scoop was used to collect surface sediments in shallow water. Sediment coring using a multi-stage core fitted with plastic liner and core catcher also was used to collect samples at locations where a deeper sediment profile was desired and sufficient sediment was present. The vertical profiling of sediments occurred at four locations (identified as locations TS1, TS4, TS16, and TS17 in Table 2) with samples collected at the surface interval (0 to 6 inches) and the subsurface interval (6 to 12 inches). Samples were retrieved from the core and transferred into glass jars using disposable scoops.

3.2 RIPARIAN SOILS

Riparian soils were soils identified and collected outward from the stream channel, and included those soils directly or indirectly influenced by the stream, including during flooding. Most of the riparian soil locations identified in the selected transects corresponded to flat floodplain areas that are presently used as camping sites. The riparian soil samples were collected in undisturbed areas–generally, under a relatively thick cover of moss, pine needles, and leaves (roughly greater than three inches thick). Samples were collected using disposable plastic scoops and placed directly into clean jar containers.

3.3 UPLAND SOILS

Upland soils are soils identified as soils located beyond the reach or influence of the streams. The upland soils samples, in general, were collected from above the areas likely to be influenced by flooding and human activities (e.g., roads), to provide insight into naturally occurring concentrations of the primary contaminants of interest. Samples were collected using disposable plastic scoops,and placed directly into clean jar containers.

3.4 SURFACE WATER SAMPLING

Surface water samples were collected by directly immersing the sample containers in the surface water at the specified sample locations. In general, samples were collected in the middle of the stream channel flow.

Geochemical parameters were also collected near each of the surface water sample locations, using a YSI model 556 multi-parameter water quality meter. Parameters including pH, conductivity, temperature, dissolved oxygen, and oxidation-reduction potential (ORP) were recorded on field forms. The sonde (containing the sensors) was directly immersed into the stream, and readings were recorded once parameters stabilized to ± 10% variation over three sequential readings.

3.5 FISH

Fish species reportedly (B. Lara, 2010) harvested for food by local residents and recreational users were specifically targeted for collection during this sampling effort. Rainbow trout (both native and stocked specimens) were collected within five transects as proposed in the FSP. To provide information for future ecological evaluations, some sculpins were also collected from two of the transects. A total of fourteen rainbow trout and four sculpins were retrieved. The fish were stung and caught using an electrofish net device that induced an electrical current between two poles and shocked the areas where the net pole would be swept. The fishing activity was conducted by GANDA personnel in manners consistent with their scientific collection license from the State of California Department of Fish and Game.

The species and size (length) of each fish collected were recorded, along with the collection location. The rainbow trout samples were examined for the presence or absence of an adipose fin. A trimmed adipose fin indicates fish raised in hatcheries and released to stock lakes and streams. Samples of the scales also were collected from the rainbow trout, to determine the approximate age of the fish collected. The total weight of each fish and the weight of the filets were measured by the laboratory prior to processing the samples.

Analysis of the rainbow trout includes both filet (skin on with belly flap) and whole fish for each collected sample of sufficient size. All 14 rainbow trout collected, ranging in length from 5.25 to 10.5 inches, were of sufficient size to yield filet samples in addition to the whole fish testing for metals; however, the filets from four of the trout were too small to yield mercury results.

4.0 SUMMARY OF ANALYTICAL RESULTS

The validated analytical results for sediments and soils are provided in Table 2 and shown on Figure 1; results for surface water are provided in Table 3 and Figures 2 and 3; and results for fish tissue are provided in Table 4 and Figure 4. Copies of the laboratory reports are provided in Attachment 2.

4.1 SEDIMENT AND SOILS

The highest concentrations of each of the metals analyzed were reported in either sediment sample TS15SE01, collected in Joe Creek just below the Blue Ledge Mine, or TS6SE01 collected on Joe Creek just upstream from the confluence with Elliott Creek. Of note, the concentrations of each of the metals, including arsenic and mercury, were significantly higher in these samples than in any other sediment or soil sample collected during this event.

Arsenic was detected at levels generally consistent with expected background concentrations in all but one of the sediment and soil samples. The exceptions were higher concentrations of 44.6 milligrams per kilogram (mg/kg) reported in sample TS15SE01 just below the Mine, and 29.6 mg/kg in TS6SE01 further downstream in Joe Creek. Arsenic is relatively pervasive in the sediments and soils across the area sampled, with slightly higher concentrations encountered in the sediments and soils of the reach of Elliott Creek below its confluence with Joe Creek.

Copper was detected in each of the sediment and soil samples, with generally higher concentrations reported in sediments and soils within the portions of the watershed impacted by runoff from the Mine. Evidence of higher copper levels was observed as far downstream as the Applegate River at the edge of Applegate Reservoir. Lead, mercury, and zinc show a distribution similar to copper, with evidence of generally higher concentrations as far downstream as the confluence of Elliott Creek with Applegate River.

The metals results from sediments and soils along Elliott Creek and Applegate River were compared with EPA Region 9 residential regional screening levels (RSLs), with the arsenic value adjusted to reflect EPA's lifetime cancer risk range of 10^{-6} to 10^{-4}. Of the samples along Elliott Creek and Applegate River, none of the metals exceeded their respective screening levels.

4.2 SURFACE WATER

Consistent with the sediment and soil results, the highest concentration of each of the metals analyzed was reported in the surface water sample at TS15, collected in Joe Creek just downstream (roughly 1,000 feet) the Mine. Of note, the concentrations of each of the metals, including arsenic and mercury, were significantly higher in this sample than in any other sample collected during this event (Figure 2). The surface water samples collected were grab samples, and were unfiltered. The high suspended solids present in the surface water at the time of sampling likely contributed to these high reported concentrations.

Copper and zinc results provide a good picture of the effects the Mine is having on the watersheds, as shown on Figure 2. Concentrations in the surface water samples collected from the segments of Elliott Creek and Applegate River downstream of the Mine reported elevated copper and zinc, whereas the water samples from Elliott Creek above its confluence with Joe Creek (TS7, TS-5 and TS-11), and Applegate River above the confluence with Elliott Creek (TS10), reported very low levels of copper and zinc. A sample of surface water (TS14) collected from Joe Creek upstream from the apparent impacts of the Mine (or at least upstream from the ongoing removal action) reported a significantly lower concentration of copper and zinc than the sample (TS15), in Joe Creek, collected a few hundred yards further downstream below the confluence with the unnamed tributary that drains the Mine.

Water quality data is shown on Figure 3. The pH of the surface water ranges from a low of 3.62 in TS15 near the mine to a high of 9.02 in TS3 near the community of Joe Bar. The segment of Elliott Creek from just above to below the confluence with Joe Creek, represented by the samples from TS7 (just above the confluence), TS4, and TS3 (below the confluence) each had pH values above 8.5, along with relatively low dissolved oxygen (at 50% or less).

The metals results from surface water samples along Elliott Creek and Applegate River were compared with EPA maximum contaminant levels (MCLs) for drinking water, and with EPA Region 9 RSLs for tap water, with the arsenic value adjusted to reflect EPA's lifetime cancer risk range of 10^{-6} to 10^{-4}. Of the samples from Elliott Creek and Applegate River, the metals were all below screening levels with the exception of one sample for lead from Applegate River near Applegate Lake.

4.3 FISH

As mentioned above, 18 fish were successfully collected from five locations along Elliott Creek, four locations below the confluence with Joe Creek and one location above the confluence. Fourteen rainbow trout were collected, ranging in length from 5.25 to 10.5 inches, representing fish mostly one to two years old. Five of the 14 rainbow trout were stocked fish, missing the adipose fin trimmed prior to their release form a hatchery. The stocked fish were mostly recovered from the lower reaches of the creek, closer to Applegate Reservoir.

Arsenic concentrations in whole fish tissue samples from the 14 rainbow trout collected ranged from non-detect (in two smaller rainbow trout samples) to 0.182 mg/kg (in an older rainbow trout sample), and did not show a strong spatial pattern, consistent with the broad distribution of arsenic noted in the sediment and soil samples. Filet samples were non-detect except for three stocked rainbow trout samples from the lower reaches of Elliott Creek.

Copper was reported in the tissue of each of the fish collected. Concentrations were generally lower in whole fish samples from TS5 from Elliott Creek above the confluence with Joe Creek than in fish from the other locations below the confluence. This pattern was not as apparent in the filet samples. Lead, exhibiting a pattern similar to copper in whole fish samples, was non-detect in the whole fish samples collected from TS5 above the confluence, but was reported in most of the whole fish samples from the remaining locations below the confluence. Lead was non-detect for all but one of the filet samples.

Mercury was below the reporting limit for each of the fish samples, both whole fish and filet samples.

The results of the fish filet samples were compared with State of Oregon's acute human toxicity level (ATLh) screening values for recreational users, with the arsenic value adjusted to reflect EPA's lifetime cancer risk range of 10^{-6} to 10^{-4}. Of the 14 samples collected, arsenic fish filet results were all within EPA's lifetime cancer risk range for recreational users. Other metals with available screening values were below their respective values, and as previously mentioned, mercury was below the laboratory reporting limit for fish filet samples from each of the 14 fish.

5.0 DATA QUALITY

Soil, sediment, and surface water samples were shipped via Federal Express to Bonner Analytical Testing Company (Bonner) of Hattiesburg, Mississippi, on 29 October 2010. Bonner holds certification by the EPA Contract Laboratory Program. Tissue samples were transported under proper chain of custody to ITSI's Walnut Creek facility and picked up there by a representative of Lancaster Laboratories, Inc., of Lancaster, Pennsylvania, on 27 October 2010. Lancaster is certified by the National Environmental Laboratory Accreditation Program (NELAP) in the State of California.

Final laboratory electronic data deliverables were uploaded to ITSI's eDMS to perform the following automated reviews: (1) a consistency check between the laboratory data and the requested work order information; and (2) an EPA Tier II data validation review (with the exception of the initial and continuing calibrations). For the soil/sediment and surface water data, this automated review was augmented by the manual review of the results of the CADRE initial and continuing calibration review. The tissue data package was sent to Laboratory Data Consultants, Inc., of Carlsbad, California, for a full EPA Tier III data validation. Data validation and assessment were conducted utilizing the approved QAPP (ITSI, 2010b). Copies of the data validation reports are provided as Attachment 3.

Less than 19% of the total results were qualified as "J" for estimated or "UJ" for not detected at an estimated reporting limit, due to accuracy or precision anomalies. Nineteen (19) % of the total results were qualified "U" at the detection limit or at the detected amount due to blank contamination. Forty three (43) % of the total mercury results were qualified due to missed holding times. No results were rejected. Based on the data validation, the data generated met the project's Quality Objectives, are of acceptable quality, and should be considered usable as qualified for their intended purposes.

6.0 REFERENCES

Environmental International Ltd., 2002. Preassessment Screen for the Blue Ledge Mine Site. October 28.

Innovative Technical Solutions, Inc. (ITSI), 2010a. Sampling and Analysis Plan for Multi-Media Sampling: Part 1 – Field Sampling Plan, Blue Ledge Mine, Rogue River National Forest, Siskiyou County, California. October.

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Oregon Department of Environmental Quality (ODEQ), 2007. Guidance for Assessing Bioaccumulative Chemicals of Concern in Sediment. January 31.

URS, 2009. Final Site Inspection Report, Blue Ledge Mine, Rogue River-Siskiyou National Forest. April.

TABLES

Table 1
Details of Locations and Sampling Rationale

Location	Description	Media Sampled	Predominant Use/ Rationale
1	Elliott Creek near the former USGS gauging station.	Surface water Sediment Riparian Soils Upland Soils Fish	Recreational use, including swimming and fishing
2	Elliott Creek, just west of the intersection with the bridge on 1055 Road	Surface water Sediment Riparian Soils Upland Soils Fish	Recreational use, including camping and fishing
3	Elliott Creek, behind the home of Joe Bar resident	Surface water Sediment Riparian Soils Upland Soils Fish	Water supply (gardening) and fishing
4	"Zebra" rock in Elliott Creek, immediately downstream from the confluence of Joe Creek and Elliott Creek.	Surface water Sediment Riparian Soils Upland Soils Fish	Swimming and fishing
5	Elliott Creek, upstream from the confluence of Elliott Creek and Joe Creek	Surface Water Sediment Riparian Soils Upland Soils Fish	Recreational use and campground
6	Joe Creek, downstream before confluence Elliott Creek and Joe Creek, under the bridge	Surface Water Sediment Riparian Soils	Water and sediment quality in Joe Creek downstream area
7	Elliott Creek, immediately upstream of the confluence of Joe Creek and Elliott Creek	Surface Water Sediment Riparian Soils Upland Soils	Elliott Creek upstream quality prior to mixing with waters from Joe Creek
8	Elliott Creek, downstream before it enters Applegate River	Surface Water Sediment Riparian Soil	Elliott Creek downstream quality prior to mixing with Applegate River waters
9	Applegate, River downstream from the confluence of Applegate River and Elliott Creek	Surface Water Sediment	Applegate River conditions past confluence with Elliott Creek

Table 1 (Continued)
Details of Locations and Sampling Rationale

Location	Description	Media Sampled	Predominant Use/ Rationale
10	Applegate River at USGS Gauge Station upstream of Applegate River and Elliott Creek confluence	Surface Water Sediment	Applegate River conditions prior to mixing with Elliott Creek waters
11	Elliott Creek and Park Gulch at Elliott Creek	Surface Water Sediment Riparian Soil	Park Gulch impact on Elliott Creek
12	300 feet upstream from Park Gulch and Elliott Creek	None	Water quality check
13	Road Cut above Elliott Creek	None	Schist Outcrop
14	Joe Creek, approximately 100 feet upstream from the intersection of Joe Creek and the path to the mine	Surface Water Sediment	Joe Creek waters upstream conditions prior to mixing with mining runoff
15	Joe Creek approximately 1,000 feet downstream from the intersection of Joe Creek and the path to the mine	Surface Water Sediment	Joe Creek waters downstream conditions impacted by mining runoff
16	Applegate River at Seattle Bar	Surface Water Sediment	Recreational/ Quality of sediment discharge at reservoir's mouth
17	Applegate River at Seattle Bar	Surface Water Sediment	Recreational/ Quality of sediment discharge at reservoir's mouth

Table 2
Results for Metals in Sediments and Soils
Blue Ledge Mine Site, Siskiyou County, CA

Transect Location	Sample ID	Sample Type	Depth (inches)	Sample Date	Arsenic (mg/kg)	Cadmium (mg/kg)	Copper (mg/kg)	Iron (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Zinc (mg/kg)
1	TS1SE01A	Sediments	0-6"	25-Oct-10	5.2	0.52	76.1	--	6.1	0.068 J	135
1	TS1SE01B	Sediments	6-12"	25-Oct-10	5.0	0.5	88.9	--	5.9	0.11	132
1	TS1RS01	Riparian Soils	grab	25-Oct-10	7.1	< 0.5	31	--	3.1	< 0.14	33.6
1	TS1US01	Upland Soils	grab	25-Oct-10	3.0	< 0.5	21.5	--	5	< 0.25	25.1
2	TS2SE01	Sediments	grab	25-Oct-10	5.5	< 0.56	83.8	--	8.1 J	0.18	116
2	TS2RS01	Riparian Soils	grab	25-Oct-10	6.3	< 0.5	60.2	--	3.9	0.074 J	59
2	TS2US01	Upland Soils	grab	25-Oct-10	7.1	< 0.5	22.6	--	6.8	0.063 J	45.6
3	TS3SE01	Sediments	0-6"	26-Oct-10	3.8	< 0.5	36.7	--	4	0.065 J	57.9
3	TS3RS01	Riparian Soils	grab	26-Oct-10	4.7	< 0.5	85.5	--	14.2	0.29 J	84.5
3	TS3US01	Upland Soils	grab	26-Oct-10	1.5	< 0.5	43	--	3.9	< 0.12	212
4	TS4SE01A	Sediments	0-6"	26-Oct-10	5.1	0.26 J	61.2	--	6.4	0.15	75.5
4	TS4SE01B	Sediments	6-12"	26-Oct-10	3.0	< 0.5	30.1	--	2.8	0.055 J	52.6
4	TS4RS01	Riparian Soils	grab	26-Oct-10	6.5	< 0.5	37.6	--	5.1	0.14 J	55.8
4	TS4US01	Upland Soils	grab	26-Oct-10	< 1.2	3.9 J	41.7 J	39,000 J	1.9 J	< 0.12	67 J
5	TS5SE01	Sediments	grab	25-Oct-10	5.8	0.26 J	40.1	--	5.6	0.21 J	47.9
5	TS5RS01	Riparian Soils	grab	25-Oct-10	3.3	< 0.5	29.8	--	5.6	< 0.13	87.4
5	TS5US01	Upland Soils	grab	25-Oct-10	0.89 J	< 0.5	44.8	--	0.91 J	< 0.13	70.2
6	TS6SE01	Sediments	grab	26-Oct-10	29.8	10.0	2,550	--	202	1.5 J	1,600
7	TS7SE01	Sediments	grab	26-Oct-10	12.5	0.50	54.1	--	6.9	0.40 J	47.9
7	TS7RS01	Riparian Soils	grab	26-Oct-10	4.4 J	1.8 J	29.8 J	18,100 J	6 J	0.46 J	64 J
7	TS7US01	Upland Soils	grab	26-Oct-10	2.6 J	1.6 J	26.5 J	16,100 J	3.5 J	< 0.11	43.6 J
8	TS8SE01	Sediments	grab	27-Oct-10	8.1 J	2.3 J	71.4 J	18,900 J	9 J	0.12 J	135 J
8	TS8RS01	Riparian Soils	grab	27-Oct-10	2.7 J	1.5 J	79.1 J	14,100 J	4 J	0.22 J	53.2 J
9	TS9SE01	Sediments	grab	27-Oct-10	5.6	0.80	108	--	6.4	0.18 J	144
10	TS10SE01	Sediments	grab	27-Oct-10	0.72 J	0.066 J	58.6	--	1.3	0.078 J	18.1
11	TS11SE01	Sediments	grab	27-Oct-10	3.4 J	1.8 J	25.1 J	17,800 J	4.1 J	0.082 J	48.3 J
11	TS11RS01	Riparian Soils	grab	27-Oct-10	2.6 J	1.6 J	33.4 J	15,900 J	3.8 J	0.092 J	40.1 J
14	TS14SE01	Sediments	grab	27-Oct-10	3.3	0.19 J	48.3	--	2.9	0.14	39.8
15	TS15SE01	Sediments	grab	28-Oct-10	44.6 J	14.5 J	3,340 J	42,700 J	184 J	1.2 J	1,680 J
16	TS16SE01A	Sediments	0-6"	28-Oct-10	2.7 J	1.8 J	75.4 J	16,900 J	4.3 J	0.11 J	75.3 J
16	TS16SE01B	Sediments	6-12"	28-Oct-10	2.7 J	1.6 J	32.4 J	14,900 J	3.3 J	0.06 J	43.7 J
17	TS17SE01A	Sediments	0-6"	28-Oct-10	2.9 J	2.3 J	66.6 J	21,500 J	5.6 J	0.13 J	74.4 J
17	TS17SE01B	Sediments	6-8"	28-Oct-10	1.5 J	1.4 J	39.9 J	13,500 J	2.9 J	< 0.11	36.1 J

Screening Level

Residential Regional Screening Level (RSL) (mg/kg), USEPA, November 2010	0.39-39	70	3,100	55,000	400	5.6	23,000
Oregon Default Sediment/Soil Background Value (mg/kg)	7	1	NA	NA	17	0.07	NA

Notes:
Highlighting indicates results above the screening level.
< = value less than reporting limit
J = estimated value
mg/kg = milligrams per kilogram
NA = not available
-- = not analyzed

Table 3
Results for Metals in Surface Water
Blue Ledge Mine Site, Siskiyou County, CA

Transect Location	Sample ID	Sample Date	Field Parameters					Metals Analysis						
			Temperature (ºC)	pH	Conductivity (ms/cm)	DO (%)	ORP (mV)	Arsenic (ug/L)	Cadmium (ug/L)	Copper (ug/L)	Iron (ug/L)	Lead (ug/L)	Mercury (ug/L)	Zinc (ug/L)
1	TS1SW01	25-Oct-10	6.70	7.02	0.120	92.7	172.2	< 0.79	1.1	87.3	433	1.8	< 0.2	167
2	TS2SW01	25-Oct-10	7.06	7.72	0.123	91.5	76	< 0.76	1.1	87	389	1.4	< 0.2	167
3	TS3SW01	26-Oct-10	6.61	9.02	0.118	50	22.1	< 0.59	< 0.68	48.6	106	< 0.36	< 0.2	101
3	TS3SW02	26-Oct-10	6.61	9.02	0.118	50	22.1	< 0.51	< 0.68	49.1	101	< 0.39	< 0.2	102
4	TS4SW01	26-Oct-10	6.92	8.95	0.137	44.8	23.5	< 0.58	< 0.63	45.6	105	< 0.33	< 0.2	95
5	TS5SW01	25-Oct-10	7.61	7.92	0.129	94.1	19.1	< 0.68	< 0.0089	0.7 J	82.8 J	< 0.044	< 0.2	1.8 J
6	TS6SW01	26-Oct-10	6.92	7.25	0.142	44.3	212.5	< 0.41	7.3	527	821	3.3	< 0.2	1,120
7	TS7SW01	26-Oct-10	7.23	8.53	45.2	45.10	92.5	< 0.66	< 0.0096	0.58 J	< 100	< 1	< 0.2	2.3
8	TS8SW01	27-Oct-10	5.39	5.97	0.144	96.4	251.2	< 0.67	< 0.54	34.5	97.7 J	< 0.37	< 0.2	80.3
9	TS9SW01	27-Oct-10	5.50	7.83	0.119	96.6	141.1	< 0.64	< 0.4	28	179	< 0.81	< 0.2	57.9
10	TS10SW01	27-Oct-10	5.69	6.86	0.096	96.6	245.5	< 0.2	< 1	0.56 J	< 100	< 1	< 0.2	0.85 J
11	TS11SW01	27-Oct-10	5.56	5.78	0.148	98.2	735.8	< 0.66	< 0.012	< 2	< 100	< 0.023	< 0.2	1.9 J
14	TS14SW01	28-Oct-10	3.81	5.82	0.062	9.3	319	< 0.24	< 0.014	2.7	324	< 0.06	< 0.2	2.1
15	TS15SW01	28-Oct-10	3.37	3.62	0.164	8.4	430.7	55.1	31.1	3,700	37,500	443	5.6	4,250
17	TS17SW01	28-Oct-10	--	--	--	--	--	2.4	1.1	149	1,940	23.8	0.08 J	151

Screening Levels

Maximum Contaminant Level (MCL) (ug/L), USEPA, November 2010	10	5	1,300	NA	15	2	NA
Tap Water Regional Screening Level (RSL) (ug/L), USEPA, November 2010	0.045-4.5	18	1,500	26,000	NA	0.57	11,000

Notes:

Highlighting indicates results above screening level.
-- = not measured
< = value less than reporting limit
J = estimated value
ug/L = micrograms per liter
ms/cm = microsiemens per centimeter
mg/L = milligram per liter
mV = millivolts
NA = not available

Table 4a and 4b
Results for Metals in Fish Tissue
Blue Ledge Mine Site, Siskiyou County, CA

Transect Location	Sample ID	Common Name	Length inches	Weight grams	Estimated Age[1] years	Native or Stocked[2]	Table 4a: Whole Fish												
							Arsenic[3,4] mg/kg		Cadmium mg/kg		Copper mg/kg	Lead[4] mg/kg		Mercury mg/kg		Zinc mg/kg	Lipids %
1	TS1TS01	RBT	9	139.43	2+	N	0.138	J	0.275		12.9	0.252		< 0.0978	U	40.8	5.4
1	TS1TS02	RBT	8.9375	117.4	1+	S	0.0883	J	0.0646	J	3.43	< 0.196	U	< 0.098	U	60.9	1.5
1	TS1TS03	RBT	10.5	192.88	2+	S	0.139	J	0.0905	J	4.32	< 0.198	U	< 0.0969	U	39	1.2
2	TS2TS01	RBT	8.5	89.62	1+	S	0.138	J	0.215		7.45	0.127	J	< 0.0996	U	60.4	1.1
2	TS2TS02	RBT	7.625	75.89	1+	S	0.137	J	0.0989		4.40	0.127	J	< 0.0987	U	35	1.9
2	TS2TS03	RBT	6.75	55.86	1+	N	< 0.388	U	0.317		7.77	0.156	J	< 0.0988	U	50	6.4
3	TS3TS01	RBT	7.625	79.82	1+	N	0.127	J	0.200		6.22	0.164	J	< 0.0972	U	38.9	4.3
3	TS3TS02	RBT	5.5	28.47	1+	N	0.151	J	0.182		7.16	0.404		< 0.0992	U	70.2	4.6
3	TS3TS03	RBT	9.3125	117.64	1+	S	0.0686	J	0.0375	J	1.83	< 0.196	U	< 0.0953	U	38.3	0.81
3	TS3TS04	RBT	6.625	45.03	1+	N	0.0886	J	0.191		6.45	0.126	J	< 0.0957	U	53.5	6
4	TS4TS01	RBT	6.8125	37.62	1+	N	0.140	J	<0.099	U	3.01	0.119	J	< 0.099	U	44.2	0.77
4	TS4TS02	RBT	8.375	103.13	2+	N	0.182	J	0.153		6.11	1.24		< 0.0955	U	56.3	5.2
5	TS5TS01	RBT	5.25	23.27	1+	N	< 0.392	U	0.0419	J	2.62	< 0.196	U	< 0.0966	U	43.8	6
5	TS5TS02	RBT	5.25	25.37	1+	N	0.101	J	0.0386	J	2.03	< 0.196	U	< 0.0993	U	40.8	6.1

Screening Levels (Filet Results Only)
ATLh - Recreational

Summary Statistics							
Sample Count	14	14	14	14	14	14	14
No. Detected	12	13	14	9	0	14	14
% Detected	86	93	100	64	0	100	100
Average-Rainbow Trout	0.1249	0.1465	5.4071	0.3017	NA	48.0071	3.6629
Maximum-Rainbow Trout	0.1820	0.3170	12.90	1.240	NA	70.2	6.40

Notes:

RBT	Rainbow Trout		
J	estimated value	NA	not available
U	non-detect value	NS	not sampled

Blank results indicate inadequate sample available for analysis. Several fish were too small to yield a filet of adequately size to extract and analyze, and several smaller filets were not of sufficient size to analyze for mercury.

(1) Age is based on an examination of scale growth rings. The + indicates partial year growth from the emergence of the fry during the summer months to the late October time of sample collection.

(2) Native or stocked is based on whether the adipose fin was observed to be present (native) or clipped (stocked).

(3) Values were J-flagged to the MDL (ranging from 0.0577–0.0600)

(4) Highlighted values exceed State of Oregon's acute human toxicity level (ATLh) screening values (arsenic was adjusted to reflect EPA's lifetime cancer risk range of 10-6 to 10-4). Yellow indicates exceedance of subsistence levels, and orange indicates exceedance of recreational levels.

Table 4a and 4b
Results for Metals in Fish Tissue
Blue Ledge Mine Site, Siskiyou County, CA

Transect Location	Sample ID	Common Name	Length inches	Weight grams	Estimated Age[1] years	Native or Stocked[2]	Table 4b: Filet Only												
							Arsenic[3,4] mg/kg		Cadmium mg/kg		Copper mg/kg		Lead mg/kg		Mercury mg/kg		Zinc mg/kg	Lipids %
1	TS1TS01	RBT	9	139.43	2+	N	<0.385	U	0.0457	J	1.07		0.0913	J	< 0.094	U	13.6	3.8
1	TS1TS02	RBT	8.9375	117.4	1+	S	<0.4	U	< 0.1	U	0.373	J	< 0.2	U	< 0.0947	U	10.4	0.58
1	TS1TS03	RBT	10.5	192.88	2+	S	0.179	J	< 0.098	U	0.395		< 0.196	U	< 0.097	U	9.10	0.25
2	TS2TS01	RBT	8.5	89.62	1+	S	0.120	J	< 0.0962	U	0.586		< 0.192	U	< 0.0996	U	13.1	0.33
2	TS2TS02	RBT	7.625	75.89	1+	S	0.109	J	< 0.0971	U	0.606		< 0.194	U	< 0.0945	U	9.98	0.91
2	TS2TS03	RBT	6.75	55.86	1+	N	<0.385	U	< 0.0962	U	0.633		< 0.192	U	< 0.0989	U	6.96	1.8
3	TS3TS01	RBT	7.625	79.82	1+	N	< 0.396	U	0.0770	J	1.09		< 0.198	U	< 0.0985	U	8.77	0.98
3	TS3TS02	RBT	5.5	28.47	1+	N	< 0.396	U	0.0938	J	2.37		< 0.198	U	NS		34.8	1.9
3	TS3TS03	RBT	9.3125	117.64	1+	S	< 0.385	U	< 0.0962	U	0.287	J	< 0.192	U	< 0.0971	U	8.40	0.33
3	TS3TS04	RBT	6.625	45.03	1+	N	< 0.385	U	0.0590	J	1.19		< 0.192	U	< 0.0974	U	22.3	2.9
4	TS4TS01	RBT	6.8125	37.62	1+	N	< 0.4	U	<0.1	U	0.595		< 0.2	U	NS		15.6	0.57
4	TS4TS02	RBT	8.375	103.13	2+	N	< 0.396	U	<0.099	U	0.787		< 0.198	U	< 0.0992	U	10.5	1.1
5	TS5TS01	RBT	5.25	23.27	1+	N	< 0.385	U	<0.0962	U	0.749		< 0.192	U	NS		9.24	1.5
5	TS5TS02	RBT	5.25	25.37	1+	N	< 0.4	U	<0.1	U	0.607		< 0.2	U	NS		19.9	2.9
Screening Levels (Filet Results Only)																			
ATLh - Recreational							0.0062 - 0.62		4.0		NA		0.5		0.4		NA	NA
Summary Statistics																			
Sample Count							14		14		14		14		10		14	14
No. Detected							3		4		14		1		0		14	14
% Detected							21		29		100		7		0		100	100
Average-Rainbow Trout							0.1360		0.0689		0.8099		0.0913		NA		13.7607	1.4179
Maximum-Rainbow Trout							0.18		0.09		2.37		0.09		NA		34.80	3.80

Notes:

RBT	Rainbow Trout		
J	estimated value	NA	not available
U	non-detect value	NS	not sampled

Blank results indicate inadequate sample available for analysis. Several fish were too small to yield a filet of adequately size to extract and analyze, and several smaller filets were not of sufficient size to analyze for mercury.

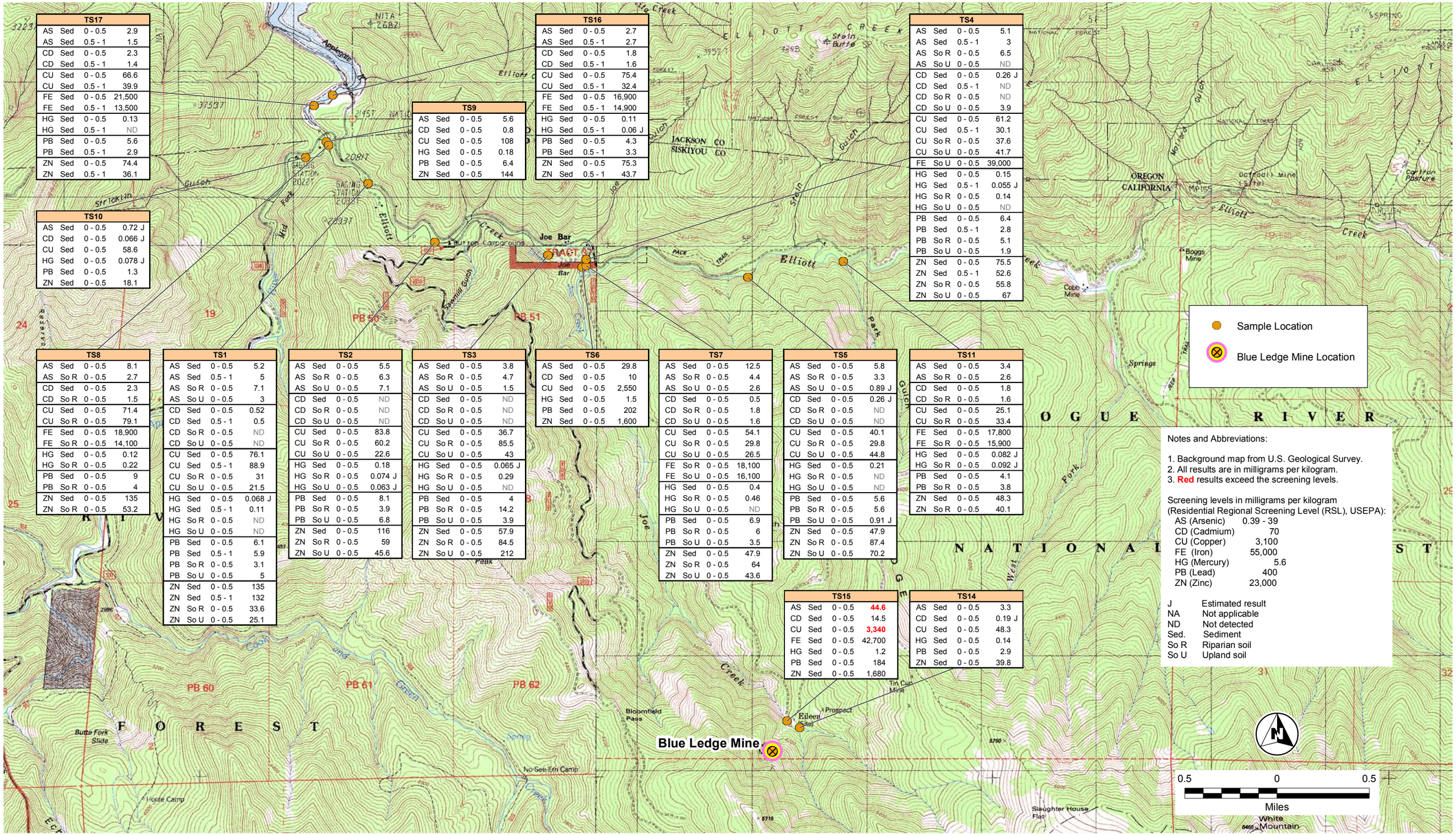
(1) Age is based on an examination of scale growth rings. The + indicates partial year growth from the emergence of the fry during the summer months to the late October time of sample collection.

(2) Native or stocked is based on whether the adipose fin was observed to be present (native) or clipped (stocked).

(3) Values were J-flagged to the MDL (ranging from 0.0577–0.0600)

(4) Highlighted values exceed State of Oregon's acute human toxicity level (ATLh) screening values (arsenic was adjusted to reflect EPA's lifetime cancer risk range of 10-6 to 10-4). Yellow indicates exceedance of subsistence levels, and orange indicates exceedance of recreational levels.

FIGURES



Notes and Abbreviations:

1. Background map from U.S. Geological Survey.
2. All results are in milligrams per kilogram.
3. **Red** results exceed the screening levels.

Screening levels in milligrams per kilogram (Residential Regional Screening Level (RSL), USEPA):

AS (Arsenic)	0.39 - 39
CD (Cadmium)	70
CU (Copper)	3,100
FE (Iron)	55,000
HG (Mercury)	5.6
PB (Lead)	400
ZN (Zinc)	23,000

J	Estimated result
NA	Not applicable
ND	Not detected
Sed.	Sediment
So R	Riparian soil
So U	Upland soil

TS17

AS	Sed	0 - 0.5	2.9
AS	Sed	0.5 - 1	1.5
CD	Sed	0 - 0.5	2.3
CD	Sed	0.5 - 1	1.4
CU	Sed	0 - 0.5	66.6
CU	Sed	0.5 - 1	39.9
FE	Sed	0 - 0.5	21,500
FE	Sed	0.5 - 1	13,500
HG	Sed	0 - 0.5	0.13
HG	Sed	0.5 - 1	ND
PB	Sed	0 - 0.5	5.6
PB	Sed	0.5 - 1	2.9
ZN	Sed	0 - 0.5	74.4
ZN	Sed	0.5 - 1	36.1

TS16

AS	Sed	0 - 0.5	2.7
AS	Sed	0.5 - 1	2.7
CD	Sed	0 - 0.5	1.8
CD	Sed	0.5 - 1	1.6
CU	Sed	0 - 0.5	75.4
CU	Sed	0.5 - 1	32.4
FE	Sed	0 - 0.5	16,900
FE	Sed	0.5 - 1	14,900
HG	Sed	0 - 0.5	0.11
HG	Sed	0.5 - 1	0.06 J
PB	Sed	0 - 0.5	4.3
PB	Sed	0.5 - 1	3.3
ZN	Sed	0 - 0.5	75.3
ZN	Sed	0.5 - 1	43.7

TS9

AS	Sed	0 - 0.5	5.6
CD	Sed	0 - 0.5	0.8
CU	Sed	0 - 0.5	108
HG	Sed	0 - 0.5	0.18
PB	Sed	0 - 0.5	6.4
ZN	Sed	0 - 0.5	144

TS10

AS	Sed	0 - 0.5	0.72 J
CD	Sed	0 - 0.5	0.066 J
CU	Sed	0 - 0.5	58.6
HG	Sed	0 - 0.5	0.078 J
PB	Sed	0 - 0.5	1.3
ZN	Sed	0 - 0.5	18.1

TS4

AS	Sed	0 - 0.5	5.1
AS	Sed	0.5 - 1	3
AS	So R	0 - 0.5	6.5
AS	So U	0 - 0.5	ND
CD	Sed	0 - 0.5	0.26 J
CD	Sed	0.5 - 1	ND
CD	So R	0 - 0.5	ND
CD	So U	0 - 0.5	3.9
CU	Sed	0 - 0.5	61.2
CU	Sed	0.5 - 1	30.1
CU	So R	0 - 0.5	37.6
CU	So U	0 - 0.5	41.7
FE	So U	0 - 0.5	39,000
HG	Sed	0 - 0.5	0.15
HG	Sed	0.5 - 1	0.055 J
HG	So R	0 - 0.5	0.14
HG	So U	0 - 0.5	ND
PB	Sed	0 - 0.5	6.4
PB	Sed	0.5 - 1	2.8
PB	So R	0 - 0.5	5.1
PB	So U	0 - 0.5	1.9
ZN	Sed	0 - 0.5	75.5
ZN	Sed	0.5 - 1	52.6
ZN	So R	0 - 0.5	55.8
ZN	So U	0 - 0.5	67

TS8

AS	Sed	0 - 0.5	8.1
AS	So R	0 - 0.5	2.7
CD	Sed	0 - 0.5	2.3
CD	So R	0 - 0.5	1.5
CU	Sed	0 - 0.5	71.4
CU	So R	0 - 0.5	79.1
FE	Sed	0 - 0.5	18,900
FE	So R	0 - 0.5	14,100
HG	Sed	0 - 0.5	0.12
HG	So R	0 - 0.5	0.22
PB	Sed	0 - 0.5	9
PB	So R	0 - 0.5	4
ZN	Sed	0 - 0.5	135
ZN	So R	0 - 0.5	53.2

TS1

AS	Sed	0 - 0.5	5.2
AS	Sed	0.5 - 1	5
AS	So R	0 - 0.5	7.1
AS	So U	0 - 0.5	3
CD	Sed	0 - 0.5	0.52
CD	Sed	0.5 - 1	0.5
CD	So R	0 - 0.5	ND
CD	So U	0 - 0.5	ND
CU	Sed	0 - 0.5	76.1
CU	Sed	0.5 - 1	88.9
CU	So R	0 - 0.5	31
CU	So U	0 - 0.5	21.5
HG	Sed	0 - 0.5	0.068 J
HG	Sed	0.5 - 1	0.11
HG	So R	0 - 0.5	ND
HG	So U	0 - 0.5	ND
PB	Sed	0 - 0.5	6.1
PB	Sed	0.5 - 1	5.9
PB	So R	0 - 0.5	3.1
PB	So U	0 - 0.5	5
ZN	Sed	0 - 0.5	135
ZN	Sed	0.5 - 1	132
ZN	So R	0 - 0.5	33.6
ZN	So U	0 - 0.5	25.1

TS2

AS	Sed	0 - 0.5	5.5
AS	So R	0 - 0.5	6.3
AS	So U	0 - 0.5	7.1
CD	Sed	0 - 0.5	ND
CD	So R	0 - 0.5	ND
CD	So U	0 - 0.5	ND
CU	Sed	0 - 0.5	83.8
CU	So R	0 - 0.5	60.2
CU	So U	0 - 0.5	22.6
HG	Sed	0 - 0.5	0.18
HG	So R	0 - 0.5	0.074 J
HG	So U	0 - 0.5	0.063 J
PB	Sed	0 - 0.5	8.1
PB	So R	0 - 0.5	3.9
PB	So U	0 - 0.5	6.8
ZN	Sed	0 - 0.5	116
ZN	So R	0 - 0.5	59
ZN	So U	0 - 0.5	45.6

TS3

AS	Sed	0 - 0.5	3.8
AS	So R	0 - 0.5	4.7
AS	So U	0 - 0.5	1.5
CD	Sed	0 - 0.5	ND
CD	So R	0 - 0.5	ND
CD	So U	0 - 0.5	ND
CU	Sed	0 - 0.5	36.7
CU	So R	0 - 0.5	85.5
CU	So U	0 - 0.5	43
HG	Sed	0 - 0.5	0.065 J
HG	So R	0 - 0.5	0.29
HG	So U	0 - 0.5	ND
PB	Sed	0 - 0.5	4
PB	So R	0 - 0.5	14.2
PB	So U	0 - 0.5	3.9
ZN	Sed	0 - 0.5	57.9
ZN	So R	0 - 0.5	84.5
ZN	So U	0 - 0.5	212

TS6

AS	Sed	0 - 0.5	29.8
CD	Sed	0 - 0.5	10
CU	Sed	0 - 0.5	2,550
HG	Sed	0 - 0.5	1.5
PB	Sed	0 - 0.5	202
ZN	Sed	0 - 0.5	1,600

TS7

AS	Sed	0 - 0.5	12.5
AS	So R	0 - 0.5	4.4
AS	So U	0 - 0.5	2.6
CD	Sed	0 - 0.5	0.5
CD	So R	0 - 0.5	1.8
CD	So U	0 - 0.5	1.6
CU	Sed	0 - 0.5	54.1
CU	So R	0 - 0.5	29.8
CU	So U	0 - 0.5	26.5
FE	So R	0 - 0.5	18,100
FE	So U	0 - 0.5	16,100
HG	Sed	0 - 0.5	0.4
HG	So R	0 - 0.5	0.46
HG	So U	0 - 0.5	ND
PB	Sed	0 - 0.5	6.9
PB	So R	0 - 0.5	6
PB	So U	0 - 0.5	3.5
ZN	Sed	0 - 0.5	47.9
ZN	So R	0 - 0.5	64
ZN	So U	0 - 0.5	43.6

TS5

AS	Sed	0 - 0.5	5.8
AS	So R	0 - 0.5	3.3
AS	So U	0 - 0.5	0.89 J
CD	Sed	0 - 0.5	0.26 J
CD	So R	0 - 0.5	ND
CD	So U	0 - 0.5	ND
CU	Sed	0 - 0.5	40.1
CU	So R	0 - 0.5	29.8
CU	So U	0 - 0.5	44.8
HG	Sed	0 - 0.5	0.21
HG	So R	0 - 0.5	ND
HG	So U	0 - 0.5	ND
PB	Sed	0 - 0.5	5.6
PB	So R	0 - 0.5	5.6
PB	So U	0 - 0.5	0.91 J
ZN	Sed	0 - 0.5	47.9
ZN	So R	0 - 0.5	87.4
ZN	So U	0 - 0.5	70.2

TS11

AS	Sed	0 - 0.5	3.4
AS	So R	0 - 0.5	2.6
CD	Sed	0 - 0.5	1.8
CD	So R	0 - 0.5	1.6
CU	Sed	0 - 0.5	25.1
CU	So R	0 - 0.5	33.4
FE	Sed	0 - 0.5	17,800
FE	So R	0 - 0.5	15,900
HG	Sed	0 - 0.5	0.082 J
HG	So R	0 - 0.5	0.092 J
PB	Sed	0 - 0.5	4.1
PB	So R	0 - 0.5	3.8
ZN	Sed	0 - 0.5	48.3
ZN	So R	0 - 0.5	40.1

TS15

AS	Sed	0 - 0.5	**44.6**
CD	Sed	0 - 0.5	14.5
CU	Sed	0 - 0.5	**3,340**
FE	Sed	0 - 0.5	42,700
HG	Sed	0 - 0.5	1.2
PB	Sed	0 - 0.5	184
ZN	Sed	0 - 0.5	1,680

TS14

AS	Sed	0 - 0.5	3.3
CD	Sed	0 - 0.5	0.19 J
CU	Sed	0 - 0.5	48.3
HG	Sed	0 - 0.5	0.14
PB	Sed	0 - 0.5	2.9
ZN	Sed	0 - 0.5	39.8

ITSI Innovative Technical Solutions, Inc. A Gilbane Company

Blue Ledge Mine Site
U.S. Environmental Protection Agency, Region 9
55 Hawthorne, San Francisco, CA

FIGURE 1
Concentrations of Metals
In Soil and Sediment

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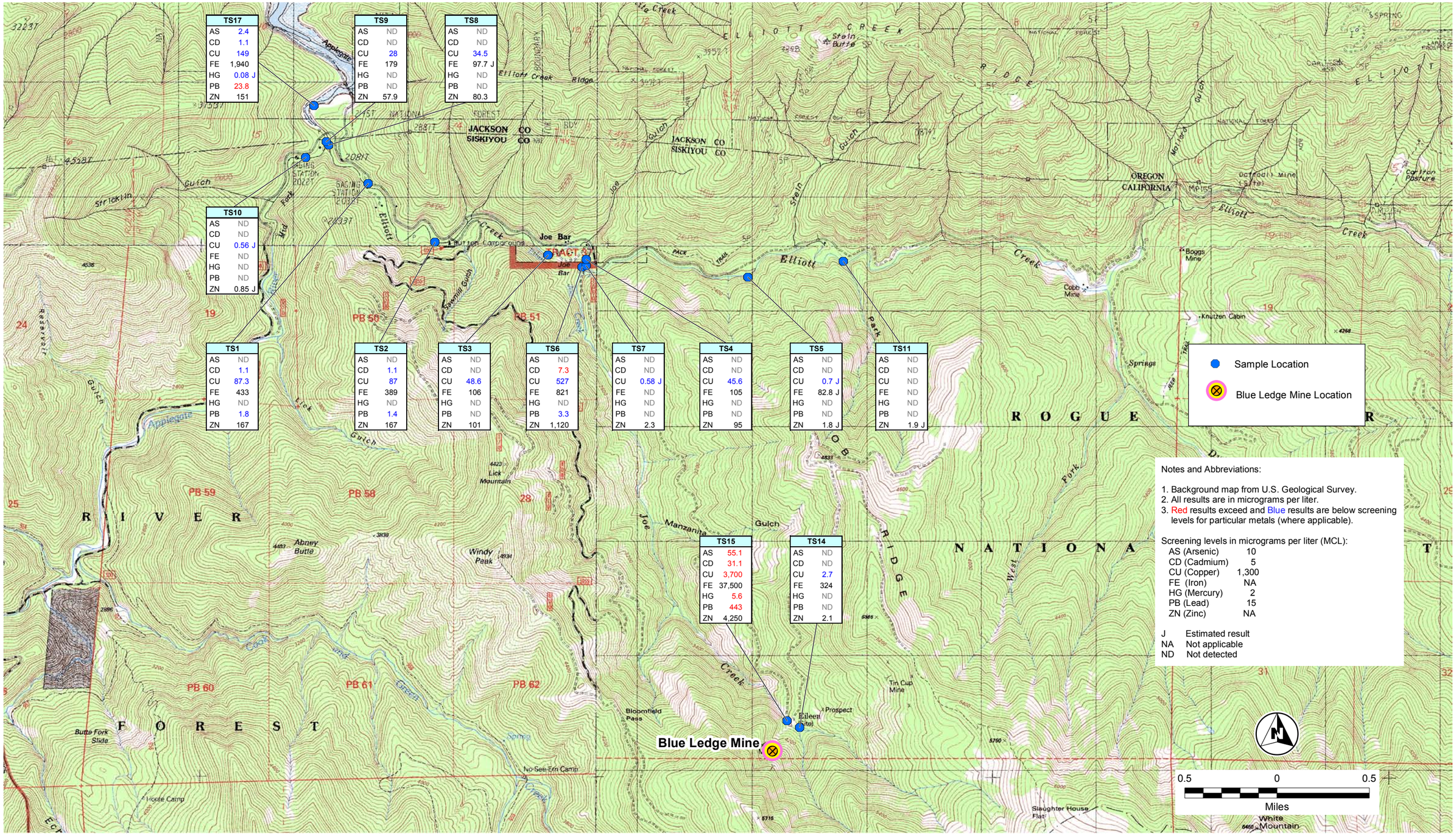
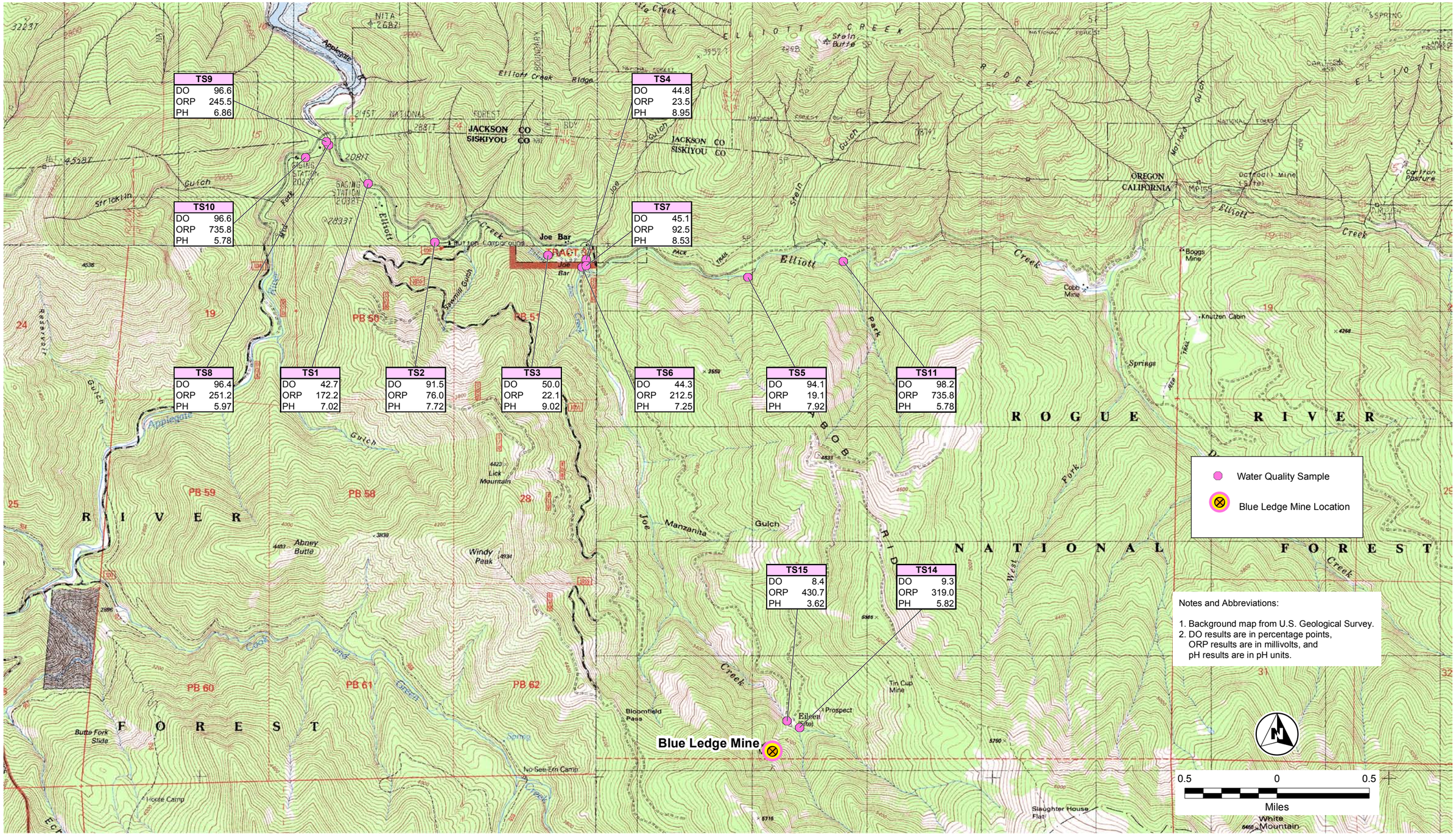


Innovative Technical Solutions, Inc.
A Gilbane Company

Blue Ledge Mine Site
U.S. Environmental Protection Agency, Region 9
55 Hawthorne, San Francisco, CA

FIGURE 2
Concentrations of Metals in Water

G:\ArcGIS\EPA\Blue_Ledge\PROJECTS\Oct2010_Samp\Metals_Water.mxd 2/28/2011 [16:25 PM] AZHUK, ITSI



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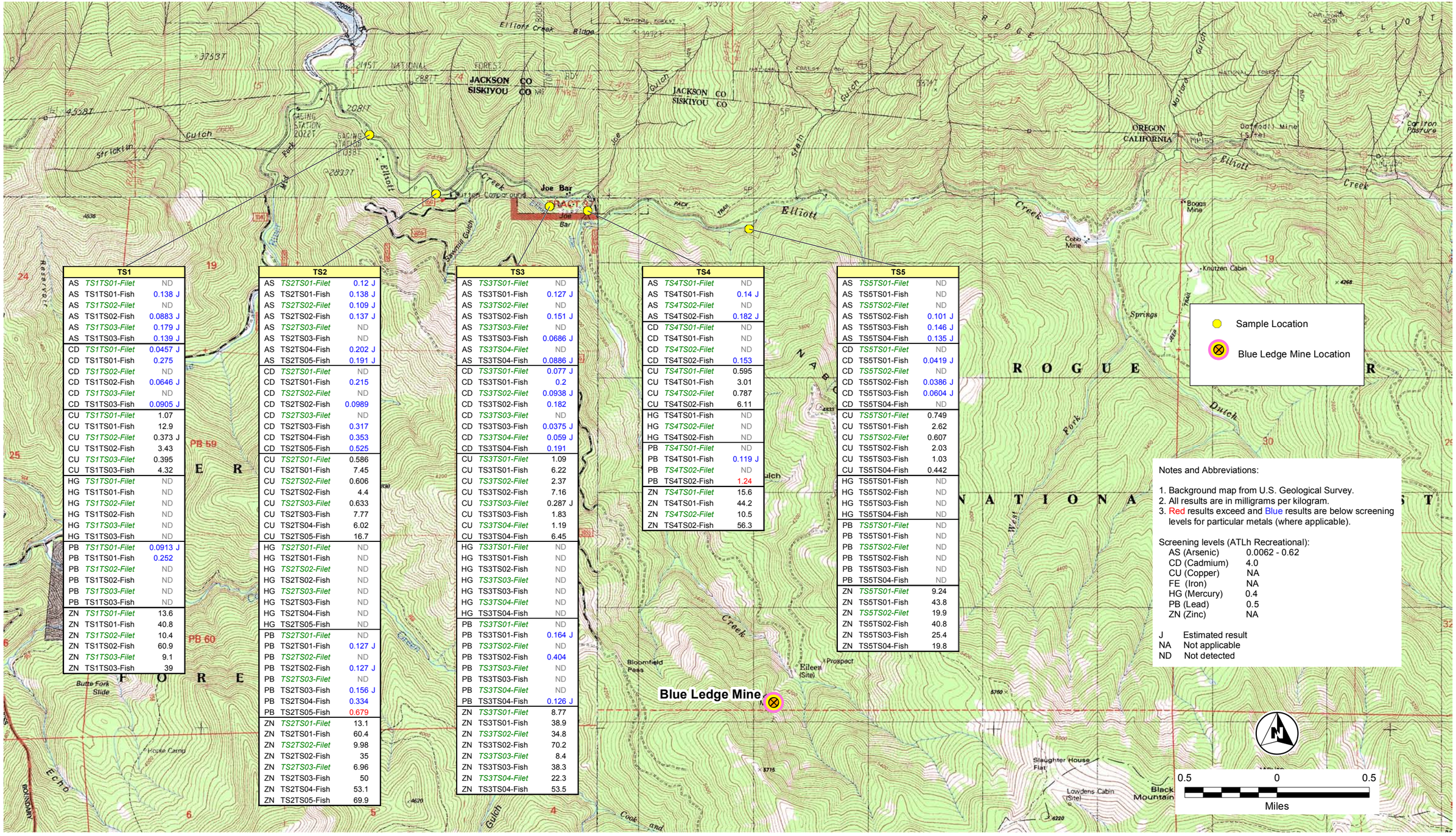
Blue Ledge Mine Site
U.S. Environmental Protection Agency, Region 9
55 Hawthorne, San Francisco, CA

FIGURE 3
Water Quality Results

G:\ArcGIS\EPA\Blue_Ledge\PROJECTS\FSP\Prop_SmpLocs_Prelim_Scrn_Survey.mxd 10/6/2010 ITSI-WC Alex Zhuk



TS1		
AS	TS1TS01-Filet	ND
AS	TS1TS01-Fish	0.138 J
AS	TS1TS02-Filet	ND
AS	TS1TS02-Fish	0.0883 J
AS	TS1TS03-Filet	0.179 J
AS	TS1TS03-Fish	0.139 J
CD	TS1TS01-Filet	0.0457 J
CD	TS1TS01-Fish	0.275
CD	TS1TS02-Filet	ND
CD	TS1TS02-Fish	0.0646 J
CD	TS1TS03-Filet	ND
CD	TS1TS03-Fish	0.0905 J
CU	TS1TS01-Filet	1.07
CU	TS1TS01-Fish	12.9
CU	TS1TS02-Filet	0.373 J
CU	TS1TS02-Fish	3.43
CU	TS1TS03-Filet	0.395
CU	TS1TS03-Fish	4.32
HG	TS1TS01-Filet	ND
HG	TS1TS01-Fish	ND
HG	TS1TS02-Filet	ND
HG	TS1TS02-Fish	ND
HG	TS1TS03-Filet	ND
HG	TS1TS03-Fish	ND
PB	TS1TS01-Filet	0.0913 J
PB	TS1TS01-Fish	0.252
PB	TS1TS02-Filet	ND
PB	TS1TS02-Fish	ND
PB	TS1TS03-Filet	ND
PB	TS1TS03-Fish	ND
ZN	TS1TS01-Filet	13.6
ZN	TS1TS01-Fish	40.8
ZN	TS1TS02-Filet	10.4
ZN	TS1TS02-Fish	60.9
ZN	TS1TS03-Filet	9.1
ZN	TS1TS03-Fish	39

TS2		
AS	TS2TS01-Filet	0.12 J
AS	TS2TS01-Fish	0.138 J
AS	TS2TS02-Filet	0.109 J
AS	TS2TS02-Fish	0.137 J
AS	TS2TS03-Filet	ND
AS	TS2TS03-Fish	ND
AS	TS2TS04-Fish	0.202 J
AS	TS2TS05-Fish	0.191 J
CD	TS2TS01-Filet	ND
CD	TS2TS01-Fish	0.215
CD	TS2TS02-Filet	ND
CD	TS2TS02-Fish	0.0989
CD	TS2TS03-Filet	ND
CD	TS2TS03-Fish	0.317
CD	TS2TS04-Fish	0.353
CD	TS2TS05-Fish	0.525
CU	TS2TS01-Filet	0.586
CU	TS2TS01-Fish	7.45
CU	TS2TS02-Filet	0.606
CU	TS2TS02-Fish	4.4
CU	TS2TS03-Filet	0.633
CU	TS2TS03-Fish	7.77
CU	TS2TS04-Fish	6.02
CU	TS2TS05-Fish	16.7
HG	TS2TS01-Filet	ND
HG	TS2TS01-Fish	ND
HG	TS2TS02-Filet	ND
HG	TS2TS02-Fish	ND
HG	TS2TS03-Filet	ND
HG	TS2TS03-Fish	ND
HG	TS2TS04-Fish	ND
HG	TS2TS05-Fish	ND
PB	TS2TS01-Filet	ND
PB	TS2TS01-Fish	0.127 J
PB	TS2TS02-Filet	ND
PB	TS2TS02-Fish	0.127 J
PB	TS2TS03-Filet	ND
PB	TS2TS03-Fish	0.156 J
PB	TS2TS04-Fish	0.334
PB	TS2TS05-Fish	0.679
ZN	TS2TS01-Filet	13.1
ZN	TS2TS01-Fish	60.4
ZN	TS2TS02-Filet	9.98
ZN	TS2TS02-Fish	35
ZN	TS2TS03-Filet	6.96
ZN	TS2TS03-Fish	50
ZN	TS2TS04-Fish	53.1
ZN	TS2TS05-Fish	69.9

TS3		
AS	TS3TS01-Filet	ND
AS	TS3TS01-Fish	0.127 J
AS	TS3TS02-Filet	ND
AS	TS3TS02-Fish	0.151 J
AS	TS3TS03-Filet	ND
AS	TS3TS03-Fish	0.0686 J
AS	TS3TS04-Filet	ND
AS	TS3TS04-Fish	0.0886 J
CD	TS3TS01-Filet	0.077 J
CD	TS3TS01-Fish	0.2
CD	TS3TS02-Filet	0.0938 J
CD	TS3TS02-Fish	0.182
CD	TS3TS03-Filet	ND
CD	TS3TS03-Fish	0.0375 J
CD	TS3TS04-Filet	0.059 J
CD	TS3TS04-Fish	0.191
CU	TS3TS01-Filet	1.09
CU	TS3TS01-Fish	6.22
CU	TS3TS02-Filet	2.37
CU	TS3TS02-Fish	7.16
CU	TS3TS03-Filet	0.287 J
CU	TS3TS03-Fish	1.83
CU	TS3TS04-Filet	1.19
CU	TS3TS04-Fish	6.45
HG	TS3TS01-Filet	ND
HG	TS3TS01-Fish	ND
HG	TS3TS02-Fish	ND
HG	TS3TS03-Filet	ND
HG	TS3TS03-Fish	ND
HG	TS3TS04-Filet	ND
HG	TS3TS04-Fish	ND
PB	TS3TS01-Filet	ND
PB	TS3TS01-Fish	0.164 J
PB	TS3TS02-Filet	ND
PB	TS3TS02-Fish	0.404
PB	TS3TS03-Filet	ND
PB	TS3TS03-Fish	ND
PB	TS3TS04-Filet	ND
PB	TS3TS04-Fish	0.126 J
ZN	TS3TS01-Filet	8.77
ZN	TS3TS01-Fish	38.9
ZN	TS3TS02-Filet	34.8
ZN	TS3TS02-Fish	70.2
ZN	TS3TS03-Filet	8.4
ZN	TS3TS03-Fish	38.3
ZN	TS3TS04-Filet	22.3
ZN	TS3TS04-Fish	53.5

TS4		
AS	TS4TS01-Filet	ND
AS	TS4TS01-Fish	0.14 J
AS	TS4TS02-Filet	ND
AS	TS4TS02-Fish	0.182 J
CD	TS4TS01-Filet	ND
CD	TS4TS01-Fish	ND
CD	TS4TS02-Filet	ND
CD	TS4TS02-Fish	0.153
CU	TS4TS01-Filet	0.595
CU	TS4TS01-Fish	3.01
CU	TS4TS02-Filet	0.787
CU	TS4TS02-Fish	6.11
HG	TS4TS01-Fish	ND
HG	TS4TS02-Filet	ND
HG	TS4TS02-Fish	ND
PB	TS4TS01-Filet	ND
PB	TS4TS01-Fish	0.119 J
PB	TS4TS02-Filet	ND
PB	TS4TS02-Fish	1.24
ZN	TS4TS01-Filet	15.6
ZN	TS4TS01-Fish	44.2
ZN	TS4TS02-Filet	10.5
ZN	TS4TS02-Fish	56.3

TS5		
AS	TS5TS01-Filet	ND
AS	TS5TS01-Fish	ND
AS	TS5TS02-Filet	ND
AS	TS5TS02-Fish	0.101 J
AS	TS5TS03-Fish	0.146 J
AS	TS5TS04-Fish	0.135 J
CD	TS5TS01-Filet	ND
CD	TS5TS01-Fish	0.0419 J
CD	TS5TS02-Filet	ND
CD	TS5TS02-Fish	0.0386 J
CD	TS5TS03-Fish	0.0604 J
CD	TS5TS04-Fish	ND
CU	TS5TS01-Filet	0.749
CU	TS5TS01-Fish	2.62
CU	TS5TS02-Filet	0.607
CU	TS5TS02-Fish	2.03
CU	TS5TS03-Fish	1.03
CU	TS5TS04-Fish	0.442
HG	TS5TS01-Fish	ND
HG	TS5TS02-Fish	ND
HG	TS5TS03-Fish	ND
HG	TS5TS04-Fish	ND
PB	TS5TS01-Filet	ND
PB	TS5TS01-Fish	ND
PB	TS5TS02-Filet	ND
PB	TS5TS02-Fish	ND
PB	TS5TS03-Fish	ND
PB	TS5TS04-Fish	ND
ZN	TS5TS01-Filet	9.24
ZN	TS5TS01-Fish	43.8
ZN	TS5TS02-Filet	19.9
ZN	TS5TS02-Fish	40.8
ZN	TS5TS03-Fish	25.4
ZN	TS5TS04-Fish	19.8

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U.S. Environmental Protection Agency, Region 9
55 Hawthorne, San Francisco, CA

FIGURE 4
Concentrations of Metals
in Fish Tissue

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ATTACHMENT 1

FIELD NOTES

Innovative Technical Solutions, Inc.

FIELD ACTIVITY REPORT

Project: Blue Ledge Mine		Date: 10/25-29/2010 Page 1 of 1
Client: USEPA	Contract No.:	Project No.: 07163.0049
Work Description: GARMIN 60CSx Handheld GPS Way Points details		
Subcontractors/Visitors: USEPA (Bonnie)		
Weather: Cloudy / rain		

DESCRIPTION OF FIELD ACTIVITIES AND EVENTS

TS01 surveyed on 10/25/2010 at 9:52:36 AM
UTM 10T 0487650 / 4650118 Elev. 587m
0487697 / 4650108 Elev. 611m
TS02 (10/25/2010 at 13:26:22)
UTM 10T 0488233/4649605 Elev. 645m
TS03 (10/26/2010 at 10:25:24 AM)
UTM 10T 0489221/4649492 Elev. 659m.
TS04 (10/26/2010 at 12:19:16 PM)
UTM 10T 0489553/4649456 Elev. 687m.
TS05 (10/25/2010 at 15:36:24)
UTM 10T 0490962/4649298 Elev. 679m.
TS06 (10/26/2010 at 14:31:41
UTM 10T 0489518/4649388 Elev. 680m.
TS07 (10/26/2010 at 15:16:34 PM)
UTM 10T 0489552/4649401 Elev. 675m.
TS08 (10/27/2010 at 11:21:18 AM)
UTM 10T 0487307/4650453 Elev. 626m.
TS09 (10/27/2010 at 11:17:30 AM)
UTM 10T 0487286/4650481 Elev. 627m.
TS10 (10/27/2010 at 10:59:58 AM)
UTM 10T 0487106/4650345 Elev. 628m.
TS11 (10/27/10 at 12:01:37)
UTM 10T 0491796/4649438 Elev. 706m.
TS12 (10/27/10 at 12:30:17)
UTM 10T 0491855/4649441 Elev. 719m.
TS13 (10/27/10 at 14:06:21 PM) UTM 10T 0493616/4649477 Elev. 768m
TS14 (10/28/10 at 10:26:00 AM) UTM 10T 0491415/4645376 Elev. 1226m.
TS15 (10/28/10 at 10:46:45 AM) UTM 10T 0491303/4645432 Elev. 1223m.
TS16 (10/28/10 at 14:29:35 PM) UTM 10T 0487343/4650886 Elev. 613m
TS17 (10/28/10 at 15:07:08 PM) UTM 10T 0487179/4650799 Elev. 611m.

Prepared by:	Rogerio Wong	Signature:		Date:	10/28/2010

TS18 (10/28/10 at 15:09:33 PM) UTM 10T 0487172/4650822 Elev. 606m

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Sheet 1 of 1

Surface Water Sampling Form

Project Name: BLUELEDGE MINE

Sampled By: Rogerio Leong

Date: 10/25/2010

Time: 10:05 AM

Sample ID: TS15W01

Sample Location: Elliott CK #1 (Gasins station)

Weather Conditions: partly cloudy, ~40°F

GPS Coordinates: UTM zone 10T 0487597/4650106 meters

Surface Water Type: Flowing Creek

Water Depth (ft): 0 ft, surface sample

Sampling Method: Grab

Field Instrument(s) Model/SN:

Discharge/Velocity: Not Available

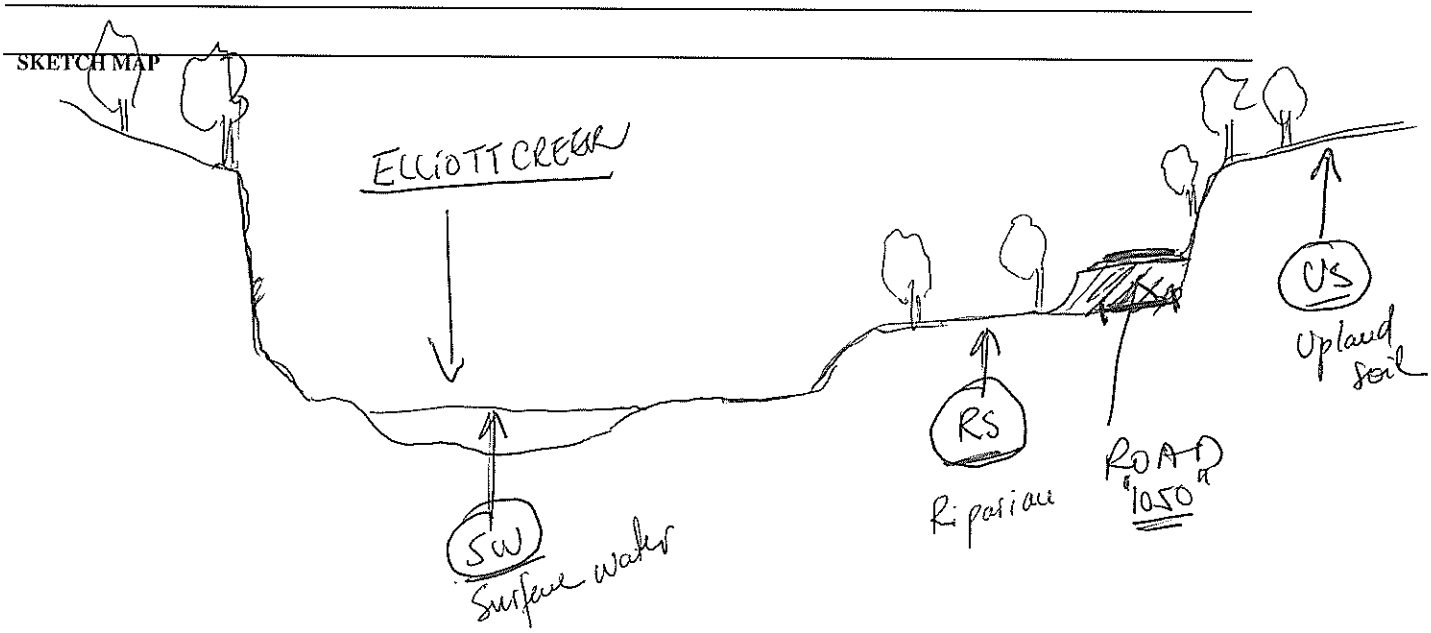
Field Instrument(s) Model/SN:

Sample Condition (odor, oily, etc): No odor, clear

Temp. (°C)	pH	Sp. Cond. (mS/cm)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Comments
6.70	7.02	0.120	—	11.33 mg/L 92.7%	172.2	

Additional Parameters/Comments:

SKETCH MAP



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Sheet 1 of 1

Sediment Sampling Form

Project Name: Blue Ledge Mine Sampled By: Rogerio Leong

Date: 10/25/2010 Time: 10:45 ; 10:48 Sample ID: TS1SE01A, TS1 SE01B

Weather Conditions: partly cloudy, low 40°s F

Sample Location: Elliott Creek # 1

GPS Coordinates: UTM Zone 10T 0487597 / 4650106 meters

Water Depth at Sample (ft.): < 6 inches

Discharge/Velocity: Not Available

Sampling Method: Grab

Instrument Type: Slide Hammer

Sample Homogenized: YES 0-6 inches = TS1SE01A
6-12 inches = TS1SE01B

Sediment Sample Information

Odor: No odor

Color: Dark brown

Texture: coarse sand, well sorted

Grain Size: coarse sand

Moisture: wet

pH (strips)

Comments (Organic matter, leaves, etc):

no organic matter

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Sediment Sampling Form

Project Name: Blue Ledge Mine Sampled By: RLeong

Date: 10/25/2010 Time: 11:05 Sample ID: TSI RS01

Weather Conditions: cloudy / misty rain

Sample Location: Riparian under Red wood tree

GPS Coordinates:

Water Depth at Sample (ft.): NA

Discharge/Velocity: NA

Sampling Method: Grab

Instrument Type: NA

Sample Homogenized: NO

Sediment Sample Information

Odor: Organic

Color: dark brown / black

Texture: slightly plastic

Grain Size: clayey sand (fine grained)

Moisture: Moist

pH (strips) NA

Comments (Organic matter, leaves, etc):

roots and leaves

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Sediment Sampling Form

Project Name: Blue Ledge Mine Sampled By: R Leong

Date: 10/25/2010 Time: 11:20 Sample ID: TS1US01

Weather Conditions: Cloudy

Sample Location: Upland soil (above road)

GPS Coordinates:

Water Depth at Sample (ft.): NA

Discharge/Velocity: NA

Sampling Method: grab

Instrument Type:

Sample Homogenized: No

Sediment Sample Information

Odor: organic

Color: black / ~~[illegible]~~ grayish black

Texture: some plasticity

Grain Size: clayish silt

Moisture: Moist

pH (strips) NA

Comments (Organic matter, leaves, etc):

Abundant roots and leaves

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Surface Water Sampling Form

Project Name: Blue Ledge Mine
Sampled By: RLeong
Date: 10/25/10
Time: 13:15
Sample ID: T52 SW01

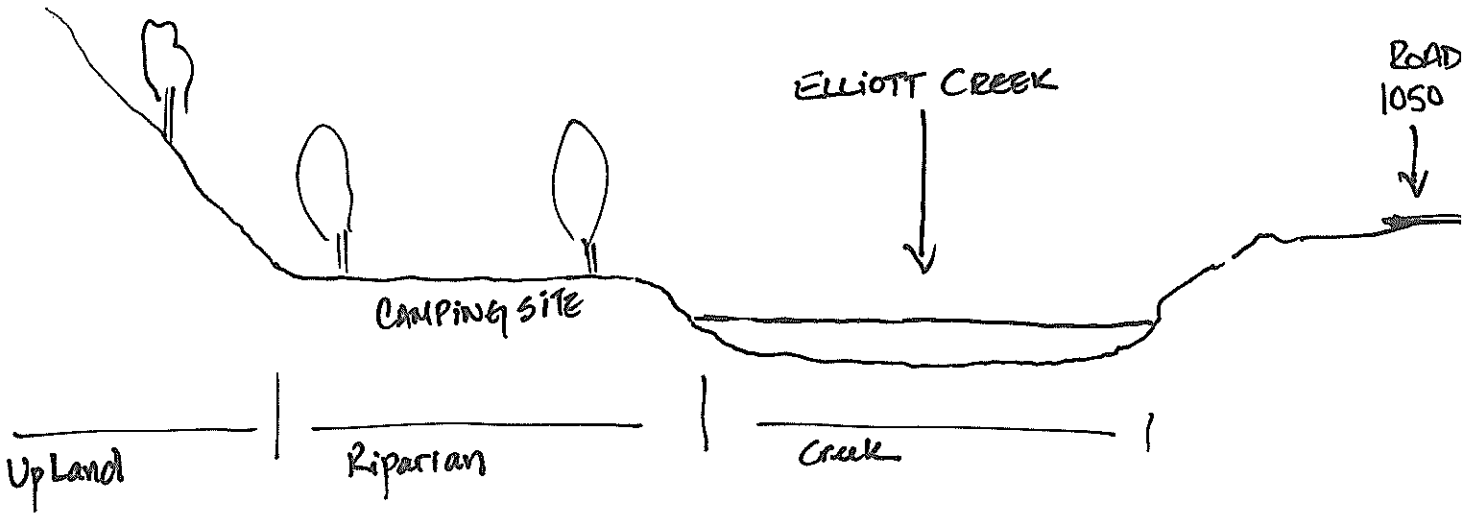
Sample Location: mid of creek
Weather Conditions: Cloudy
GPS Coordinates:
Surface Water Type: flowing creek
Water Depth (ft): Surface of water
Sampling Method: grab
Field Instrument(s) Model/SN: YSI 55B MP
Discharge/Velocity: NA
Field Instrument(s) Model/SN:

Sample Condition (odor, oily, etc): clear, no odor

Temp. (°C)	pH	Sp. Cond. (mS/cm)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Comments
7.06	~~7.06~~ 7.72 mp	0.123	—	91.5	76.0	

Additional Parameters/Comments:

SKETCH MAP



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Sediment Sampling Form

Project Name: Blue Ledge mine Sampled By: Rogerio Leong

Date: 10/25/2010 Time: 13:20 Sample ID: TS2SE01

Weather Conditions: Cloudy

Sample Location: Sediment within Creek

GPS Coordinates:

Water Depth at Sample (ft.): <6"

Discharge/Velocity: NM

Sampling Method: Grab

Instrument Type: No

Sample Homogenized: No

Sediment Sample Information

Odor: None

Color: gray

Texture: loose

Grain Size: fine sand ; some fine gravel

Moisture: wet

pH (strips) NM

Comments (Organic matter, leaves, etc):

~~of~~ leaves + small branches

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Sheet 1 of 1

Sediment Sampling Form

Project Name: Blue Ledge Mine Sampled By: RLeong

Date: 10/25/10 Time: 13:40 Sample ID: T52 R501

Weather Conditions: Cloudy

Sample Location: In Campground above Creek (choose an undisturbed area)

GPS Coordinates: 658 REV UTM 10T 0488233/4649605 meters middle of site

Water Depth at Sample (ft.): ~~Dry~~ Above Water Level

Discharge/Velocity: NA

Sampling Method: grab

Instrument Type: No

Sample Homogenized: No

Sediment Sample Information

Odor: Organic

Color: light gray

Texture: loose

Grain Size: fine sand, silty sand

Moisture: moist

pH (strips) NA

Comments (Organic matter, leaves, etc):

Abundant plant roots.

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Sheet 1 of 1

Sediment Sampling Form

Project Name: Blue Ledge Mine Sampled By: Rogerio Leons

Date: 10/25/2010 Time: 13:45 Sample ID: TS2US01

Weather Conditions: Partly Cloudy ~50 °F

Sample Location: Slope 10 feet upward above Camp site

GPS Coordinates:

Water Depth at Sample (ft.): NA

Discharge/Velocity: NA

Sampling Method: Grab

Instrument Type: NA

Sample Homogenized: No

Sediment Sample Information

Odor: None

Color: dark brown | black

Texture: loose

Grain Size: Sandy gravel (medium gravel)

Moisture: Moist

pH (strips) NA

Comments (Organic matter, leaves, etc):

plant root, leaves ..

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Surface Water Sampling Form

Project Name: Blue Ledge Mine

Sampled By: RLEONG

Date: 10/26/2010

Time: 10:35
10:40

Sample ID: TS35W01
TS35W02-duplicate

Sample Location: Transect 3 behind Bob's House

Weather Conditions: Cloudy

GPS Coordinates:

Surface Water Type: Flowing Creek

Water Depth (ft): Surface

Sampling Method: grab

Field Instrument(s) Model/SN: YSI MPS 556

Discharge/Velocity: Not Measured

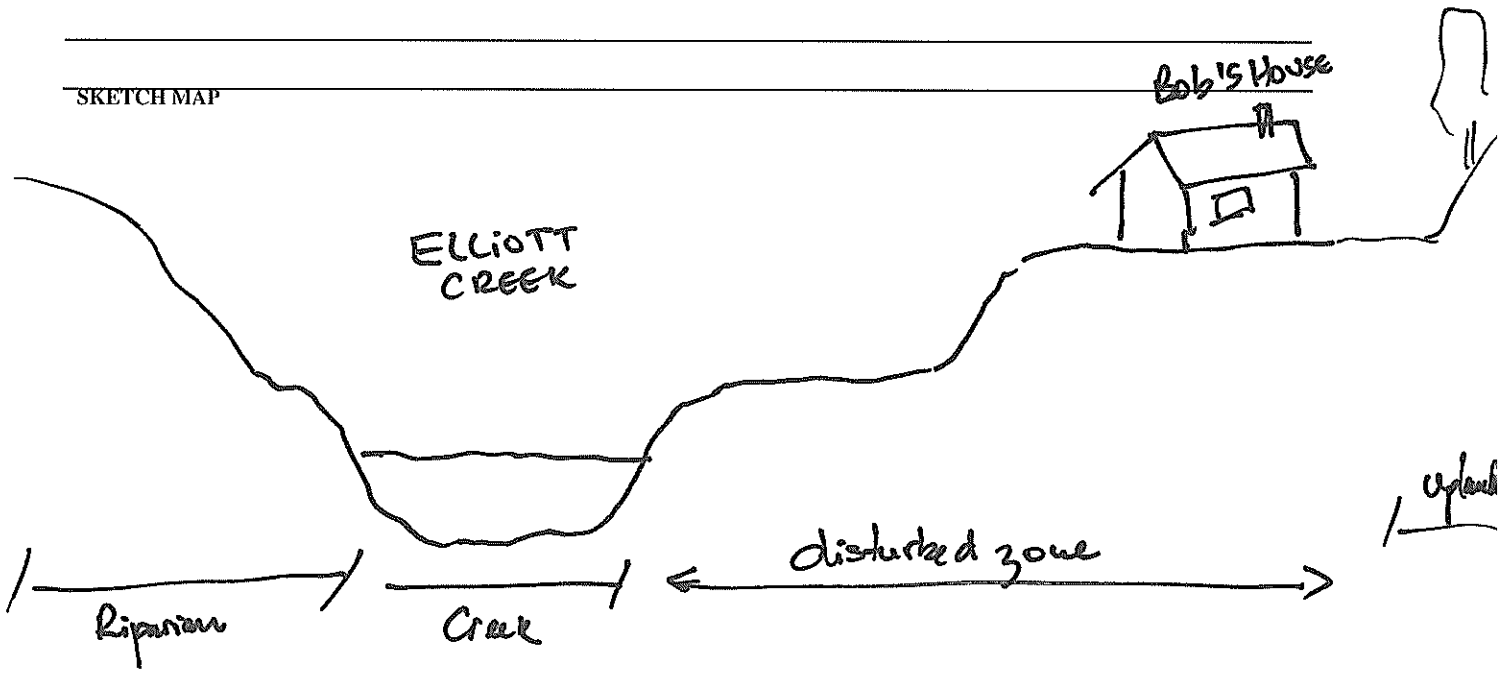
Field Instrument(s) Model/SN:

Sample Condition (odor, oily, etc): Clear water, no odor

Temp. (°C)	pH	Sp. Cond. (mS/cm)	Turbidity (NTU)	DO % ~~(mg/L)~~	ORP (mV)	Comments
6.61	9.02	0.118	NA	50.0	22.1	

Additional Parameters/Comments:

SKETCH MAP



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Sediment Sampling Form

Project Name: Blue Ledge Mine Sampled By: R Leary

Date: 10/26/2010 Time: 1100 Sample ID: TS3SE01

Weather Conditions: Cloudy

Sample Location: Right Margin 200 feet below bridge and upgradient of Bob's house

GPS Coordinates:

Water Depth at Sample (ft.): <6"

Discharge/Velocity: Not Measured

Sampling Method: Grab

Instrument Type: NA

Sample Homogenized: No

Sediment Sample Information

Odor: None

Color: gray

Texture: loose sediment

Grain Size: gravelly sand

Moisture: Wet (submerged)

pH (strips) NA

Comments (Organic matter, leaves, etc):

No

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Sediment Sampling Form

Project Name: Blue Ledge Mine Sampled By: R Leong

Date: 10/26/2010 Time: 1110 Sample ID: TS3RS01

Weather Conditions: Cloudy

Sample Location: 10 feet above left bank / slope between bridge and Bob's House

GPS Coordinates:

Water Depth at Sample (ft.): No

Discharge/Velocity: NA

Sampling Method: grab

Instrument Type: —

Sample Homogenized: No

Sediment Sample Information

Odor: None

Color: gray

Texture: lobar and soft

Grain Size: Silt / Sand

Moisture: Moist

pH (strips) NM

Comments (Organic matter, leaves, etc):

Moss and Roots at surface

Innovative Technical Solutions, Inc.

Sediment Sampling Form

Project Name: Blue Ledge Mine Sampled By: RLeong

Date: 10/26/10 Time: 11:20 Sample ID: TS3USO1

Weather Conditions: Cloudy

Sample Location: Slope Above main dirt road away from Bob's house

GPS Coordinates:

Water Depth at Sample (ft.): NA

Discharge/Velocity: NA

Sampling Method: grab

Instrument Type: NA

Sample Homogenized: No

Sediment Sample Information

Odor: None

Color: Brown

Texture: soft

Grain Size: Silt/clayey fine sand

Moisture: Moist

pH (strips) NA

Comments (Organic matter, leaves, etc):

Abundant surface organic matter (pine needles; leaves; tree and plant roots)

Innovative Technical Solutions, Inc.

Surface Water Sampling Form

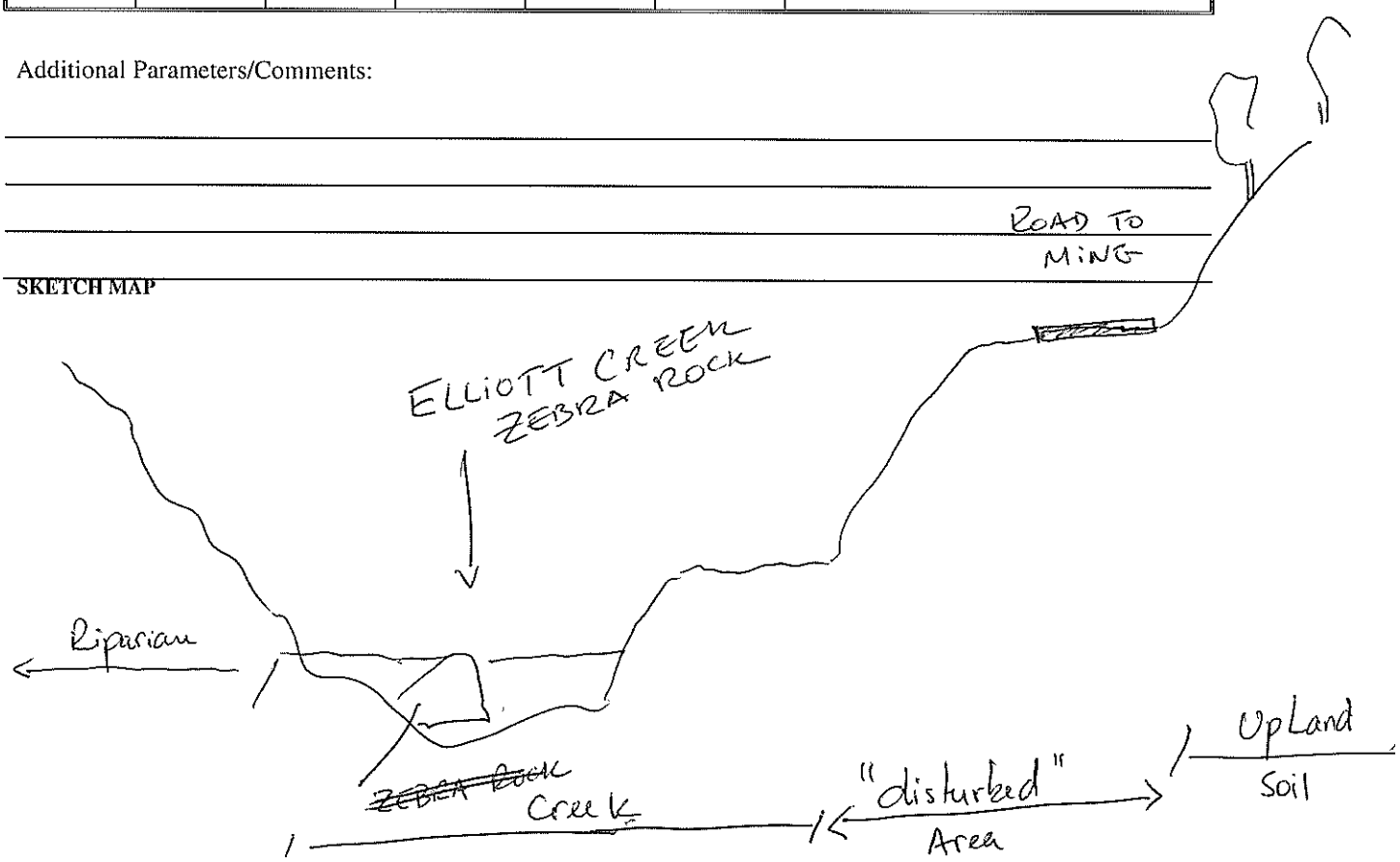
Project Name: BLUE LEDGE MINE
Sampled By: R LEONEY
Date: 10/26/2010
Time: 13:10
Sample ID: TS4SW01

Sample Location: ZEBRA ROCK
Weather Conditions: Cloudy / Partial Sunny
GPS Coordinates:
Surface Water Type: Rapid Flowing Creek
Water Depth (ft): <1.0 foot
Sampling Method: Grab
Field Instrument(s) Model/SN: YSI 556 MPS
Discharge/Velocity: Not measured
Field Instrument(s) Model/SN:
Sample Condition (odor, oily, etc): Clear, No odor

Temp. (°C)	pH	Sp. Cond. (mS/cm)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Comments
6.92	8.95	0.137	—	44.8	23.5	

Additional Parameters/Comments:

SKETCH MAP



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Sediment Sampling Form

Project Name: BLUE LEDGE MINE Sampled By: RLEONG

Date: 10/26/2010 Time: 1300 Sample ID: TS4SE01 A (→ 0-6")

1305 TS4SE01 B (6-12")

Weather Conditions: Cloudy

Sample Location: Sand Bar deposit by the righ side or margin

GPS Coordinates:

Water Depth at Sample (ft.): 0

Discharge/Velocity: Not Measured

Sampling Method: Sediment core / transferred to a Jar

Instrument Type: Slide Hammer

Sample Homogenized: No

Sediment Sample Information

Odor: None

Color: Gray

Texture: loose

Grain Size: top surface (A) fine sand ; bottom sample (B) consisted of coarse to medium loose sand.

Moisture: Wet.

pH (strips) No

Comments (Organic matter, leaves, etc):

None

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Sediment Sampling Form

Project Name: BLUE LEDGE MINE Sampled By: RLEONG

Date: 10/26/2010 Time: 1320 Sample ID: TS4RS01

Weather Conditions: Cloudy

Sample Location: Right slope ½10 feet above creek (opposite bank from roadside

GPS Coordinates:

Water Depth at Sample (ft.): ~~N~~ Re Above Water

Discharge/Velocity: NA

Sampling Method: Grab with disposable spoon

Instrument Type: NA

Sample Homogenized: No

Sediment Sample Information

Odor: Organic

Color: dark brown/grayish

Texture: Slightly compacted

Grain Size: fine sand

Moisture: moist

pH (strips) NA

Comments (Organic matter, leaves, etc):

Scraped off moss and plants grown on a steep rocky (Boulders) slope and sampled "limited" soil beneath it

Innovative Technical Solutions, Inc.

Sediment Sampling Form

Project Name: BLUE LEDGE MINE Sampled By: RLEONG

Date: 10/26/2010 Time: 1325 Sample ID: TS4US01

Weather Conditions: Cloudy / Sunny afternoon

Sample Location: Zebra / Rock / (Elliott Creek) Slope above Roadside (1060)

GPS Coordinates:

Water Depth at Sample (ft.): NA

Discharge/Velocity: NA

Sampling Method: grab

Instrument Type: NA

Sample Homogenized: No

Sediment Sample Information

Odor: None

Color: Reddish brown

Texture: medium stiff

Grain Size: Clayey Sand / Sandy Clay fine grained

Moisture: moist (moderate)

pH (strips) NA

Comments (Organic matter, leaves, etc): Removed fallen leaves cover prior to collecting soil beneath.

Innovative Technical Solutions, Inc.

Surface Water Sampling Form

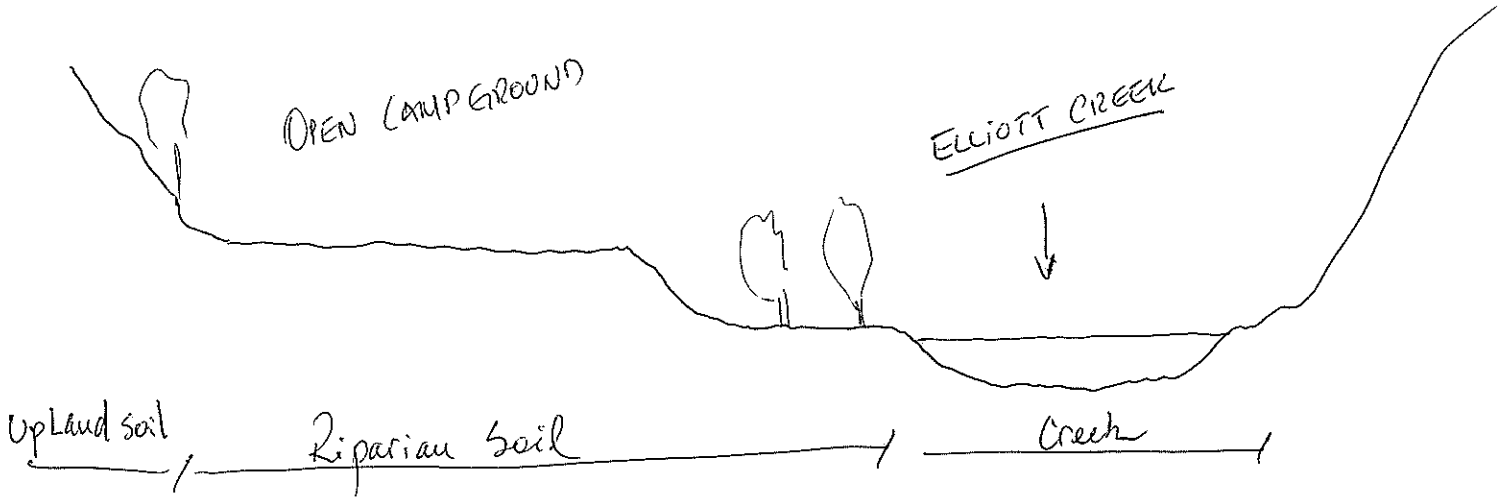
Project Name: Blue Ledge Mine
Sampled By: R Leong
Date: 10/25/10
Time: 15:20
Sample ID: T55SW01

Sample Location: center of creek
Weather Conditions: cloudy
GPS Coordinates:
Surface Water Type: rapid flowing water
Water Depth (ft): Top surface
Sampling Method: grab
Field Instrument(s) Model/SN: YSI 556 MPS
Discharge/Velocity: NM
Field Instrument(s) Model/SN:
Sample Condition (odor, oily, etc): clear, no odor

Temp. (°C)	pH	Sp. Cond. (mS/cm)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Comments
7.61	7.92	0.129	–	94.1	19.1	

Additional Parameters/Comments:

SKETCH MAP



Innovative Technical Solutions, Inc.

Sediment Sampling Form

Project Name: BLUE LEDGE MINE Sampled By: RLEONG

Date: 10/25/2010 Time: 15:30 Sample ID: T55SE01

Weather Conditions: Cloudy

Sample Location: Deposition by the left margin within Elliott Creek

GPS Coordinates:

Water Depth at Sample (ft.): less than 6-inch

Discharge/Velocity: Not measured

Sampling Method: grab (scooped up sediment and decanted excess water)

Instrument Type: NA

Sample Homogenized: NO

Sediment Sample Information

Odor: None

Color: Light Gray

Texture: Loose

Grain Size: Medium to Coarse gravel / sand

Moisture: Wet

pH (strips) NA

Comments (Organic matter, leaves, etc):

None ; fast moving water creek.

Innovative Technical Solutions, Inc.

Sediment Sampling Form

Project Name: BLUE LEDGE MINE Sampled By: RLEONG

Date: 10/25/2010 Time: 15:40 Sample ID: TS5RS01

Weather Conditions: Cloudy / drizzling

Sample Location: Riparian area surrounded by pine trees

GPS Coordinates:

Water Depth at Sample (ft.): Above water

Discharge/Velocity: NA

Sampling Method: Grab

Instrument Type: NA

Sample Homogenized: NO

Sediment Sample Information

Odor: Some Organic

Color: Dark Brown

Texture: Soft to medium stiff

Grain Size: Silty Sand / sandy silt

Moisture: moist

pH (strips) NA

Comments (Organic matter, leaves, etc):

Removed ground cover (pine needles; moss; some roots) to access soil beneath

Innovative Technical Solutions, Inc.

Sediment Sampling Form

Project Name: Blue Ridge Mine Sampled By: RLeon

Date: 10/25/10 Time: 15:50 Sample ID: TS5US01

Weather Conditions: cloudy / shower

Sample Location: Upland soil above camp site +/- 10 feet

GPS Coordinates:

Water Depth at Sample (ft.): NA

Discharge/Velocity: NA

Sampling Method: grab

Instrument Type:

Sample Homogenized: No

Sediment Sample Information

Odor: Organic

Color: light brown

Texture: loose

Grain Size: sandy clay

Moisture: moist

pH (strips)

Comments (Organic matter, leaves, etc): roots, leaves

Innovative Technical Solutions, Inc.

Surface Water Sampling Form

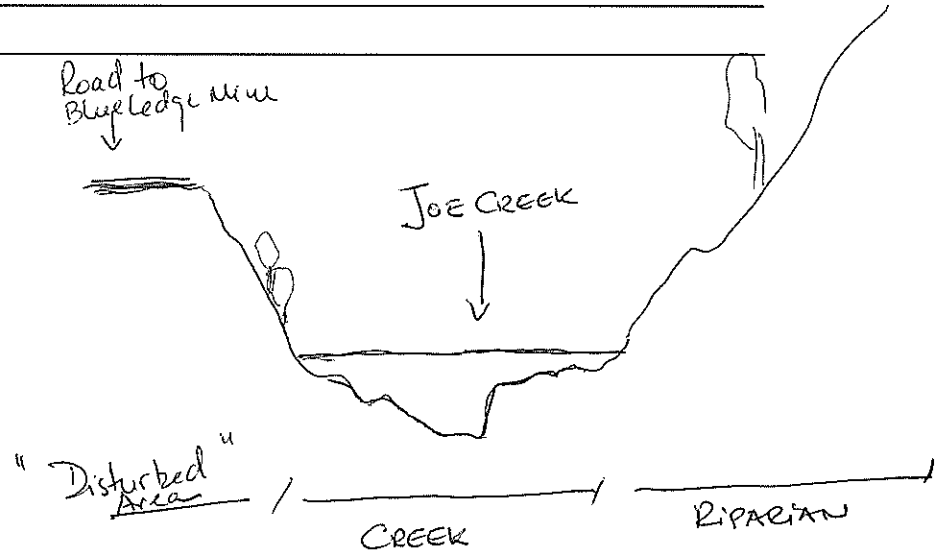
Project Name: Blue Ledge Mine
Sampled By: R Leong
Date: 10/26/2010
Time: 14:33
Sample ID: T56SW01

Sample Location: JOE CREEK
Weather Conditions: Cloudy
GPS Coordinates:
Surface Water Type: flowing Creek
Water Depth (ft): 0-6"
Sampling Method: grab
Field Instrument(s) Model/SN: YSI 556 MPS
Discharge/Velocity: Not measured
Field Instrument(s) Model/SN:
Sample Condition (odor, oily, etc): Cloudy no odor

Temp. (°C)	pH	Sp. Cond. (mS/cm)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Comments
6.92	7.25	0.142	NM	44.3%	212.5	

Additional Parameters/Comments:

SKETCH MAP



Innovative Technical Solutions, Inc.

Sediment Sampling Form

Project Name: Blue Ledge Mine Sampled By: R Leong

Date: 10/26/2010 Time: 14:37 Sample ID: TS65E01

Weather Conditions: Cloudy

Sample Location: left margin within Joe Creek

GPS Coordinates:

Water Depth at Sample (ft.): <6"

Discharge/Velocity: Not measured

Sampling Method: grab

Instrument Type: —

Sample Homogenized: No

Sediment Sample Information

Odor: None

Color: brown

Texture: loose

Grain Size: gravelly sand

Moisture: wet

pH (strips) NA

Comments (Organic matter, leaves, etc):

None

Innovative Technical Solutions, Inc.

Surface Water Sampling Form

Project Name: Blue Ledge Nine

Sampled By: R Leong

Date: 10/26/10

Time: 1500

Sample ID: T57SW01

Sample Location: Elliott Creek above Joe Creek

Weather Conditions: Cloudy

GPS Coordinates:

Surface Water Type: Flowing Creek

Water Depth (ft): 0-6"

Sampling Method: grab

Field Instrument(s) Model/SN: YSI 556 MPS

Discharge/Velocity: Not measured

Field Instrument(s) Model/SN:

Sample Condition (odor, oily, etc): No color / No odor

Temp. (°C)	pH	Sp. Cond. (mS/cm)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Comments
7.23	8.53	45.2	NM	45.1	92.5	

Additional Parameters/Comments:

SKETCH MAP

Innovative Technical Solutions, Inc.

Sediment Sampling Form

Project Name: Blue Ledge Mine Sampled By: RLeong

Date: 10/26/10 Time: 1505 Sample ID: TS7-SE01

Weather Conditions: Cloudy

Sample Location: Right margin within water

GPS Coordinates:

Water Depth at Sample (ft.): <6"

Discharge/Velocity: Not measured

Sampling Method: grab

Instrument Type: —

Sample Homogenized: No

Sediment Sample Information

Odor: None

Color: grayish

Texture: loose

Grain Size: gravelly sand sand is coarse to medium grained

Moisture: wet

pH (strips) NA

Comments (Organic matter, leaves, etc):

None.

Innovative Technical Solutions, Inc.

Sediment Sampling Form

Project Name: Blue Ledge Mine Sampled By: RLeong

Date: 10/26/10 Time: 15:10 Sample ID: TS7RS01

Weather Conditions: Cloudy

Sample Location: 10 feet above creek at the slope beneath tree and moss

GPS Coordinates:

Water Depth at Sample (ft.): NA

Discharge/Velocity: NA

Sampling Method: grab

Instrument Type: NA

Sample Homogenized: No

Sediment Sample Information

Odor: None

Color: gray

Texture: medium stiff

Grain Size: clayish silt

Moisture: moist

pH (strips) NO

Comments (Organic matter, leaves, etc): abundant roots and leaves

Innovative Technical Solutions, Inc.

Sediment Sampling Form

Project Name: Blue Ledge Mine Sampled By: Rhong

Date: 10/26/10 Time: 15:15 Sample ID: TS7US01

Weather Conditions: Cloudy

Sample Location: Upland / top of bank above creek

GPS Coordinates:

Water Depth at Sample (ft.): NA

Discharge/Velocity: NA

Sampling Method: grab

Instrument Type: NA

Sample Homogenized: No

Sediment Sample Information

Odor: No odor

Color: gray

Texture: medium stiff, soft sediment

Grain Size: Silty sand

Moisture: moist

pH (strips) NO

Comments (Organic matter, leaves, etc): Abundant moss + leaves

Innovative Technical Solutions, Inc.

Surface Water Sampling Form

Project Name: Blue Ledge Mine

Sampled By: R Leong

Date: 10/27/10

Time: 10:00

Sample ID: TS8SW01

Sample Location: at Elliott Creek near Confluence Applegate River

Weather Conditions: Sunny

GPS Coordinates:

Surface Water Type: Flowing Creek

Water Depth (ft): <6"

Sampling Method: grab

Field Instrument(s) Model/SN: YSI 556 MPS

Discharge/Velocity: Not measured

Field Instrument(s) Model/SN:

Sample Condition (odor, oily, etc): None, Clear

Temp. (°C)	pH	Sp. Cond. (mS/cm)	Turbidity (NTU)	DO % (mg/L)	ORP (mV)	Comments
5.39	5.97	0.144	NM	96.4%, 12.17 mg/L	252.2	

Additional Parameters/Comments:

SKETCH MAP

Innovative Technical Solutions, Inc.

Sediment Sampling Form

Project Name: Blue Ledge Mine Sampled By: R Leary

Date: 10/27/2010 Time: 10:05 Sample ID: T38SE01

Weather Conditions: Sunny

Sample Location: left margin 50 feet from confluence within Elliott Creek

GPS Coordinates:

Water Depth at Sample (ft.): <6"

Discharge/Velocity: Not measured

Sampling Method: grab

Instrument Type: —

Sample Homogenized: NO

Sediment Sample Information

Odor: Gray / NO

Color:

Texture: loose

Grain Size: fine Sand

Moisture: Wet

pH (strips) No

Comments (Organic matter, leaves, etc):

Some roots near margin

Innovative Technical Solutions, Inc.

Sediment Sampling Form

Project Name: Blue Ledge Mine Sampled By: RLeong

Date: 10/27/10 Time: 1010 Sample ID: TS8RS01

Weather Conditions: Sunny

Sample Location: Island divider between Elliott and Applegate rivers

GPS Coordinates:

Water Depth at Sample (ft.): NA

Discharge/Velocity: NA

Sampling Method: grab

Instrument Type: –

Sample Homogenized: NO

Sediment Sample Information

Odor: gray / None

Color:

Texture: Loose

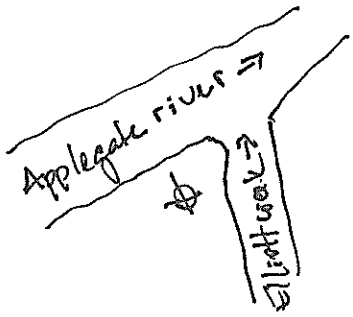
Grain Size: fine sand

Moisture: moist

pH (strips) NO

Comments (Organic matter, leaves, etc):

leaves on surface



Innovative Technical Solutions, Inc.

Surface Water Sampling Form

Project Name: Blue Ledge Mine
Sampled By: Reay
Date: 10/27/10
Time: 1030
Sample ID: TS9SW01

Sample Location: Applegate River 50ft down Confluence Elliott
Weather Conditions: Sunny
GPS Coordinates:
Surface Water Type: Running River
Water Depth (ft): <6"
Sampling Method: Grab
Field Instrument(s) Model/SN: YSI 556 MPS
Discharge/Velocity: Not measured
Field Instrument(s) Model/SN:
Sample Condition (odor, oily, etc): Clear no odor

Temp. (°C)	pH	Sp. Cond. (mS/cm)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Comments
5.50	7.83	0.119	NM	96.6% 12.17 mg/L	141.1	

Additional Parameters/Comments:

SKETCH MAP

Innovative Technical Solutions, Inc.

Sediment Sampling Form

Project Name: BLUE LEDGE NINE Sampled By: RLEONG

Date: 10/27/2010 Time: 10:37 Sample ID: TS9SE01

Weather Conditions: CLOUDY / PARTIALLY SUNNY

Sample Location: +/- 100 feet downgradient from Elliott Creek/Applegate River On Applegate River

GPS Coordinates:

Water Depth at Sample (ft.): <6"

Discharge/Velocity: Not measured

Sampling Method: grab

Instrument Type: NA

Sample Homogenized: NO

Sediment Sample Information

Odor: Not detected

Color: gray

Texture: loose; saturated

Grain Size: medium/coarse sand deposited by right margin

Moisture: Wet/saturated

pH (strips) NA

Comments (Organic matter, leaves, etc):

~~None~~ RL Some thin branches

Innovative Technical Solutions, Inc.

Surface Water Sampling Form

Project Name: Blue Ledge Mine
Sampled By: R Leary
Date: 10/27/10
Time: 11:00
Sample ID: TS10SW01

Sample Location: USGS Station Applegate River
Weather Conditions: Cloudy
GPS Coordinates:
Surface Water Type: flowing
Water Depth (ft): 1 foot
Sampling Method: grab
Field Instrument(s) Model/SN: YSI 556MPS
Discharge/Velocity: Not Measured
Field Instrument(s) Model/SN:
Sample Condition (odor, oily, etc): None

Temp. (°C)	pH	Sp. Cond. (mS/cm)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Comments
5.69	6.86	0.096	NM	96.6% 12.11	245.5	

Additional Parameters/Comments:

SKETCH MAP

Innovative Technical Solutions, Inc.

Sediment Sampling Form

Project Name: BLUE LEDGE MINE Sampled By: R LEONG

Date: 10/27/2010 Time: 11:05 Sample ID: TS10SE01

Weather Conditions: Cloudy / partially sunny

Sample Location: Adjacent to USGS gauge station upstream Applegate River

GPS Coordinates:

Water Depth at Sample (ft.): < 1-foot

Discharge/Velocity: Not measured

Sampling Method: grab

Instrument Type: NA

Sample Homogenized: No

Sediment Sample Information

Odor: None

Color: Gray

Texture: loose and saturated

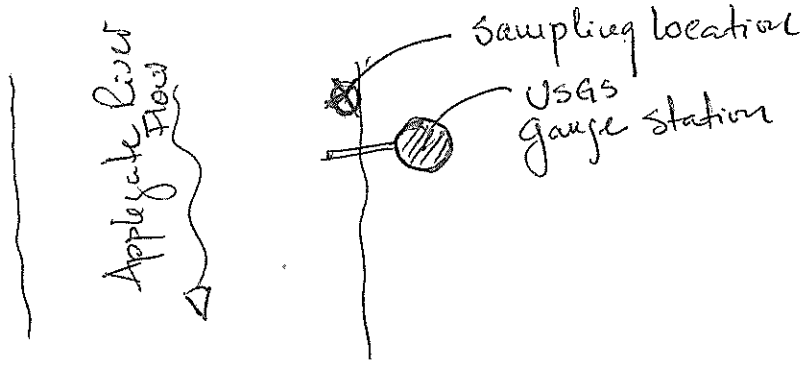
Grain Size: Fine Sand

Moisture: Saturated / wet

pH (strips) No

Comments (Organic matter, leaves, etc):

Some organic leaves



Innovative Technical Solutions, Inc.

Surface Water Sampling Form

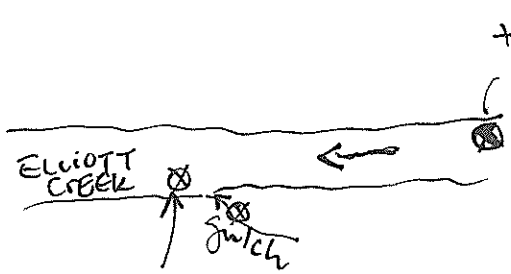
Project Name: Blue Cedar Mine
Sampled By: R Leong
Date: 10/27/10
Time: 1205
Sample ID: TS115W01

Sample Location: Elliott Creek / Gulch
Weather Conditions: cloudy
GPS Coordinates:
Surface Water Type: flowing Creek
Water Depth (ft): <6"
Sampling Method: grab
Field Instrument(s) Model/SN: YSI 556 MPS
Discharge/Velocity: NM
Field Instrument(s) Model/SN:
Sample Condition (odor, oily, etc): clear / none

Temp. (°C)	pH	Sp. Cond. (mS/cm)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Comments
5.32	5.77	0.149	–	12.48 98.2	310.5	

Additional Parameters/Comments:
Parameters at gulch discharging water before entering Elliott Creek
T = 6.87 °C DO = 94.1 % pH = 5.04
C = 0.124 mS/cm³ ORP = 474.6 mV

SKETCH MAP



Parameters reading locations

+/- 200 feet upgradient
T = 5.40 °C
C = 0.146 mS/cm³
DO = 99.0 %
pH = 5.18
ORP = 359.2 mV

After pH calibration @ 7.0:
T = 5.56 °C
C = 0.148 mS/cm³
DO = 95.4 %
pH = 5.78
ORP = 735.8 mV

Innovative Technical Solutions, Inc.

Sediment Sampling Form

Project Name: BLUE LEDGE MINE Sampled By: RLEONE

Date: 10/27/2010 Time: 12:15 Sample ID: TS11SE01

Weather Conditions: CLOUDY

Sample Location: 10 feet down from Elliott Creek / Park Gulch encounter point

GPS Coordinates:

Water Depth at Sample (ft.): < 6 inches

Discharge/Velocity: Not measured

Sampling Method: Grab

Instrument Type: NA

Sample Homogenized: No

Sediment Sample Information

Odor: None

Color: Gray

Texture: loose / saturated

Grain Size: fine sand / trace gravel

Moisture: wet

pH (strips) NA

Comments (Organic matter, leaves, etc): little leaves

Innovative Technical Solutions, Inc.

Sediment Sampling Form

Project Name: BLUE LEDGE NINE Sampled By: R LEONG

Date: 10/27/2010 Time: 12:10 Sample ID: TS11 RS01

Weather Conditions: Cloudy

Sample Location: Slope 10 feet above Elliott Creek near Park Gulch

GPS Coordinates:

Water Depth at Sample (ft.): Not Applicable

Discharge/Velocity: Not Measured

Sampling Method: Grab

Instrument Type: NA

Sample Homogenized: No

Sediment Sample Information

Odor: None

Color: gray

Texture: slightly compacted / loose

Grain Size: Silty Sand

Moisture: moist

pH (strips) No

Comments (Organic matter, leaves, etc):

Scraped off moss and plant roots covers to reach soil beneath

Innovative Technical Solutions, Inc.

Surface Water Sampling Form

Project Name: BLUE LEDGE MINE Sampled By: R LEONG

Date: 10/28/2010 Time: 09:50 Sample ID: TS14SW01

Sample Location: Elliott Creek Upgradient from waste pile

Weather Conditions: Rain

GPS Coordinates:

Surface Water Type: ~~Grab~~ Re / Flowing Creek

Water Depth (ft): 1.0-foot

Sampling Method: Grab

Field Instrument(s) Model/SN: YSI 556 MPS

Discharge/Velocity: NM

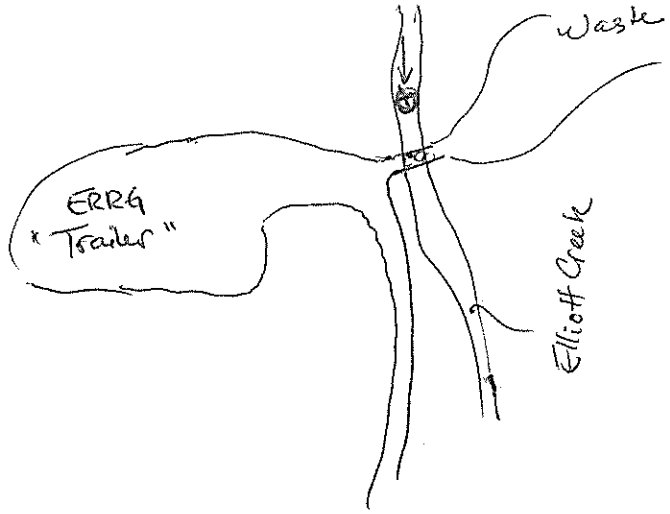
Field Instrument(s) Model/SN:

Sample Condition (odor, oily, etc): No odor

Temp. (°C)	pH	Sp. Cond. (mS/cm)	Turbidity (NTU)	DO ~~(mg/L)~~ %	ORP (mV)	Comments
3.81	5.82	0.062	—	9.3	319	

Additional Parameters/Comments:

SKETCH MAP



Innovative Technical Solutions, Inc.

Sediment Sampling Form

Project Name: BLUE LEDGE MINE Sampled By: R LEONG

Date: 10/28/2010 Time: 1025 Sample ID: TS14SE01

Weather Conditions: Heavy Rain

Sample Location: Elliott Creek above trailer Staging area

GPS Coordinates:

Water Depth at Sample (ft.): <6"

Discharge/Velocity: Not measured

Sampling Method: Grab

Instrument Type: NA

Sample Homogenized: No

Sediment Sample Information

Odor: None

Color: light brown

Texture: loose sand

Grain Size: medium-fine Sand

Moisture: wet; saturated

pH (strips) No

Comments (Organic matter, leaves, etc):

some leaves and branches

Innovative Technical Solutions, Inc.

Surface Water Sampling Form

Project Name: BLUE LEDGE MINE
Sampled By: R LEONG
Date: 10/28/2010
Time: 1105
Sample ID: TS15SW01

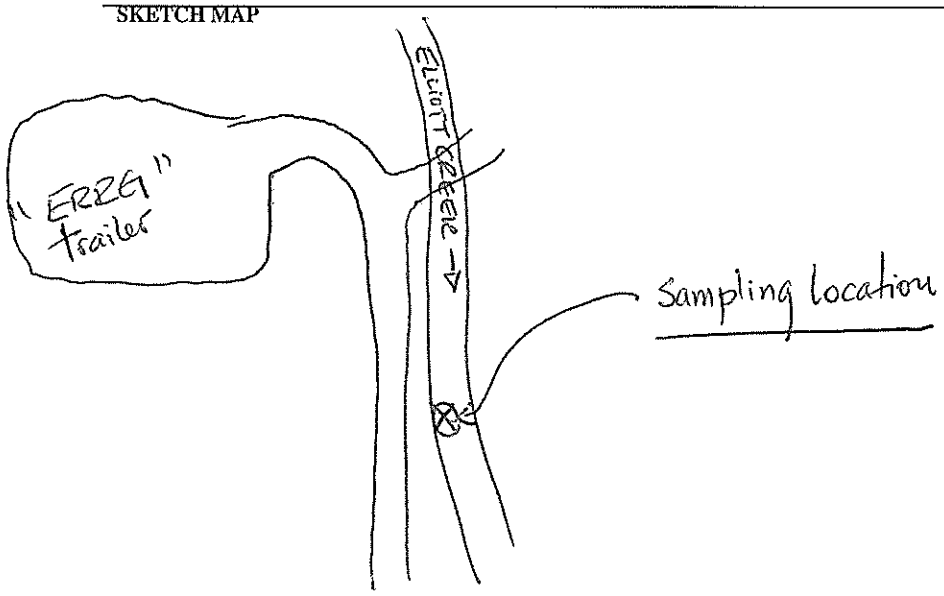
Sample Location: Elliott Creek Downgradient waste
Weather Conditions: RAIN
GPS Coordinates:
Surface Water Type: ~~Eli~~ Rapid flow
Water Depth (ft): <1.0-foot
Sampling Method: Grab
Field Instrument(s) Model/SN: YSI 556 MPS
Discharge/Velocity: NA
Field Instrument(s) Model/SN:

Sample Condition (odor, oily, etc): None; Turbid water due to surface runoff

Temp. (°C)	pH	Sp. Cond. (mS/cm)	Turbidity (NTU)	DO % ~~(mg/L)~~	ORP (mV)	Comments
3.37	3.62	0.164	—	8.4	430.7	

Additional Parameters/Comments:

SKETCH MAP



Innovative Technical Solutions, Inc.

Sediment Sampling Form

Project Name: BLUE LEDGE MINE Sampled By: R LEONG

Date: 10/28/2010 Time: 1110 Sample ID: TS15SE01

Weather Conditions: RAIN

Sample Location: Elliott Creek Downgradient Mine Waste pile

GPS Coordinates:

Water Depth at Sample (ft.): < 1.0 foot

Discharge/Velocity: NM

Sampling Method: Grab

Instrument Type: NA

Sample Homogenized: No

Sediment Sample Information

Odor: None

Color: Orange brown

Texture: Loose

Grain Size: medium sand

Moisture: Wet

pH (strips) NA

Comments (Organic matter, leaves, etc): No

Innovative Technical Solutions, Inc.

Sediment Sampling Form

Project Name: BLUE LEDGE NINE Sampled By: RLEONG

Date: 10/28/2010 Time: 1430 Sample ID: TS16SE01A

1435 TS16SE01B

Weather Conditions: Rain

Sample Location: At Seattle Bar

GPS Coordinates:

Water Depth at Sample (ft.): Above Creek

Discharge/Velocity: NA

Sampling Method: Sediment Coring tool

Instrument Type: Slide Hammer

Sample Homogenized: No

Cored 1-foot of sediment at refusal.

Sediment Sample Information

Odor: None

Color: Dark brown

Texture: Top 6 inches (A) = fine Sand bottom 12 inches (B) = medium/coarse sand

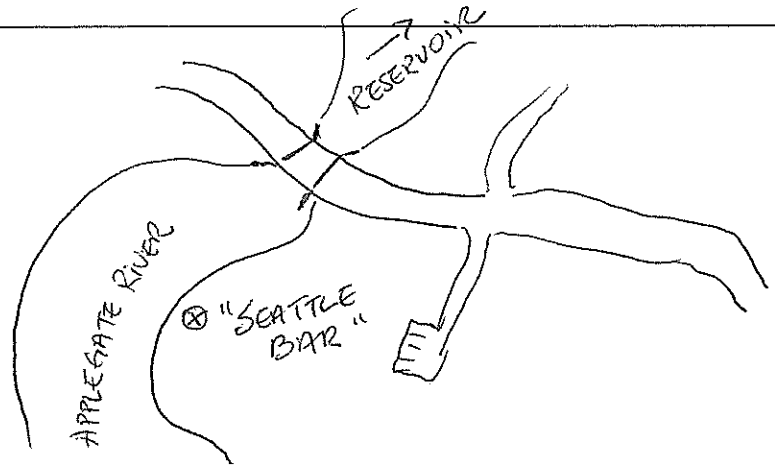
Grain Size: medium dense / loose

Moisture: moist

pH (strips) NU

Comments (Organic matter, leaves, etc):

No



Innovative Technical Solutions, Inc.

Surface Water Sampling Form

Project Name: BLUE LEDGE NINE
Sampled By: RLEONG
Date: 10/28/2010
Time: 1450
Sample ID: TS17SW01

Sample Location: Applegate River
Weather Conditions: Rain
GPS Coordinates:
Surface Water Type: Flowing river
Water Depth (ft): <1.0-foot
Sampling Method: Grab
Field Instrument(s) Model/SN: YSI 556 MPS
Discharge/Velocity: NM
Field Instrument(s) Model/SN:
Sample Condition (odor, oily, etc): None

Temp. (°C)	pH	Sp. Cond. (mS/cm)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Comments
DID	NOT	MEASURE				

Additional Parameters/Comments:

SKETCH MAP

Innovative Technical Solutions, Inc.

Sediment Sampling Form

Project Name: BLUE LEDGE NINE Sampled By: RLEONG

Date: 10/28/2010 Time: 1450 Sample ID: TS17SE01A

1500 TS17SE01B

Weather Conditions: Rain

Sample Location: Upgradient Applegate river +/- 500 feet from Seattle Bar ~~Parking lot~~ Parkway

GPS Coordinates:

Water Depth at Sample (ft.): Dry Sand Bank

Discharge/Velocity: NA

Sampling Method: Sediment Core

Instrument Type: Slide Hammer

Sample Homogenized: No

Cored through 8 inches of sediment bank before refusal.

Sediment Sample Information

Odor: None

Color: gray

Texture: loose

Grain Size: Silty Sand (0-6 inches) ; Medium to Coarse Sand (6-8 inches)

Moisture: moist

pH (strips) No

Comments (Organic matter, leaves, etc):

None

Innovative Technical Solutions, Inc.

PROJECT: Blue Ledge Mine
PROJECT NO.: 07163.0049
SITE LOCATION: USFS Oregon (Rogue River Forest Park)
Date: 10/25 thru 28/2010

Sample Collection Log

Sample ID	Sample Date	Time Sampled	Sample Beginning Depth Feet	Sample Ending Depth Feet	Construction Method Code (CMCCODE)	Sample Method Code (SMCODE)	NAD83 UTM	Sampled By	SAMPLE DESCRIPTION / ANALYSIS	FINAL SAMPLE DISPOSITION
TS1TS01	10/25/10	10:30	0	2'	NA	G		R LEONG	Fish / Total Metals / Hg	Lancaster Labs.
TS1TS02	10/25/10	10:36	0	2	NA	G		R LEONG	Fish / Total Metals / Hg	Lancaster Labs
TS1TS03	10/25/10	10:40	0	2	NA	G		R LEONG	Fish / Total Metals Hg	Lancaster Labs
TS2TS01	10/25/10	12:35	0	2	NA	G		"	"	"
TS2TS02	10/25/10	12:40	0	2	NA	G		"	"	"
TS2TS03	10/25/10	12:49	0	2	NA	G		"	"	"
TS2TS04	10/25/10	12:30	0	2	NA	G		"	"	"
TS2TS05	10/25/10	12:37	0	2	NA	G		"	"	"
TS3TS01	10/26/10	1012	0	2	NA	G		"	"	"
TS3TS02	10/26/10	1017	0	2	NA	G		"	"	"
TS3TS03	10/26/10	1021	0	2	NA	G		"	"	"
TS3TS04	10/26/10	1022	0	2	NA	G		"	"	"
TS4TS01	10/26/10	1235	0	2	NA	G		"	"	"
TS4TS02	10/26/10	1240	0	2	NA	G		"	"	"

TOTAL SAMPLES: 14

SAMPLER(S) SIGNATURE(S)

Innovative Technical Solutions, Inc.

PROJECT: Blue Ledge Mine
PROJECT NO.: 07163.0049
SITE LOCATION: USFS Oregon (Rogue River Forest Park)
Date: 10/25 thru 28/2010

Sample Collection Log

Sample ID	Sample Date	Time Sampled	Sample Beginning Depth	Sample Ending Depth	Construction Method Code (CMCCODE)	Sample Method Code (SMCODE)	NAD83 UTM	Sampled By	SAMPLE DESCRIPTION / ANALYSIS	FINAL SAMPLE DISPOSITION
TS5TS01	10/25/10	1442	0	2	NA	G		RLeong	Fish/Total Metals Hg	Lancaster Lab.
TS5TS02	10/25/10	1454	0	2	NA	G		"	"	"
TS5TS03	10/25/10	1450	0	2	NA	G		"	"	"
TS5TS04	10/25/10	1459	0	2	NA	G		"	"	"
TS1SW01	10/25/10	10:05	0	1.0	NA	G		"	Water/Total Metals Hg	Bonner
TS2SW01	10/25/10	13:15	0	1.0	NA	G		"	"	"
TS3SW01	10/26/10	10:35	0	1.0	NA	G		"	"	"
TS3SW02	10/26/10	10:45	0	1.0	NA	G		"	"	"
TS4SW01	10/26/10	13:10	0	1.0	NA	G		"	"	"
TS5SW01	10/25/10	15:20	0	1.0	NA	G		"	"	"
TS6SW01	10/26/10	14:33	0	1.0	NA	G		"	"	"
TS7SW01	10/26/10	1500	0	1.0	NA	G		"	"	"
TS8SW01	10/27/10	1000	0	1.0	NA	G		"	"	"
TS9SW01	10/27/10	10:30	0	1.0	NA	G		"	"	"
TS10SW01	10/27/10	11:00	0	1.0	NA	G		"	"	"
TS11SW01	10/27/10	12:05	0	1.0	NA	G		"	"	"

TOTAL SAMPLES: 16

SAMPLER(S) SIGNATURE(S):

Innovative Technical Solutions, Inc.

PROJECT: Blue Ledge Mine
PROJECT NO.: 07163.0049
SITE LOCATION: USFS Oregon (Rogue River Forest Park)
Date: 10/25 thru 28/2010

Sample Collection Log

Sample ID	Sample Date	Time Sampled	Sample Beginning Depth feet	Sample Ending Depth feet	Construction Method Code (CMCODE)	Sample Method Code (SMCODE)	NAD83 UTM	Sampled By	SAMPLE DESCRIPTION / ANALYSIS	FINAL SAMPLE DISPOSITION
TS14SW01	10/28/10	9:50	0	1.0	NA	G		RLEONG	Total Metals/Hg	Bonner
TS15SW01	10/28/10	11:05	0	1.0	NA	G		RLEONG	"	"
TS17SW01	10/28/10	14:50	0	1.0	NA	G		RLEONG	"	"
TS1SE01A	10/25/10	10:45	0	0.5	RC ~~NA~~ B	G		RLeong	"	"
TS1SE01B	10/25/10	10:48	0.5	1.0	B	G		RLeong	"	"
TS1RS01	10/25/10	11:05	0	0.5	NA	G		"	"	"
TS1US01	10/25/10	11:20	0	0.5	NA	G		"	"	"
TS2SE01	10/25/10	13:20	0	0.5	NA	G		"	"	"
TS2RS01	10/25/10	13:40	0	0.5	NA	G		"	"	"
TS2US01	10/25/10	13:45	0	0.5	NA	G		"	"	"
TS3SE01	10/26/10	11:00	0	0.5	NA	G		"	"	"
TS3RS01	10/26/10	11:10	0	0.5	NA	G		"	"	"
TS3US01	10/26/10	11:20	0	0.5	NA	G		"	"	"
TS4SE01A	10/26/10	13:00	0	0.5	RC ~~NA~~ B	G		"	"	"
TS4SE01B	10/26/10	13:05	0.5	1.0	RC ~~NA~~ B	G		"	"	"
TS4RS01	10/26/10	13:20	0	0.5	NA	G		"	"	"

TOTAL SAMPLES: 16

SAMPLER(S) SIGNATURE(S)

Innovative Technical Solutions, Inc.

PROJECT: Blue Ledge Mine
PROJECT NO.: 07163.0049
SITE LOCATION: USFS Oregon (Rogue River Forest Park)
Date: 10/25 thru 28/2010

Sample Collection Log

Sample ID	Sample Date	Time Sampled	Sample Beginning Depth FT	Sample Ending Depth FT	Construction Method Code (CMCCODE)	Sample Method Code (SMCODE)	NAD83 UTM	Sampled By	SAMPLE DESCRIPTION / ANALYSIS	FINAL SAMPLE DISPOSITION
TS5SE01	10/25/10	15:30	0	0.5	NA	G		RLeong	Total Metals/ Mercury	Bonner
TS5RS01	10/25/10	15:40	0	0.5	NA	G		"	"	"
TS5US01	10/25/10	15:50	0	0.5	NA	G		"	"	"
TS6SE01	10/26/10	14:37	0	0.5	NA	G		"	"	"
TS7SE01	10/26/10	15:05	0	0.5	NA	G		"	"	"
TS7RS01	10/26/10	15:10	0	0.5	NA	G		"	"	"
TS7US01	10/26/10	15:15	0	0.5	NA	G		"	"	"
TS4US01	10/26/10	13:25	0	0.5	NA	G		"	"	"
TS8SE01	10/27/10	10:05	0	0.5	NA	G		"	"	"
TS8RS01	10/27/10	10:10	0	0.5	NA	G		"	"	"
TS9SE01	10/27/10	10:37	0	0.5	NA	G		"	"	"
TS10SE01	10/27/10	11:05	0	0.5	NA	G		"	"	"
TS11SE01	10/27/10	12:15	0	0.5	NA	G		"	"	"
TS11RS01	10/27/10	12:10	0	0.5	NA	G		"	"	"
TS14SE01	10/28/10	10:25	0	0.5	NA	G		"	"	"
TS15SE01	10/28/10	11:10	0	0.5	NA	G		"	"	"

TOTAL SAMPLES : 14

SAMPLER(S) SIGNATURE(S)

Innovatt Technical Solutions, Inc.

PROJECT: Blue Ledge Mine
PROJECT NO.: 07163.0649
SITE LOCATION: USFS Oregon (Rogue River Forest Park)
Date: 10/25 thru 28/2010

Sample Collection Log

Sample ID	Sample Date	Time Sampled	Sample Beginning Depth FT	Sample Ending Depth FT	Construction Method Code (CMCCODE)	Sample Method Code (SMCODE)	NAD83 UTM	Sampled By	SAMPLE DESCRIPTION / ANALYSIS	FINAL SAMPLE DISPOSITION
TS16SE01A	10/28/10	14:30	0	0.5	B	G		RLEONG	Total Metals Hg	Bonner
TS16SE01B	10/28/10	14:35	0.5	1.0	B	G		"	"	"
TS17SE01A	10/28/10	1500	0	0.5	B	G		"	"	"
TS17SE01B	10/28/10	1505	0.5	1.0	B	G		"	"	"

TOTAL SAMPLES : 4

SAMPLER(S) SIGNATURE(S)

Innovative Technical Solutions, Inc.

PROJECT: Blue Ledge Mine Site
PROJECT NO.: 07163.0049
SITE LOCATION: Siskiyou County, Ca
Date:

Sample Collection Log

Sample ID	Sample Date 2010	Time Sampled	Sample Beginning Depth Size	Sample Ending Depth	n Method Code (CMCCODE)	Method Code (SMCODE)	Type ~~NAD83 UTM~~	Sampled By	SAMPLE DESCRIPTION / ANALYSIS	FINAL SAMPLE DISPOSITION
TS1TS01	10/25	10:30	9.0"			G	RBT / N	RA		
TS1TS02	10/25	10:36	8 15/16"				RBT / S	RA		
TS1TS03	10/25	10:40	10.5"				RBT / S	RA		
TS2TS01	10/25	12:35	8.5"				RBT / S*	RA		
TS2TS02	10/25	12:40	7 5/8"				RBT / S	RA		
TS2TS03	10/25	12:49	6 3/4"				RBT / N	RA		
TS2TS04	10/25	12:30	2 3/4"				SCL / N	RA		
TS2TS05	10/25	12:37	2 5/8"				SCL / N	RA		
TS5TS01	10/25	14:42	5 1/4"				RBT / N	RA		
TS5TS02	10/25	14:54	5/4"				RBT / N	RA		
TS5TS03	10/25	14:50	3 1/4"				SCL / N	RA		
TS4TS01	10/26	12:35	6 13/16"				RBT / N	RA		
TS4TS02	10/26	12:40	8 3/8"				RBT / N	RA		
TS3TS01	10/26	10:12	7 5/8"				RBT / N	RA		
TS3TS02	10/26	10:17	5 1/2"				RBT / N	RA		
TS3TS03	10/26	10:21	9 5/16"				RBT / S	RA		

TOTAL SAMPLES :

SAMPLER(S) SIGNATURE(S) KC for Rob Aramayo

RBT - Rainbow Trout
SCL - Sculpin

NOTE - lengths are fork lengths

Innovative Technical Solutions, Inc.

Sample Collection Log

PROJECT: Blue Ledge Mine Site
PROJECT NO.: 07163.0049
SITE LOCATION: Siskiyou County, CA
Date: 10/25, 26/10

Sample ID	Sample Date 2010	Time Sampled	~~Sample Beginning Depth~~ LENGTH	Sample Ending Depth	n Method Code (CMCCODE)	Method Code (SMCODE)	~~NAD83 UTM~~ TYPE	Sampled By	SAMPLE DESCRIPTION / ANALYSIS	FINAL SAMPLE DISPOSITION
TS3TS04	10/26	1022	6 5/8"			G	RBT / N	RA		
TS5TS04	10/25	1459	3 5/8"			G	SCL / N	RA		

TOTAL SAMPLES :

SAMPLER(S) SIGNATURE(S)

Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories

For Lancaster Laboratories use only

Acct. # _____ Group# _____ Sample # _____

COC # 213314

Please print. Instructions on reverse side correspond with circled numbers.

(1)
Client: ITSI
Acct. #:
Project Name/#: Blue Ledge Mine
PWSID #:
Project Manager: Jeff Ikst / Kent Parent
P.O.#:
Sampler: Roquerio Leong
Quote #:
Name of state where samples were collected: OREGON

For Lab Use Only
FSC:
SCR#:

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

(2) (3) (4) (5)

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water (☐ Potable ☐ NPDES Check if Applicable)	Other (Surface Water)	Total # of Containers	Total Metals	Hg								Remarks	(6) Temperature of samples upon receipt (if requested)
TS1 TS01	10/25/2010	10:30					X	1	X	X									
TS1 TS02	10/25/2010	10:36					X	1	X	X									
TS1 TS03		10:40					X	1	X	X									
TS2 TS01		12:35					X	1	X	X									
TS2 TS02		12:40					X	1	X	X									
TS2 TS03		12:49					X	1	X	X									
TS2 TS04		12:30					X	1	X	X									
TS2 TS05		12:37					X	1	X	X									
TS5 TS01		14:42					X	1	X	X									
TS5 TS02		14:54					X	1	X	X									

(7)
Turnaround Time Requested (TAT) (please circle): (Normal) Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed:
Rush results requested by (please circle): Phone (Fax) E-mail
Phone #: Fax #: (907) 2568995
E-mail address: kcarlyon@itsi.com

(8)
Data Package Options (please circle if required)
Type I (validation/NJ Reg) TX TRRP-13
Type II (Tier II) MA MCP CT RCP
Type III (Reduced NJ)
Type IV (CLP SOW)
Type VI (Raw Data Only)

SDG Complete? Yes No

Site-specific QC (MS/MSD/Dup)? Yes No
(if yes, indicate QC sample and submit triplicate volume.)
Internal COC Required? Yes / No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
Roquerio Leong	10/27/10	7:45	[signature]	10/27/10	7:45
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time

Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories

For Lancaster Laboratories use only

Acct. # _____ Group# _____ Sample # _____

COC # 213315

Please print. Instructions on reverse side correspond with circled numbers.

(1)
Client: ITSI
Acct. #:
Project Name/#: Blue Ledge Nine
PWSID #:
Project Manager: Jeff Hess / Kent Parrish
P.O.#:
Sampler: Rogerio Leong
Quote #:
Name of state where samples were collected: Oregon

For Lab Use Only
FSC:
SCR#:

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

(2) Sample Identification | Date Collected | Time Collected | (3) Grab | Composite | (4) Matrix: Soil | Water (☐ Potable ☐ NPDES Check if Applicable) | Other Fish tissue | Total # of Containers | (5) Analyses Requested / Preservation Codes: Total Metals | Hg | | | | | | | | Remarks | (6) Temperature of samples upon receipt (if requested)

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Other	Total # of Containers	Total Metals	Hg	Remarks
TS5 TS 03	10/25/2010	14:50					X	1	X	X	
TS5 TS 04	10/25/2010	14:59					X	1	X	X	
TS4 TS 01	10/26/2010	1235					X	1	X	X	
TS4 TS02	10/26/2010	1240					X	1	X	X	
TS3 TS01	10/26/2010	1012					X	1	X	X	
TS3 TS02	10/26/10	1017					X	1	X	X	
TS3 TS03	10/26/10	1021					X	1	X	X	
TS3 TS04	10/26/10	1022					X	1	X	X	

(7) **Turnaround Time Requested** (TAT) (please circle): Normal Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed:
Rush results requested by (please circle): Phone Fax E-mail
Phone #: Fax #: (925) 256 8998
E-mail address: kcarlyon@itsi.com

(8) **Data Package Options** (please circle if required)
Type I (validation/NJ Reg) TX TRRP-13
Type II (Tier II) MA MCP CT RCP
Type III (Reduced NJ)
Type IV (CLP SOW)
Type VI (Raw Data Only)

SDG Complete? Yes No

Site-specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate volume.)
Internal COC Required? Yes / No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
Rogerio Leong	10/27/10	7:45	Jeff Hess	10/27/10	745
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time

USEPA Contract Laboratory Program
Inorganic Traffic Report & Chain of Custody Record

Case No: 40721
DAS No:
SDG No:
L

Date Shipped:	10/29/2010
Carrier Name:	FedEx
Airbill:	874244836078
Shipped to:	Bonner Analytical Testing Company 2703 Oak Grove Rd Hattiesburg MS 39402 (601) 264-2854

Chain of Custody Record

Relinquished By	(Date / Time)	Received By	(Date / Time)
1			
2			
3			
4			

Sampler Signature:

For Lab Use Only

Lab Contract No:
Unit Price:
Transfer To:
Lab Contract No:
Unit Price:

INORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	ORGANIC SAMPLE No.	FOR LAB USE ONLY Sample Condition On Receipt
MY7E59	Surface Water/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (HNO3) (1)	TS1SW01	S: 10/25/2010 10:05		
MY7E64	Surface Water/ Rogerio Leong	L/G	TM/Hg (21)	(HNO3) (1)	TS2SW01	S: 10/25/2010 13:15		
MY7E68	Surface Water/ Rogerio Leong	L/G	TM/Hg (21)	(HNO3) (1)	TS3SW01	S: 10/26/2010 10:35		
MY7E69	Surface Water/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (HNO3) (1)	TS3SW02	S: 10/26/2010 10:45		
MY7E73	Surface Water/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (1)	TS4SW01	S: 10/26/2010 13:10		
MY7E78	Surface Water/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (HNO3) (1)	TS5SW01	S: 10/25/2010 15:20		
MY7E82	Surface Water/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (HNO3) (1)	TS6SW01	S: 10/26/2010 14:33		
MY7E84	Surface Water/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (HNO3) (1)	TS7SW01	S: 10/26/2010 15:00		
MY7E89	Surface Water/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (HNO3) (1)	TS8SW01	S: 10/27/2010 10:00		
MY7E92	Surface Water/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (Not preserved) (1)	TS9SW01	S: 10/27/2010 10:30		

Shipment for Case Complete?N	Sample(s) to be used for laboratory QC: MY7E69, MY7E96, MY7E99	Additional Sampler Signature(s):	Cooler Temperature Upon Receipt:	Chain of Custody Seal Number:
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Custody Seal Intact? ___	Shipment Iced? ___
TM/Hg = CLP TAL Total Metals/Hg				

TR Number: 9-521547831-102810-0002

LABORATORY COPY

PR provides preliminary results. Requests for preliminary results will increase analytical costs.
Send Copy to: Sample Management Office, 15000 Conference Center Dr., Chantilly, VA. 20151-3819 Phone 703/818-4200; Fax 703/818-4602

USEPA Contract Laboratory Program
Inorganic Traffic Report & Chain of Custody Record

Case No: 40721
DAS No:
SDG No:
L

Date Shipped:	10/29/2010
Carrier Name:	FedEx
Airbill:	874244836078
Shipped to:	Bonner Analytical Testing Company 2703 Oak Grove Rd Hattiesburg MS 39402 (601) 264-2854

Chain of Custody Record

Relinquished By	(Date / Time)	Received By	(Date / Time)
1			
2			
3			
4			

Sampler Signature:

For Lab Use Only

Lab Contract No:
Unit Price:
Transfer To:
Lab Contract No:
Unit Price:

INORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		ORGANIC SAMPLE No.	FOR LAB USE ONLY Sample Condition On Receipt
MY7E94	Surface Water/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (Not preserved) (1)	TS10SW01	S: 10/27/2010	11:00		
MY7E96	Surface Water/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (HNO3) (1)	TS11SW01	S: 10/27/2010	12:05		
MY7E99	Surface Water/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (HNO3) (1)	TS14SW01	S: 10/28/2010	9:50		
MY7EF1	Surface Water/ Rogerio Leong	L/G	TM/Hg (21)	(HNO3) (1)	TS15SW01	S: 10/28/2010	11:05		
MY7EF5	Surface Water/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (Not preserved) (1)	TS17SW01	S: 10/28/2010	14:50		

Shipment for Case Complete?N	Sample(s) to be used for laboratory QC: MY7E69, MY7E96, MY7E99	Additional Sampler Signature(s):	Cooler Temperature Upon Receipt:	Chain of Custody Seal Number:
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Custody Seal Intact? ___	Shipment Iced? ___
TM/Hg = CLP TAL Total Metals/Hg				

TR Number: 9-521547831-102810-0002

LABORATORY COPY

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Send Copy to: Sample Management Office, 15000 Conference Center Dr., Chantilly, VA. 20151-3819 Phone 703/818-4200; Fax 703/818-4602

USEPA Contract Laboratory Program
Inorganic Traffic Report & Chain of Custody Record

Case No: 40721
DAS No:
SDG No:
L

Date Shipped:	10/29/2010
Carrier Name:	FedEx
Airbill:	874244836089
Shipped to:	Bonner Analytical Testing Company 2703 Oak Grove Rd Hattiesburg MS 39402 (601) 264-2854

Chain of Custody Record

Relinquished By	(Date / Time)	Received By	(Date / Time)
1			
2			
3			
4			

Sampler Signature:

For Lab Use Only

Lab Contract No:
Unit Price:
Transfer To:
Lab Contract No:
Unit Price:

INORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	ORGANIC SAMPLE No.	FOR LAB USE ONLY Sample Condition On Receipt
MY7E60	Sediment/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (1)	TS1SE01A	S: 10/25/2010 10:45		
MY7E61	Sediment/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (1)	TS1SE01B	S: 10/25/2010 10:48		
MY7E62	Soil/Sediment/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (1)	TS1RS01	S: 10/25/2010 11:05		
MY7E63	Surface Soil (0"-12")/ Rogerio Leong	L/G	TM/Hg (21)	(1)	TS1US01	S: 10/25/2010 11:20		
MY7E65	Sediment/ Rogerio Leong	L/G	TM/Hg (21)	(1)	TS2SE01	S: 10/25/2010 13:20		
MY7E66	Soil/Sediment/ Rogerio Leong	L/G	TM/Hg (21)	(1)	TS2RS01	S: 10/25/2010 13:40		
MY7E67	Surface Soil (0"-12")/ Rogerio Leong	L/G	TM/Hg (21)	(1)	TS2US01	S: 10/25/2010 13:45		
MY7E70	Sediment/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (1)	TS3SE01	S: 10/26/2010 11:00		
MY7E71	Soil/Sediment/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (1)	TS3RS01	S: 10/26/2010 11:10		
MY7E72	Surface Soil (0"-12")/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (1)	TS3US01	S: 10/26/2010 11:20		

Shipment for Case Complete?N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Cooler Temperature Upon Receipt:	Chain of Custody Seal Number:
	MY7E95 ; MY7E65			

Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Custody Seal Intact? ___	Shipment Iced? ___
TM/Hg = CLP TAL Total Metals/Hg				

TR Number: 9-521547831-102810-0003

LABORATORY COPY

PR provides preliminary results. Requests for preliminary results will increase analytical costs.
Send Copy to: Sample Management Office, 15000 Conference Center Dr., Chantilly, VA. 20151-3819 Phone 703/818-4200; Fax 703/818-4602

USEPA Contract Laboratory Program
Inorganic Traffic Report & Chain of Custody Record

Case No: 40721
DAS No:
SDG No:
L

Date Shipped:	10/29/2010
Carrier Name:	FedEx
Airbill:	874244836089
Shipped to:	Bonner Analytical Testing Company 2703 Oak Grove Rd Hattiesburg MS 39402 (601) 264-2854

Chain of Custody Record

Relinquished By	(Date / Time)	Received By	(Date / Time)
1			
2			
3			
4			

Sampler Signature:

For Lab Use Only

Lab Contract No:
Unit Price:
Transfer To:
Lab Contract No:
Unit Price:

INORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	ORGANIC SAMPLE No.	FOR LAB USE ONLY Sample Condition On Receipt
MY7E74	Sediment/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (1)	TS4SE01A	S: 10/26/2010 13:00		
MY7E75	Sediment/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (1)	TS4SE01B	S: 10/26/2010 13:05		
MY7E76	Soil/Sediment/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (1)	TS4RS01	S: 10/26/2010 13:20		
MY7E79	Sediment/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (1)	TS5SE01	S: 10/25/2010 15:30		
MY7E80	Soil/Sediment/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (1)	TS5RS01	S: 10/25/2010 15:40		
MY7E81	Subsurface Soil (>12")/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (1)	TS5US01	S: 10/25/2010 15:50		
MY7E83	Sediment/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (1)	TS6SE01	S: 10/26/2010 14:37		
MY7E85	Sediment/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (1)	TS7SE01	S: 10/26/2010 15:05		
MY7E86	Soil/Sediment/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (1)	TS7RS01	S: 10/26/2010 15:10		
MY7E87	Subsurface Soil (>12")/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (1)	TS7US01	S: 10/26/2010 15:15		

Shipment for Case Complete?N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Cooler Temperature Upon Receipt:	Chain of Custody Seal Number:
	MY7E95 ; MY7E65			

Analysis Key: Concentration: L = Low, M = Low/Medium, H = High Type/Designate: Composite = C, Grab = G Custody Seal Intact? ___ Shipment Iced? ___

TM/Hg = CLP TAL Total Metals/Hg

TR Number: 9-521547831-102810-0003

LABORATORY COPY

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Send Copy to: Sample Management Office, 15000 Conference Center Dr., Chantilly, VA. 20151-3819 Phone 703/818-4200; Fax 703/818-4602

USEPA Contract Laboratory Program
Inorganic Traffic Report & Chain of Custody Record

Case No: 40721
DAS No:
SDG No:
L

Date Shipped:	10/29/2010
Carrier Name:	FedEx
Airbill:	874244836089
Shipped to:	Bonner Analytical Testing Company 2703 Oak Grove Rd Hattiesburg MS 39402 (601) 264-2854

Chain of Custody Record

Relinquished By	(Date / Time)	Received By	(Date / Time)
1			
2			
3			
4			

Sampler Signature:

For Lab Use Only

Lab Contract No:
Unit Price:
Transfer To:
Lab Contract No:
Unit Price:

INORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	ORGANIC SAMPLE No.	FOR LAB USE ONLY Sample Condition On Receipt
MY7E88	Surface Soil (0"-12")/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (1)	TS4US01	S: 10/26/2010 13:25		
MY7E90	Sediment/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (1)	TS8SE01	S: 10/27/2010 10:05		
MY7E91	Soil/Sediment/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (1)	TS8RS01	S: 10/27/2010 10:10		
MY7E93	Sediment/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (1)	TS9SE01	S: 10/27/2010 10:37		
MY7E95	Soil/Sediment/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (1)	TS10SE01	S: 10/27/2010 11:05		
MY7E97	Sediment/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (1)	TS11SE01	S: 10/27/2010 12:15		
MY7E98	Soil/Sediment	L/G	TM/Hg (21)	Y6591 (1)	TS11RS01	S: 10/27/2010 12:10		
MY7EF0	Sediment/ Rogerio Leong	L/G	TM/Hg (21)	(1)	TS14SE01	S: 10/28/2010 10:25		
MY7EF2	Sediment/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (1)	TS15SE01	S: 10/28/2010 11:10		
MY7EF3	Sediment/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (1)	TS16SE01A	S: 10/28/2010 14:30		

Shipment for Case Complete?N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Cooler Temperature Upon Receipt:	Chain of Custody Seal Number:
	MY7E95 ; MY7E65			

Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Custody Seal Intact? ___	Shipment Iced? ___
TM/Hg = CLP TAL Total Metals/Hg				

TR Number: 9-521547831-102810-0003

LABORATORY COPY

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Send Copy to: Sample Management Office, 15000 Conference Center Dr., Chantilly, VA. 20151-3819 Phone 703/818-4200; Fax 703/818-4602

USEPA Contract Laboratory Program
Inorganic Traffic Report & Chain of Custody Record

Case No: 40721
DAS No:
SDG No:
L

Date Shipped:	10/29/2010
Carrier Name:	FedEx
Airbill:	874244836089
Shipped to:	Bonner Analytical Testing Company 2703 Oak Grove Rd Hattiesburg MS 39402 (601) 264-2854

Chain of Custody Record

Relinquished By	(Date / Time)	Received By	(Date / Time)
1			
2			
3			
4			

Sampler Signature:

For Lab Use Only

Lab Contract No:
Unit Price:
Transfer To:
Lab Contract No:
Unit Price:

INORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	ORGANIC SAMPLE No.	FOR LAB USE ONLY Sample Condition On Receipt
MY7EF4	Sediment/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (1)	TS16SE01B	S: 10/28/2010 14:35		
MY7EF6	Sediment/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (1)	TS17SE01A	S: 10/28/2010 15:00		
MY7EF7	Sediment/ Rogerio Leong	L/G	TM/Hg (21)	Y6591 (1)	TS17SE01B	S: 10/28/2010 15:05		

Shipment for Case Complete?N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Cooler Temperature Upon Receipt:	Chain of Custody Seal Number:
	MY7E95 ; MY7E65			

Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Custody Seal Intact? ___	Shipment Iced? ___
TM/Hg = CLP TAL Total Metals/Hg				

TR Number: 9-521547831-102810-0003

LABORATORY COPY

PR provides preliminary results. Requests for preliminary results will increase analytical costs.
Send Copy to: Sample Management Office, 15000 Conference Center Dr., Chantilly, VA. 20151-3819 Phone 703/818-4200; Fax 703/818-4602

ATTACHMENT 2

LABORATORY REPORTS

ANALYTICAL RESULTS
Table 1A

Case No. : 40721 SDG No. : MY7E59
Site : BLUE LEDGE MINE
Lab : BONNER ANALYTICAL TESTING
Reviewer :
Date :

QUALIFIED DATA
Concentration in ug/L

Analysis Type : LOW Concentration Water Samples for Total Metals

Station Location :	TS15SW01			TS17SW01			TS1SW01			TS2SW01			TS3SW01			TS3SW02		
Sample ID :	MY7EF1			MY7EF5			MY7E59			MY7E64			MY7E68			MY7E69		
Collection Date :	10/28/2010			10/28/2010			10/25/2010			10/25/2010			10/26/2010			10/26/2010		
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
PARAMETER	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
ALUMINUM	NA			NA			NA			NA			NA			NA		
ANTIMONY	NA			NA			NA			NA			NA			NA		
ARSENIC	NA			NA			NA			NA			NA			NA		
BARIUM	NA			NA			NA			NA			NA			NA		
BERYLLIUM	NA			NA			NA			NA			NA			NA		
CADMIUM	NA			NA			NA			NA			NA			NA		
CALCIUM	NA			NA			NA			NA			NA			NA		
CHROMIUM	NA			NA			NA			NA			NA			NA		
COBALT	NA			NA			NA			NA			NA			NA		
COPPER	NA			NA			NA			NA			NA			NA		
IRON	37500			1940			433			389			106			101		
LEAD	NA			NA			NA			NA			NA			NA		
MAGNESIUM	NA			NA			NA			NA			NA			NA		
MANGANESE	NA			NA			NA			NA			NA			NA		
MERCURY	5.6			0.080J	J		0.20U	U		0.20U	U		0.20U	U		0.20U	U	
NICKEL	NA			NA			NA			NA			NA			NA		
POTASSIUM	NA			NA			NA			NA			NA			NA		
SELENIUM	NA			NA			NA			NA			NA			NA		
SILVER	NA			NA			NA			NA			NA			NA		
SODIUM	NA			NA			NA			NA			NA			NA		
THALLIUM	NA			NA			NA			NA			NA			NA		
VANADIUM	NA			NA			NA			NA			NA			NA		
ZINC	NA			NA			NA			NA			NA			NA		

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
IDL - Instrument Detection Limit
N/A - Not Applicable
NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample
CRQL - Contract Required Quantitation Limit

ANALYTICAL RESULTS
Table 1A

Case No. : 40721 SDG No. : MY7E59
Site : BLUE LEDGE MINE
Lab : BONNER ANALYTICAL TESTING
Reviewer :
Date :

QUALIFIED DATA
Concentration in ug/L

Analysis Type : LOW Concentration Water Samples for Total Metals

Station Location :	TS4SW01			TS5SW01			TS6SW01			TS7SW01			TS8SW01			TS9SW01		
Sample ID :	MY7E73			MY7E78			MY7E82			MY7E84			MY7E89			MY7E92		
Collection Date :	10/26/2010			10/25/2010			10/26/2010			10/26/2010			10/27/2010			10/27/2010		
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
PARAMETER	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
ALUMINUM	NA			NA			NA			NA			NA			NA		
ANTIMONY	NA			NA			NA			NA			NA			NA		
ARSENIC	NA			NA			NA			NA			NA			NA		
BARIUM	NA			NA			NA			NA			NA			NA		
BERYLLIUM	NA			NA			NA			NA			NA			NA		
CADMIUM	NA			NA			NA			NA			NA			NA		
CALCIUM	NA			NA			NA			NA			NA			NA		
CHROMIUM	NA			NA			NA			NA			NA			NA		
COBALT	NA			NA			NA			NA			NA			NA		
COPPER	NA			NA			NA			NA			NA			NA		
IRON	105			82.8J	J		821			100U	U		97.7J	J		179		
LEAD	NA			NA			NA			NA			NA			NA		
MAGNESIUM	NA			NA			NA			NA			NA			NA		
MANGANESE	NA			NA			NA			NA			NA			NA		
MERCURY	0.20U	U		0.20U	U		0.20U	U		0.20U	U		0.20U	U		0.20U	U	
NICKEL	NA			NA			NA			NA			NA			NA		
POTASSIUM	NA			NA			NA			NA			NA			NA		
SELENIUM	NA			NA			NA			NA			NA			NA		
SILVER	NA			NA			NA			NA			NA			NA		
SODIUM	NA			NA			NA			NA			NA			NA		
THALLIUM	NA			NA			NA			NA			NA			NA		
VANADIUM	NA			NA			NA			NA			NA			NA		
ZINC	NA			NA			NA			NA			NA			NA		

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
IDL - Instrument Detection Limit
N/A - Not Applicable
NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample
CRQL - Contract Required Quantitation Limit

ANALYTICAL RESULTS
Table 1A

Case No. : 40721 SDG No. : MY7E59
Site : BLUE LEDGE MINE
Lab : BONNER ANALYTICAL TESTING
Reviewer :
Date :

QUALIFIED DATA
Concentration in ug/L

Analysis Type : LOW Concentration Water Samples for Total Metals

Station Location :	TS10SW01			TS11SW01			TS14SW01			Lab Blank								
Sample ID :	MY7E94			MY7E96			MY7E99			PBW01			CRQL					
Collection Date :	10/27/2010			10/27/2010			10/28/2010											
Dilution Factor :	1.0			1.0			1.0			1.0								
PARAMETER	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
ALUMINUM	NA			NA			NA			NA			200					
ANTIMONY	NA			NA			NA			NA			60.0					
ARSENIC	NA			NA			NA			NA			10.0					
BARIUM	NA			NA			NA			NA			200					
BERYLLIUM	NA			NA			NA			NA			5.0					
CADMIUM	NA			NA			NA			NA			5.0					
CALCIUM	NA			NA			NA			NA			5000					
CHROMIUM	NA			NA			NA			NA			10.0					
COBALT	NA			NA			NA			NA			50.0					
COPPER	NA			NA			NA			NA			25.0					
IRON	100U	U		100U	U		324			100U			100					
LEAD	NA			NA			NA			NA			10.0					
MAGNESIUM	NA			NA			NA			NA			5000					
MANGANESE	NA			NA			NA			NA			15.0					
MERCURY	0.20U	U		0.20U	U		0.20U	U		0.20U			0.20					
NICKEL	NA			NA			NA			NA			40.0					
POTASSIUM	NA			NA			NA			NA			5000					
SELENIUM	NA			NA			NA			NA			35.0					
SILVER	NA			NA			NA			NA			10.0					
SODIUM	NA			NA			NA			NA			5000					
THALLIUM	NA			NA			NA			NA			25.0					
VANADIUM	NA			NA			NA			NA			50.0					
ZINC	NA			NA			NA			NA			60.0					

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
IDL - Instrument Detection Limit
N/A - Not Applicable
NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample
CRQL - Contract Required Quantitation Limit

ANALYTICAL RESULTS
Table 1A

Case No. : 40721 SDG No. : MY7E64
Site : BLUE LEDGE MINE
Lab : BONNER ANALYTICAL TESTING
Reviewer :
Date :

QUALIFIED DATA
Concentration in ug/L

Analysis Type : LOW Concentration Water Samples for Total Metals

Station Location :	TS15SW01			TS17SW01			TS1SW01			TS2SW01			TS3SW01			TS3SW02		
Sample ID :	MY7EF1			MY7EF5			MY7E59			MY7E64			MY7E68			MY7E69		
Collection Date :	10/28/2010			10/28/2010			10/25/2010			10/25/2010			10/26/2010			10/26/2010		
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
PARAMETER	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
ALUMINUM	NA			NA			NA			NA			NA			NA		
ANTIMONY	NA			NA			NA			NA			NA			NA		
ARSENIC	55.1			2.4			0.79J	UJ		0.76J	UJ		0.59J	UJ		0.51J	UJ	
BARIUM	NA			NA			NA			NA			NA			NA		
BERYLLIUM	NA			NA			NA			NA			NA			NA		
CADMIUM	31.1	J		1.1	J		1.1	J		1.1	J		0.68J	UJ		0.68J	UJ	
CALCIUM	NA			NA			NA			NA			NA			NA		
CHROMIUM	NA			NA			NA			NA			NA			NA		
COBALT	NA			NA			NA			NA			NA			NA		
COPPER	3700			149			87.3			87.0			48.6			49.1		
IRON	NA			NA			NA			NA			NA			NA		
LEAD	443	J		23.8			1.8			1.4			0.36J	UJ		0.39J	UJ	
MAGNESIUM	NA			NA			NA			NA			NA			NA		
MANGANESE	NA			NA			NA			NA			NA			NA		
NICKEL	NA			NA			NA			NA			NA			NA		
POTASSIUM	NA			NA			NA			NA			NA			NA		
SELENIUM	NA			NA			NA			NA			NA			NA		
SILVER	NA			NA			NA			NA			NA			NA		
SODIUM	NA			NA			NA			NA			NA			NA		
THALLIUM	NA			NA			NA			NA			NA			NA		
VANADIUM	NA			NA			NA			NA			NA			NA		
ZINC	4250			151			167			167			101			102		

Percent Solids

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
IDL - Instrument Detection Limit
N/A - Not Applicable
NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample
CRQL - Contract Required Quantitation Limit

ANALYTICAL RESULTS
Table 1A

Case No. : 40721 SDG No. : MY7E64
Site : BLUE LEDGE MINE
Lab : BONNER ANALYTICAL TESTING
Reviewer :
Date :

QUALIFIED DATA
Concentration in ug/L

Analysis Type : LOW Concentration Water Samples for Total Metals

Station Location :	TS4SW01			TS5SW01			TS6SW01			TS7SW01			TS8SW01			TS9SW01		
Sample ID :	MY7E73			MY7E78			MY7E82			MY7E84			MY7E89			MY7E92		
Collection Date :	10/26/2010			10/25/2010			10/26/2010			10/26/2010			10/27/2010			10/27/2010		
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
PARAMETER	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
ALUMINUM	NA			NA			NA			NA			NA			NA		
ANTIMONY	NA			NA			NA			NA			NA			NA		
ARSENIC	0.58J	UJ		0.68J	UJ		0.41J	UJ		0.66J	UJ		0.67J	UJ		0.64J	UJ	
BARIUM	NA			NA			NA			NA			NA			NA		
BERYLLIUM	NA			NA			NA			NA			NA			NA		
CADMIUM	0.63J	UJ		0.0089J	UJ		7.3	J		0.0096J	UJ		0.54J	UJ		0.40J	UJ	
CALCIUM	NA			NA			NA			NA			NA			NA		
CHROMIUM	NA			NA			NA			NA			NA			NA		
COBALT	NA			NA			NA			NA			NA			NA		
COPPER	45.6			0.70J	J		527			0.58J	J		34.5			28.0		
IRON	NA			NA			NA			NA			NA			NA		
LEAD	0.33J	UJ		0.044J	UJ		3.3			1.0U	U		0.37J	UJ		0.81J	UJ	
MAGNESIUM	NA			NA			NA			NA			NA			NA		
MANGANESE	NA			NA			NA			NA			NA			NA		
NICKEL	NA			NA			NA			NA			NA			NA		
POTASSIUM	NA			NA			NA			NA			NA			NA		
SELENIUM	NA			NA			NA			NA			NA			NA		
SILVER	NA			NA			NA			NA			NA			NA		
SODIUM	NA			NA			NA			NA			NA			NA		
THALLIUM	NA			NA			NA			NA			NA			NA		
VANADIUM	NA			NA			NA			NA			NA			NA		
ZINC	95.0			1.8J	J		1120			2.3			80.3			57.9		

Percent Solids

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
IDL - Instrument Detection Limit
N/A - Not Applicable
NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample
CRQL - Contract Required Quantitation Limit

ANALYTICAL RESULTS
Table 1A

Case No. : 40721 SDG No. : MY7E64
Site : BLUE LEDGE MINE
Lab : BONNER ANALYTICAL TESTING
Reviewer :
Date :

QUALIFIED DATA
Concentration in ug/L

Analysis Type : LOW Concentration Water Samples for Total Metals

Station Location :	TS10SW01			TS11SW01			TS14SW01			Lab Blank								
Sample ID :	MY7E94			MY7E96			MY7E99			PBW01			CRQL					
Collection Date :	10/27/2010			10/27/2010			10/28/2010											
Dilution Factor :	1.0			1.0			1.0			1.0								
PARAMETER	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
ALUMINUM	NA			NA			NA			NA			NA					
ANTIMONY	NA			NA			NA			NA			2.0					
ARSENIC	0.20J	UJ		0.66J	UJ		0.24J	UJ		0.14J			1.0					
BARIUM	NA			NA			NA			NA			10.0					
BERYLLIUM	NA			NA			NA			NA			1.0					
CADMIUM	1.0U	UJ		0.012J	UJ		0.014J	UJ		0.0080J			1.0					
CALCIUM	NA			NA			NA			NA			NA					
CHROMIUM	NA			NA			NA			NA			2.0					
COBALT	NA			NA			NA			NA			1.0					
COPPER	0.56J	J		2.0U	U		2.7			2.0U			2.0					
IRON	NA			NA			NA			NA			100					
LEAD	1.0U	U		0.023J	UJ		0.060J	UJ		0.024J			1.0					
MAGNESIUM	NA			NA			NA			NA			NA					
MANGANESE	NA			NA			NA			NA			1.0					
NICKEL	NA			NA			NA			NA			1.0					
POTASSIUM	NA			NA			NA			NA			NA					
SELENIUM	NA			NA			NA			NA			5.0					
SILVER	NA			NA			NA			NA			1.0					
SODIUM	NA			NA			NA			NA			NA					
THALLIUM	NA			NA			NA			NA			1.0					
VANADIUM	NA			NA			NA			NA			1.0					
ZINC	0.85J	J		1.9J	J		2.1			2.0U			2.0					

Percent Solids

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
IDL - Instrument Detection Limit
N/A - Not Applicable
NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample
CRQL - Contract Required Quantitation Limit

ANALYTICAL RESULTS
Table 1A

Case No. : 40721 SDG No. : MY7E62
Site : BLUE LEDGE MINE
Lab : BONNER ANALYTICAL TESTING
Reviewer :
Date :

QUALIFIED DATA
Concentration in mg/Kg (Dry Weight)

Analysis Type : LOW Concentration Soil Samples for Total Metals

Station Location :	TS1RS01			TS1US01			TS2SE01			TS2RS01			TS2US01			TS3SE01		
Sample ID :	MY7E62			MY7E63			MY7E65			MY7E66			MY7E67			MY7E70		
Collection Date :	10/25/2010			10/25/2010			10/25/2010			10/25/2010			10/25/2010			10/26/2010		
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
PARAMETER	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
ALUMINUM	NA			NA			NA			NA			NA			NA		
ANTIMONY	NA			NA			NA			NA			NA			NA		
ARSENIC	7.1			3.0			5.5			6.3			7.1			3.8		
BARIUM	NA			NA			NA			NA			NA			NA		
BERYLLIUM	NA			NA			NA			NA			NA			NA		
CADMIUM	0.10J	UJ		0.062J	UJ		0.56J	UJ		0.12J	UJ		0.089J	UJ		0.33J	UJ	
CALCIUM	NA			NA			NA			NA			NA			NA		
CHROMIUM	NA			NA			NA			NA			NA			NA		
COBALT	NA			NA			NA			NA			NA			NA		
COPPER	31.0			21.5			83.8			60.2			22.6			36.7		
IRON	NA			NA			NA			NA			NA			NA		
LEAD	3.1	J		5.0	J		8.1	J		3.9	J		6.8	J		4.0	J	
MAGNESIUM	NA			NA			NA			NA			NA			NA		
MANGANESE	NA			NA			NA			NA			NA			NA		
MERCURY	0.14U	U		0.25U	U		0.18	J-		0.074J	J-		0.063J	J-		0.065J	J-	
NICKEL	NA			NA			NA			NA			NA			NA		
POTASSIUM	NA			NA			NA			NA			NA			NA		
SELENIUM	NA			NA			NA			NA			NA			NA		
SILVER	NA			NA			NA			NA			NA			NA		
SODIUM	NA			NA			NA			NA			NA			NA		
THALLIUM	NA			NA			NA			NA			NA			NA		
VANADIUM	NA			NA			NA			NA			NA			NA		
ZINC	33.6			25.1			116			59.0			45.6			57.9		
Percent Solids	73.5%			39.8%			75.7%			75.0%			78.6%			82.9%		

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
IDL - Instrument Detection Limit
N/A - Not Applicable
NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample
CRQL - Contract Required Quantitation Limit

ANALYTICAL RESULTS
Table 1A

Case No. : 40721 SDG No. : MY7E62
Site : BLUE LEDGE MINE
Lab : BONNER ANALYTICAL TESTING
Reviewer :
Date :

QUALIFIED DATA
Concentration in mg/Kg (Dry Weight)

Analysis Type : LOW Concentration Soil Samples for Total Metals

Station Location :	TS3RS01			TS3US01			TS4SE01B			TS4RS01			TS5RS01			TS5US01		
Sample ID :	MY7E71			MY7E72			MY7E75			MY7E76			MY7E80			MY7E81		
Collection Date :	10/26/2010			10/26/2010			10/26/2010			10/26/2010			10/25/2010			10/25/2010		
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
PARAMETER	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
ALUMINUM	NA			NA			NA			NA			NA			NA		
ANTIMONY	NA			NA			NA			NA			NA			NA		
ARSENIC	4.7			1.5			3.0			6.5			3.3			0.89J	J	
BARIUM	NA			NA			NA			NA			NA			NA		
BERYLLIUM	NA			NA			NA			NA			NA			NA		
CADMIUM	0.35J	UJ		0.42J	UJ		0.14J	UJ		0.25J	UJ		0.34J	UJ		0.14J	UJ	
CALCIUM	NA			NA			NA			NA			NA			NA		
CHROMIUM	NA			NA			NA			NA			NA			NA		
COBALT	NA			NA			NA			NA			NA			NA		
COPPER	85.5			43.0			30.1			37.6			29.8			44.8		
IRON	NA			NA			NA			NA			NA			NA		
LEAD	14.2	J		3.9	J		2.8	J		5.1	J		5.6	J		0.91J	J	
MAGNESIUM	NA			NA			NA			NA			NA			NA		
MANGANESE	NA			NA			NA			NA			NA			NA		
MERCURY	0.29	J-		0.12U	U		0.055J	J-		0.14	J-		0.13U	U		0.13U	U	
NICKEL	NA			NA			NA			NA			NA			NA		
POTASSIUM	NA			NA			NA			NA			NA			NA		
SELENIUM	NA			NA			NA			NA			NA			NA		
SILVER	NA			NA			NA			NA			NA			NA		
SODIUM	NA			NA			NA			NA			NA			NA		
THALLIUM	NA			NA			NA			NA			NA			NA		
VANADIUM	NA			NA			NA			NA			NA			NA		
ZINC	84.5			212			52.6			55.8			87.4			70.2		
Percent Solids	82.4%			84.6%			85.0%			73.2%			79.2%			74.6%		

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
IDL - Instrument Detection Limit
N/A - Not Applicable
NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample
CRQL - Contract Required Quantitation Limit

ANALYTICAL RESULTS
Table 1A

Case No. : 40721 SDG No. : MY7E62
Site : BLUE LEDGE MINE
Lab : BONNER ANALYTICAL TESTING
Reviewer :
Date :

QUALIFIED DATA
Concentration in mg/Kg (Dry Weight)

Analysis Type : LOW Concentration Soil Samples for Total Metals

Station Location :	Lab Blank																	
Sample ID :	PBS01			CRQL														
Collection Date :																		
Dilution Factor :	1.0																	
PARAMETER	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
ALUMINUM	NA			20.0														
ANTIMONY	NA			6.0														
ARSENIC	1.0U			1.0														
BARIUM	NA			20.0														
BERYLLIUM	NA			0.50														
CADMIUM	0.50U			0.50														
CALCIUM	NA			500														
CHROMIUM	NA			1.0														
COBALT	NA			5.0														
COPPER	2.5U			2.5														
IRON	NA			10.0														
LEAD	1.0U			1.0														
MAGNESIUM	NA			500														
MANGANESE	NA			1.5														
MERCURY	0.10U			0.10														
NICKEL	NA			4.0														
POTASSIUM	NA			500														
SELENIUM	NA			3.5														
SILVER	NA			1.0														
SODIUM	NA			500														
THALLIUM	NA			2.5														
VANADIUM	NA			5.0														
ZINC	0.079J			6.0														
Percent Solids	100.0%																	

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
IDL - Instrument Detection Limit
N/A - Not Applicable
NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample
CRQL - Contract Required Quantitation Limit

ANALYTICAL RESULTS
Table 1A

Case No. : 40721 SDG No. : MY7E86
Site : BLUE LEDGE MINE
Lab : BONNER ANALYTICAL TESTING
Reviewer :
Date :

QUALIFIED DATA
Concentration in mg/Kg (Dry Weight)

Analysis Type : LOW Concentration Soil Samples for Total Metals

Station Location :	TS15SE01			TS16SE01A			TS16SE01B			TS17SE01A			TS17SE01B			TS7RS01		
Sample ID :	MY7EF2			MY7EF3			MY7EF4			MY7EF6			MY7EF7			MY7E86		
Collection Date :	10/28/2010			10/28/2010			10/28/2010			10/28/2010			10/28/2010			10/26/2010		
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
PARAMETER	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
ALUMINUM	NA			NA			NA			NA			NA			NA		
ANTIMONY	NA			NA			NA			NA			NA			NA		
ARSENIC	44.6			2.7			2.7			2.9			1.5			4.4		
BARIUM	NA			NA			NA			NA			NA			NA		
BERYLLIUM	NA			NA			NA			NA			NA			NA		
CADMIUM	14.5			1.8			1.6			2.3			1.4			1.8		
CALCIUM	NA			NA			NA			NA			NA			NA		
CHROMIUM	NA			NA			NA			NA			NA			NA		
COBALT	NA			NA			NA			NA			NA			NA		
COPPER	3340			75.4			32.4			66.6			39.9			29.8		
IRON	42700	J-		16900	J-		14900	J-		21500	J-		13500	J-		18100	J-	
LEAD	184	J		4.3	J		3.3	J		5.6	J		2.9	J		6.0	J	
MAGNESIUM	NA			NA			NA			NA			NA			NA		
MANGANESE	NA			NA			NA			NA			NA			NA		
MERCURY	1.2	J-		0.11J	J-		0.060J	J-		0.13J	J-		0.11U	U		0.46	J-	
NICKEL	NA			NA			NA			NA			NA			NA		
POTASSIUM	NA			NA			NA			NA			NA			NA		
SELENIUM	NA			NA			NA			NA			NA			NA		
SILVER	NA			NA			NA			NA			NA			NA		
SODIUM	NA			NA			NA			NA			NA			NA		
THALLIUM	NA			NA			NA			NA			NA			NA		
VANADIUM	NA			NA			NA			NA			NA			NA		
ZINC	1680	J		75.3	J		43.7	J		74.4	J		36.1	J		64.0	J	
Percent Solids	75.9%			64.1%			80.0%			68.9%			89.3%			76.6%		

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
IDL - Instrument Detection Limit
N/A - Not Applicable
NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample
CRQL - Contract Required Quantitation Limit

ANALYTICAL RESULTS
Table 1A

Case No. : 40721 SDG No. : MY7E86
Site : BLUE LEDGE MINE
Lab : BONNER ANALYTICAL TESTING
Reviewer :
Date :

QUALIFIED DATA
Concentration in mg/Kg (Dry Weight)

Analysis Type : LOW Concentration Soil Samples for Total Metals

Station Location :	TS7US01			TS4US01			TS8SE01			TS8RS01			TS11SE01			TS11RS01		
Sample ID :	MY7E87			MY7E88			MY7E90			MY7E91			MY7E97			MY7E98		
Collection Date :	10/26/2010			10/26/2010			10/27/2010			10/27/2010			10/27/2010			10/27/2010		
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
PARAMETER	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
ALUMINUM	NA			NA			NA			NA			NA			NA		
ANTIMONY	NA			NA			NA			NA			NA			NA		
ARSENIC	2.6			1.2U	U		8.1			2.7			3.4			2.6		
BARIUM	NA			NA			NA			NA			NA			NA		
BERYLLIUM	NA			NA			NA			NA			NA			NA		
CADMIUM	1.6			3.9			2.3			1.5			1.8			1.6		
CALCIUM	NA			NA			NA			NA			NA			NA		
CHROMIUM	NA			NA			NA			NA			NA			NA		
COBALT	NA			NA			NA			NA			NA			NA		
COPPER	26.5			41.7			71.4			79.1			25.1			33.4		
IRON	16100	J-		39000	J-		18900	J-		14100	J-		17800	J-		15900	J-	
LEAD	3.5	J		1.9	J		9.0	J		4.0	J		4.1	J		3.8	J	
MAGNESIUM	NA			NA			NA			NA			NA			NA		
MANGANESE	NA			NA			NA			NA			NA			NA		
MERCURY	0.11U	U		0.12U	U		0.12J	J-		0.22	J-		0.082J	J-		0.092J	J-	
NICKEL	NA			NA			NA			NA			NA			NA		
POTASSIUM	NA			NA			NA			NA			NA			NA		
SELENIUM	NA			NA			NA			NA			NA			NA		
SILVER	NA			NA			NA			NA			NA			NA		
SODIUM	NA			NA			NA			NA			NA			NA		
THALLIUM	NA			NA			NA			NA			NA			NA		
VANADIUM	NA			NA			NA			NA			NA			NA		
ZINC	43.6	J		67.0	J		135	J		53.2	J		48.3	J		40.1	J	
Percent Solids	87.7%			82.8%			76.6%			94.9%			79.6%			69.8%		

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
IDL - Instrument Detection Limit
N/A - Not Applicable
NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample
CRQL - Contract Required Quantitation Limit

ANALYTICAL RESULTS
Table 1A

Case No. : 40721 SDG No. : MY7E86
Site : BLUE LEDGE MINE
Lab : BONNER ANALYTICAL TESTING
Reviewer :
Date :

QUALIFIED DATA
Concentration in mg/Kg (Dry Weight)

Analysis Type : LOW Concentration Soil Samples for Total Metals

Station Location :	Lab Blank																	
Sample ID :	PBS01			CRQL														
Collection Date :																		
Dilution Factor :	1.0																	
PARAMETER	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
ALUMINUM	NA			20.0														
ANTIMONY	NA			6.0														
ARSENIC	-0.20000J			1.0														
BARIUM	NA			20.0														
BERYLLIUM	NA			0.50														
CADMIUM	0.015J			0.50														
CALCIUM	NA			500														
CHROMIUM	NA			1.0														
COBALT	NA			5.0														
COPPER	2.5U			2.5														
IRON	1.9J			10.0														
LEAD	1.0U			1.0														
MAGNESIUM	NA			500														
MANGANESE	NA			1.5														
MERCURY	0.10U			0.10														
NICKEL	NA			4.0														
POTASSIUM	NA			500														
SELENIUM	NA			3.5														
SILVER	NA			1.0														
SODIUM	NA			500														
THALLIUM	NA			2.5														
VANADIUM	NA			5.0														
ZINC	0.16J			6.0														
Percent Solids	100.0%																	

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
IDL - Instrument Detection Limit
N/A - Not Applicable
NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample
CRQL - Contract Required Quantitation Limit

ANALYTICAL RESULTS
Table 1A

Case No. : 40721 SDG No. : MY7E60
Site : BLUE LEDGE MINE
Lab : BONNER ANALYTICAL TESTING
Reviewer :
Date :

QUALIFIED DATA
Concentration in mg/Kg (Dry Weight)

Analysis Type : LOW Concentration Soil Samples for Total Metals

Station Location :	TS14SE01			TS1SE01A			TS1SE01B			TS4SE01A			TS5SE01			TS6SE01		
Sample ID :	MY7EF0			MY7E60			MY7E61			MY7E74			MY7E79			MY7E83		
Collection Date :	10/28/2010			10/25/2010			10/25/2010			10/26/2010			10/25/2010			10/26/2010		
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
PARAMETER	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
ALUMINUM	NA			NA			NA			NA			NA			NA		
ANTIMONY	NA			NA			NA			NA			NA			NA		
ARSENIC	3.3			5.2			5.0			5.1			5.8			29.8		
BARIUM	NA			NA			NA			NA			NA			NA		
BERYLLIUM	NA			NA			NA			NA			NA			NA		
CADMIUM	0.19J	J		0.52			0.50			0.26J	J		0.26J	J		10.0		
CALCIUM	NA			NA			NA			NA			NA			NA		
CHROMIUM	NA			NA			NA			NA			NA			NA		
COBALT	NA			NA			NA			NA			NA			NA		
COPPER	48.3			76.1			88.9			61.2			40.1			2550		
IRON	NA			NA			NA			NA			NA			NA		
LEAD	2.9			6.1			5.9			6.4			5.6			202		
MAGNESIUM	NA			NA			NA			NA			NA			NA		
MANGANESE	NA			NA			NA			NA			NA			NA		
MERCURY	0.14	J-		0.068J	J-		0.11	J-		0.15	J-		0.21	J-		1.5	J-	
NICKEL	NA			NA			NA			NA			NA			NA		
POTASSIUM	NA			NA			NA			NA			NA			NA		
SELENIUM	NA			NA			NA			NA			NA			NA		
SILVER	NA			NA			NA			NA			NA			NA		
SODIUM	NA			NA			NA			NA			NA			NA		
THALLIUM	NA			NA			NA			NA			NA			NA		
VANADIUM	NA			NA			NA			NA			NA			NA		
ZINC	39.8			135			132			75.5			47.9			1600		
Percent Solids	100.0%			100.0%			100.0%			100.0%			100.0%			100.0%		

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
IDL - Instrument Detection Limit
N/A - Not Applicable
NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample
CRQL - Contract Required Quantitation Limit

ANALYTICAL RESULTS
Table 1A

Case No. : 40721 SDG No. : MY7E60
Site : BLUE LEDGE MINE
Lab : BONNER ANALYTICAL TESTING
Reviewer :
Date :

QUALIFIED DATA
Concentration in mg/Kg (Dry Weight)

Analysis Type : LOW Concentration Soil Samples for Total Metals

Station Location :	TS7SE01			TS9SE01			TS10SE01			Lab Blank								
Sample ID :	MY7E85			MY7E93			MY7E95			PBS01			CRQL					
Collection Date :	10/26/2010			10/27/2010			10/27/2010											
Dilution Factor :	1.0			1.0			1.0			1.0								
PARAMETER	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
ALUMINUM	NA			NA			NA			NA			20.0					
ANTIMONY	NA			NA			NA			NA			6.0					
ARSENIC	12.5			5.6			0.72J	J		1.0U			1.0					
BARIUM	NA			NA			NA			NA			20.0					
BERYLLIUM	NA			NA			NA			NA			0.50					
CADMIUM	0.50J			0.80			0.066J	J		0.50U			0.50					
CALCIUM	NA			NA			NA			NA			500					
CHROMIUM	NA			NA			NA			NA			1.0					
COBALT	NA			NA			NA			NA			5.0					
COPPER	54.1			108			58.6			0.45J			2.5					
IRON	NA			NA			NA			NA			10.0					
LEAD	6.9			6.4			1.3			1.0U			1.0					
MAGNESIUM	NA			NA			NA			NA			500					
MANGANESE	NA			NA			NA			NA			1.5					
MERCURY	0.40	J-		0.18	J-		0.078J	J-		0.10U			0.10					
NICKEL	NA			NA			NA			NA			4.0					
POTASSIUM	NA			NA			NA			NA			500					
SELENIUM	NA			NA			NA			NA			3.5					
SILVER	NA			NA			NA			NA			1.0					
SODIUM	NA			NA			NA			NA			500					
THALLIUM	NA			NA			NA			NA			2.5					
VANADIUM	NA			NA			NA			NA			5.0					
ZINC	47.9			144			18.1			0.75J			6.0					
Percent Solids	100.0%			100.0%			100.0%			100.0%								

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
IDL - Instrument Detection Limit
N/A - Not Applicable
NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample
CRQL - Contract Required Quantitation Limit

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

Innovative Tech. Solutions Inc
2730 Shadelands Drive
Suite 100
Walnut creek CA 94598

November 16, 2010

Project: Blue Ledge Mine

Submittal Date: 10/29/2010
Group Number: 1218750
PO Number: 07163-0049FPO
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
TS1TS01-Filet TA	6126540
TS1TS01-Fish TA	6126541
TS1TS02-Filet TA	6126542
TS1TS02-Fish TA	6126543
TS1TS03-Filet TA	6126544
TS1TS03-Fish TA	6126545
TS2TS01-Filet TA	6126546
TS2TS01-Fish TA	6126547
TS2TS02-Filet TA	6126548
TS2TS02-Fish TA	6126549
TS2TS03-Filet TA	6126550
TS2TS03-Fish TA	6126551
TS2TS04-Fish TA	6126552
TS2TS05-Fish TA	6126553
TS5TS01-Filet TA	6126554
TS5TS01-Fish TA	6126555
TS5TS02-Filet TA	6126556
TS5TS02-Fish TA	6126557
TS5TS03-Fish TA	6126558
TS3TS04-Filet TA	6126559
TS3TS04-Fish TA	6126560
TS4TS01-Filet TA	6126561
TS4TS01-Fish TA	6126562
TS4TS02-Filet TA	6126563
TS4TS02-Fish TA	6126564
TS3TS01-Filet TA	6126565
TS3TS01-Fish TA	6126566
TS3TS02-Filet TA	6126567

Lancaster Laboratories

Analysis Report

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TS3TS02-Fish TA	6126568
TS3TS03-Filet TA	6126569
TS3TS03-Fish TA	6126570
TS5TS04-Fish TA	6126571

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO Innovative Tech. Solutions Inc Attn: Kristen Carlyon

Questions? Contact your Client Services Representative
Elizabeth A Leonhardt at (510) 232-8894

Respectfully Submitted,

Dorothy M. Love

Dorothy M. Love
Group Leader

Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Sample Description: TS1TS01-Filet TA
NONE
Blue Ledge Mine

LLI Sample # SW 6126540
LLI Group # 1218750
Account # 13015

Project Name: Blue Ledge Mine

Collected: 10/25/2010 10:30

Submitted: 10/29/2010 08:50
Reported: 11/16/2010 16:58

Innovative Tech. Solutions Inc
2730 Shadelands Drive
Suite 100
Walnut creek CA 94598

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	**mg/kg**	
06125	Arsenic	7440-38-2	N.D.	0.0577	0.385	2
06128	Cadmium	7440-43-9	0.0457 J	0.0346	0.0962	2
06133	Copper	7440-50-8	1.07	0.0635	0.385	2
06135	Lead	7439-92-1	0.0913 J	0.0100	0.192	2
06149	Zinc	7440-66-6	13.6	0.538	2.88	2
	SW-846 7471A		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0719 J	0.0027	0.0940	1
Percent Lipids	**SW-846 3545A Rev. 1, 2/07 mod**		**% by wt.**	**% by wt.**	**% by wt.**	
04193	Percent Lipids	66455-18-3	3.8	0.10	0.10	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06125	Arsenic	SW-846 6020	1	103056150001A	11/10/2010 08:09	Choon Y Tian	2
06128	Cadmium	SW-846 6020	1	103056150001A	11/10/2010 08:09	Choon Y Tian	2
06133	Copper	SW-846 6020	1	103056150001A	11/10/2010 08:09	Choon Y Tian	2
06135	Lead	SW-846 6020	1	103056150001A	11/10/2010 08:09	Choon Y Tian	2
06149	Zinc	SW-846 6020	1	103056150001A	11/10/2010 08:09	Choon Y Tian	2
00159	Mercury	SW-846 7471A	1	103155711004	11/12/2010 07:10	Damary Valentin	1
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	103056150001	11/01/2010 22:10	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	103155711004	11/11/2010 23:40	Annamaria Stipkovits	1
02487	Food and Tissue Preparation	RAD-PCO/AP001 modified	1	103058812487	11/01/2010 06:15	Joseph S Feister	n.a.
04193	Percent Lipids	SW-846 3545A Rev. 1, 2/07 mod	1	103121348AASE1	11/08/2010 14:00	Robert T Vincent	1

*=This limit was used in the evaluation of the final result

Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Sample Description: TS1TS01-Fish TA
NONE
Blue Ledge Mine

LLI Sample # SW 6126541
LLI Group # 1218750
Account # 13015

Project Name: Blue Ledge Mine

Collected: 10/25/2010 10:30

Submitted: 10/29/2010 08:50
Reported: 11/16/2010 16:58

Innovative Tech. Solutions Inc
2730 Shadelands Drive
Suite 100
Walnut creek CA 94598

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	**mg/kg**	
06125	Arsenic	7440-38-2	0.138 J	0.0588	0.392	2
06128	Cadmium	7440-43-9	0.275	0.0353	0.0980	2
06133	Copper	7440-50-8	12.9	0.0647	0.392	2
06135	Lead	7439-92-1	0.252	0.0102	0.196	2
06149	Zinc	7440-66-6	40.8	0.549	2.94	2
	SW-846 7471A		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0453 J	0.0028	0.0978	1
Percent Lipids	**SW-846 3545A Rev. 1, 2/07 mod**		**% by wt.**	**% by wt.**	**% by wt.**	
04193	Percent Lipids	66455-18-3	5.4	0.10	0.10	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06125	Arsenic	SW-846 6020	1	103056150001A	11/10/2010 08:21	Choon Y Tian	2
06128	Cadmium	SW-846 6020	1	103056150001A	11/10/2010 08:21	Choon Y Tian	2
06133	Copper	SW-846 6020	1	103056150001A	11/10/2010 08:21	Choon Y Tian	2
06135	Lead	SW-846 6020	1	103056150001A	11/10/2010 08:21	Choon Y Tian	2
06149	Zinc	SW-846 6020	1	103056150001A	11/10/2010 08:21	Choon Y Tian	2
00159	Mercury	SW-846 7471A	1	103155711004	11/12/2010 07:17	Damary Valentin	1
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	103056150001	11/01/2010 22:10	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	103155711004	11/11/2010 23:40	Annamaria Stipkovits	1
02487	Food and Tissue Preparation	RAD-PCO/AP001 modified	1	103058812487	11/01/2010 06:15	Joseph S Feister	n.a.
04193	Percent Lipids	SW-846 3545A Rev. 1, 2/07 mod	1	103121348AASE1	11/08/2010 14:00	Robert T Vincent	1

*=This limit was used in the evaluation of the final result

Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Sample Description: TS1TS02-Filet TA
NONE
Blue Ledge Mine

LLI Sample # SW 6126542
LLI Group # 1218750
Account # 13015

Project Name: Blue Ledge Mine

Collected: 10/25/2010 10:36

Submitted: 10/29/2010 08:50
Reported: 11/16/2010 16:58

Innovative Tech. Solutions Inc
2730 Shadelands Drive
Suite 100
Walnut creek CA 94598

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	**mg/kg**	
06125	Arsenic	7440-38-2	N.D.	0.0600	0.400	2
06128	Cadmium	7440-43-9	N.D.	0.0360	0.100	2
06133	Copper	7440-50-8	0.373 J	0.0660	0.400	2
06135	Lead	7439-92-1	0.0270 J	0.0104	0.200	2
06149	Zinc	7440-66-6	10.4	0.560	3.00	2
	SW-846 7471A		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0937 J	0.0027	0.0947	1
Percent Lipids	**SW-846 3545A Rev. 1, 2/07 mod**		**% by wt.**	**% by wt.**	**% by wt.**	
04193	Percent Lipids	66455-18-3	0.58	0.10	0.10	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06125	Arsenic	SW-846 6020	1	103056150001A	11/10/2010 08:22	Choon Y Tian	2
06128	Cadmium	SW-846 6020	1	103056150001A	11/10/2010 08:22	Choon Y Tian	2
06133	Copper	SW-846 6020	1	103056150001A	11/10/2010 08:22	Choon Y Tian	2
06135	Lead	SW-846 6020	1	103056150001A	11/10/2010 08:22	Choon Y Tian	2
06149	Zinc	SW-846 6020	1	103056150001A	11/10/2010 08:22	Choon Y Tian	2
00159	Mercury	SW-846 7471A	1	103155711004	11/12/2010 07:18	Damary Valentin	1
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	103056150001	11/01/2010 22:10	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	103155711004	11/11/2010 23:40	Annamaria Stipkovits	1
02487	Food and Tissue Preparation	RAD-PCO/AP001 modified	1	103058812487	11/01/2010 06:15	Joseph S Feister	n.a.
04193	Percent Lipids	SW-846 3545A Rev. 1, 2/07 mod	1	103121348AASE1	11/08/2010 14:00	Robert T Vincent	1

*=This limit was used in the evaluation of the final result

Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Sample Description: TS1TS02-Fish TA
NONE
Blue Ledge Mine

LLI Sample # SW 6126543
LLI Group # 1218750
Account # 13015

Project Name: Blue Ledge Mine

Collected: 10/25/2010 10:36

Submitted: 10/29/2010 08:50
Reported: 11/16/2010 16:58

Innovative Tech. Solutions Inc
2730 Shadelands Drive
Suite 100
Walnut creek CA 94598

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	**mg/kg**	
06125	Arsenic	7440-38-2	0.0883 J	0.0588	0.392	2
06128	Cadmium	7440-43-9	0.0646 J	0.0353	0.0980	2
06133	Copper	7440-50-8	3.43	0.0647	0.392	2
06135	Lead	7439-92-1	0.0476 J	0.0102	0.196	2
06149	Zinc	7440-66-6	60.9	0.549	2.94	2
	SW-846 7471A		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0696 J	0.0028	0.0980	1
Percent Lipids	**SW-846 3545A Rev. 1, 2/07 mod**		**% by wt.**	**% by wt.**	**% by wt.**	
04193	Percent Lipids	66455-18-3	1.5	0.10	0.10	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06125	Arsenic	SW-846 6020	1	103056150001A	11/10/2010 08:28	Choon Y Tian	2
06128	Cadmium	SW-846 6020	1	103056150001A	11/10/2010 08:28	Choon Y Tian	2
06133	Copper	SW-846 6020	1	103056150001A	11/10/2010 08:28	Choon Y Tian	2
06135	Lead	SW-846 6020	1	103056150001A	11/10/2010 08:28	Choon Y Tian	2
06149	Zinc	SW-846 6020	1	103056150001A	11/10/2010 08:28	Choon Y Tian	2
00159	Mercury	SW-846 7471A	1	103155711004	11/12/2010 07:20	Damary Valentin	1
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	103056150001	11/01/2010 22:10	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	103155711004	11/11/2010 23:40	Annamaria Stipkovits	1
02487	Food and Tissue Preparation	RAD-PCO/AP001 modified	1	103058812487	11/01/2010 06:15	Joseph S Feister	n.a.
04193	Percent Lipids	SW-846 3545A Rev. 1, 2/07 mod	1	103121348AASE1	11/08/2010 14:00	Robert T Vincent	1

*=This limit was used in the evaluation of the final result

Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Sample Description: TS1TS03-Filet TA
NONE
Blue Ledge Mine

LLI Sample # SW 6126544
LLI Group # 1218750
Account # 13015

Project Name: Blue Ledge Mine

Collected: 10/25/2010 10:40

Submitted: 10/29/2010 08:50
Reported: 11/16/2010 16:58

Innovative Tech. Solutions Inc
2730 Shadelands Drive
Suite 100
Walnut creek CA 94598

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	**mg/kg**	
06125	Arsenic	7440-38-2	0.179 J	0.0588	0.392	2
06128	Cadmium	7440-43-9	N.D.	0.0353	0.0980	2
06133	Copper	7440-50-8	0.395	0.0647	0.392	2
06135	Lead	7439-92-1	0.0750 J	0.0102	0.196	2
06149	Zinc	7440-66-6	9.10	0.549	2.94	2
	SW-846 7471A		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0332 J	0.0028	0.0976	1
Percent Lipids	**SW-846 3545A Rev. 1, 2/07 mod**		**% by wt.**	**% by wt.**	**% by wt.**	
04193	Percent Lipids	66455-18-3	0.25	0.10	0.10	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06125	Arsenic	SW-846 6020	1	103056150001A	11/10/2010 08:30	Choon Y Tian	2
06128	Cadmium	SW-846 6020	1	103056150001A	11/10/2010 08:30	Choon Y Tian	2
06133	Copper	SW-846 6020	1	103056150001A	11/10/2010 08:30	Choon Y Tian	2
06135	Lead	SW-846 6020	1	103056150001A	11/10/2010 08:30	Choon Y Tian	2
06149	Zinc	SW-846 6020	1	103056150001A	11/10/2010 08:30	Choon Y Tian	2
00159	Mercury	SW-846 7471A	1	103155711004	11/12/2010 07:23	Damary Valentin	1
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	103056150001	11/01/2010 22:10	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	103155711004	11/11/2010 23:40	Annamaria Stipkovits	1
02487	Food and Tissue Preparation	RAD-PCO/AP001 modified	1	103058812487	11/01/2010 06:15	Joseph S Feister	n.a.
04193	Percent Lipids	SW-846 3545A Rev. 1, 2/07 mod	1	103121348AASE1	11/08/2010 14:00	Robert T Vincent	1

*=This limit was used in the evaluation of the final result

Analysis Report

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Sample Description: TS1TS03-Fish TA
NONE
Blue Ledge Mine

LLI Sample # SW 6126545
LLI Group # 1218750
Account # 13015

Project Name: Blue Ledge Mine

Collected: 10/25/2010 10:40

Submitted: 10/29/2010 08:50
Reported: 11/16/2010 16:58

Innovative Tech. Solutions Inc
2730 Shadelands Drive
Suite 100
Walnut creek CA 94598

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	**mg/kg**	
06125	Arsenic	7440-38-2	0.139 J	0.0594	0.396	2
06128	Cadmium	7440-43-9	0.0905 J	0.0356	0.0990	2
06133	Copper	7440-50-8	4.32	0.0653	0.396	2
06135	Lead	7439-92-1	0.0703 J	0.0103	0.198	2
06149	Zinc	7440-66-6	39.0	0.554	2.97	2
	SW-846 7471A		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0253 J	0.0028	0.0969	1
Percent Lipids	**SW-846 3545A Rev. 1, 2/07 mod**		**% by wt.**	**% by wt.**	**% by wt.**	
04193	Percent Lipids	66455-18-3	1.2	0.10	0.10	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06125	Arsenic	SW-846 6020	1	103056150001A	11/10/2010 08:32	Choon Y Tian	2
06128	Cadmium	SW-846 6020	1	103056150001A	11/10/2010 08:32	Choon Y Tian	2
06133	Copper	SW-846 6020	1	103056150001A	11/10/2010 08:32	Choon Y Tian	2
06135	Lead	SW-846 6020	1	103056150001A	11/10/2010 08:32	Choon Y Tian	2
06149	Zinc	SW-846 6020	1	103056150001A	11/10/2010 08:32	Choon Y Tian	2
00159	Mercury	SW-846 7471A	1	103155711004	11/12/2010 07:24	Damary Valentin	1
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	103056150001	11/01/2010 22:10	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	103155711004	11/11/2010 23:40	Annamaria Stipkovits	1
02487	Food and Tissue Preparation	RAD-PCO/AP001 modified	1	103058812487	11/01/2010 06:15	Joseph S Feister	n.a.
04193	Percent Lipids	SW-846 3545A Rev. 1, 2/07 mod	1	103121348AASE1	11/08/2010 14:00	Robert T Vincent	1

*=This limit was used in the evaluation of the final result

Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Sample Description: TS2TS01-Filet TA
NONE
Blue Ledge Mine

LLI Sample # SW 6126546
LLI Group # 1218750
Account # 13015

Project Name: Blue Ledge Mine

Collected: 10/25/2010 12:35

Submitted: 10/29/2010 08:50
Reported: 11/16/2010 16:58

Innovative Tech. Solutions Inc
2730 Shadelands Drive
Suite 100
Walnut creek CA 94598

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	**mg/kg**	
06125	Arsenic	7440-38-2	0.120 J	0.0577	0.385	2
06128	Cadmium	7440-43-9	N.D.	0.0346	0.0962	2
06133	Copper	7440-50-8	0.586	0.0635	0.385	2
06135	Lead	7439-92-1	0.0152 J	0.0100	0.192	2
06149	Zinc	7440-66-6	13.1	0.538	2.88	2
	SW-846 7471A		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0744 J	0.0029	0.0996	1
Percent Lipids	**SW-846 3545A Rev. 1, 2/07 mod**		**% by wt.**	**% by wt.**	**% by wt.**	
04193	Percent Lipids	66455-18-3	0.33	0.10	0.10	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06125	Arsenic	SW-846 6020	1	103056150001A	11/10/2010 08:34	Choon Y Tian	2
06128	Cadmium	SW-846 6020	1	103056150001A	11/10/2010 08:34	Choon Y Tian	2
06133	Copper	SW-846 6020	1	103056150001A	11/10/2010 08:34	Choon Y Tian	2
06135	Lead	SW-846 6020	1	103056150001A	11/10/2010 08:34	Choon Y Tian	2
06149	Zinc	SW-846 6020	1	103056150001A	11/10/2010 08:34	Choon Y Tian	2
00159	Mercury	SW-846 7471A	1	103155711004	11/12/2010 07:26	Damary Valentin	1
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	103056150001	11/01/2010 22:10	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	103155711004	11/11/2010 23:40	Annamaria Stipkovits	1
02487	Food and Tissue Preparation	RAD-PCO/AP001 modified	1	103058812487	11/01/2010 06:15	Joseph S Feister	n.a.
04193	Percent Lipids	SW-846 3545A Rev. 1, 2/07 mod	1	103121348AASE1	11/08/2010 14:00	Robert T Vincent	1

*=This limit was used in the evaluation of the final result

Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Sample Description: TS2TS01-Fish TA
NONE
Blue Ledge Mine

LLI Sample # SW 6126547
LLI Group # 1218750
Account # 13015

Project Name: Blue Ledge Mine

Collected: 10/25/2010 12:35

Submitted: 10/29/2010 08:50
Reported: 11/16/2010 16:58

Innovative Tech. Solutions Inc
2730 Shadelands Drive
Suite 100
Walnut creek CA 94598

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	**mg/kg**	
06125	Arsenic	7440-38-2	0.138 J	0.0600	0.400	2
06128	Cadmium	7440-43-9	0.215	0.0360	0.100	2
06133	Copper	7440-50-8	7.45	0.0660	0.400	2
06135	Lead	7439-92-1	0.127 J	0.0104	0.200	2
06149	Zinc	7440-66-6	60.4	0.560	3.00	2
	SW-846 7471A		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0563 J	0.0029	0.0996	1
Percent Lipids	**SW-846 3545A Rev. 1, 2/07 mod**		**% by wt.**	**% by wt.**	**% by wt.**	
04193	Percent Lipids	66455-18-3	1.1	0.10	0.10	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06125	Arsenic	SW-846 6020	1	103056150001A	11/10/2010 08:35	Choon Y Tian	2
06128	Cadmium	SW-846 6020	1	103056150001A	11/10/2010 08:35	Choon Y Tian	2
06133	Copper	SW-846 6020	1	103056150001A	11/10/2010 08:35	Choon Y Tian	2
06135	Lead	SW-846 6020	1	103056150001A	11/10/2010 08:35	Choon Y Tian	2
06149	Zinc	SW-846 6020	1	103056150001A	11/10/2010 08:35	Choon Y Tian	2
00159	Mercury	SW-846 7471A	1	103155711004	11/12/2010 07:27	Damary Valentin	1
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	103056150001	11/01/2010 22:10	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	103155711004	11/11/2010 23:40	Annamaria Stipkovits	1
02487	Food and Tissue Preparation	RAD-PCO/AP001 modified	1	103058812487	11/01/2010 06:15	Joseph S Feister	n.a.
04193	Percent Lipids	SW-846 3545A Rev. 1, 2/07 mod	1	103121348AASE1	11/08/2010 14:00	Robert T Vincent	1

*=This limit was used in the evaluation of the final result

Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Sample Description: TS2TS02-Filet TA
NONE
Blue Ledge Mine

LLI Sample # SW 6126548
LLI Group # 1218750
Account # 13015

Project Name: Blue Ledge Mine

Collected: 10/25/2010 12:40

Submitted: 10/29/2010 08:50
Reported: 11/16/2010 16:58

Innovative Tech. Solutions Inc
2730 Shadelands Drive
Suite 100
Walnut creek CA 94598

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	**mg/kg**	
06125	Arsenic	7440-38-2	0.109 J	0.0583	0.388	2
06128	Cadmium	7440-43-9	N.D.	0.0350	0.0971	2
06133	Copper	7440-50-8	0.606	0.0641	0.388	2
06135	Lead	7439-92-1	0.0195 J	0.0101	0.194	2
06149	Zinc	7440-66-6	9.98	0.544	2.91	2
	SW-846 7471A		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0531 J	0.0027	0.0945	1
Percent Lipids	**SW-846 3545A Rev. 1, 2/07 mod**		**% by wt.**	**% by wt.**	**% by wt.**	
04193	Percent Lipids	66455-18-3	0.91	0.10	0.10	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06125	Arsenic	SW-846 6020	1	103056150001A	11/10/2010 08:37	Choon Y Tian	2
06128	Cadmium	SW-846 6020	1	103056150001A	11/10/2010 08:37	Choon Y Tian	2
06133	Copper	SW-846 6020	1	103056150001A	11/10/2010 08:37	Choon Y Tian	2
06135	Lead	SW-846 6020	1	103056150001A	11/10/2010 08:37	Choon Y Tian	2
06149	Zinc	SW-846 6020	1	103056150001A	11/10/2010 08:37	Choon Y Tian	2
00159	Mercury	SW-846 7471A	1	103155711004	11/12/2010 07:28	Damary Valentin	1
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	103056150001	11/01/2010 22:10	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	103155711004	11/11/2010 23:40	Annamaria Stipkovits	1
02487	Food and Tissue Preparation	RAD-PCO/AP001 modified	1	103058812487	11/01/2010 06:15	Joseph S Feister	n.a.
04193	Percent Lipids	SW-846 3545A Rev. 1, 2/07 mod	1	103121348AASE1	11/08/2010 14:00	Robert T Vincent	1

*=This limit was used in the evaluation of the final result

Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Sample Description: TS2TS02-Fish TA
NONE
Blue Ledge Mine

LLI Sample # SW 6126549
LLI Group # 1218750
Account # 13015

Project Name: Blue Ledge Mine

Collected: 10/25/2010 12:40

Submitted: 10/29/2010 08:50
Reported: 11/16/2010 16:58

Innovative Tech. Solutions Inc
2730 Shadelands Drive
Suite 100
Walnut creek CA 94598

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	**mg/kg**	
06125	Arsenic	7440-38-2	0.137 J	0.0583	0.388	2
06128	Cadmium	7440-43-9	0.0989	0.0350	0.0971	2
06133	Copper	7440-50-8	4.40	0.0641	0.388	2
06135	Lead	7439-92-1	0.127 J	0.0101	0.194	2
06149	Zinc	7440-66-6	35.0	0.544	2.91	2
	SW-846 7471A		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0436 J	0.0028	0.0987	1
Percent Lipids	**SW-846 3545A Rev. 1, 2/07 mod**		**% by wt.**	**% by wt.**	**% by wt.**	
04193	Percent Lipids	66455-18-3	1.9	0.10	0.10	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06125	Arsenic	SW-846 6020	1	103056150001A	11/10/2010 08:39	Choon Y Tian	2
06128	Cadmium	SW-846 6020	1	103056150001A	11/10/2010 08:39	Choon Y Tian	2
06133	Copper	SW-846 6020	1	103056150001A	11/10/2010 08:39	Choon Y Tian	2
06135	Lead	SW-846 6020	1	103056150001A	11/10/2010 08:39	Choon Y Tian	2
06149	Zinc	SW-846 6020	1	103056150001A	11/10/2010 08:39	Choon Y Tian	2
00159	Mercury	SW-846 7471A	1	103155711004	11/12/2010 07:30	Damary Valentin	1
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	103056150001	11/01/2010 22:10	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	103155711004	11/11/2010 23:40	Annamaria Stipkovits	1
02487	Food and Tissue Preparation	RAD-PCO/AP001 modified	1	103058812487	11/01/2010 06:15	Joseph S Feister	n.a.
04193	Percent Lipids	SW-846 3545A Rev. 1, 2/07 mod	1	103121348AASE1	11/08/2010 14:00	Robert T Vincent	1

*=This limit was used in the evaluation of the final result

Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Sample Description: TS2TS03-Filet TA
NONE
Blue Ledge Mine

LLI Sample # SW 6126550
LLI Group # 1218750
Account # 13015

Project Name: Blue Ledge Mine

Collected: 10/25/2010 12:49

Submitted: 10/29/2010 08:50
Reported: 11/16/2010 16:58

Innovative Tech. Solutions Inc
2730 Shadelands Drive
Suite 100
Walnut creek CA 94598

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	**mg/kg**	
06125	Arsenic	7440-38-2	N.D.	0.0577	0.385	2
06128	Cadmium	7440-43-9	N.D.	0.0346	0.0962	2
06133	Copper	7440-50-8	0.633	0.0635	0.385	2
06135	Lead	7439-92-1	0.0175 J	0.0100	0.192	2
06149	Zinc	7440-66-6	6.96	0.538	2.88	2
	SW-846 7471A		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0270 J	0.0028	0.0989	1
Percent Lipids	**SW-846 3545A Rev. 1, 2/07 mod**		**% by wt.**	**% by wt.**	**% by wt.**	
04193	Percent Lipids	66455-18-3	1.8	0.10	0.10	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
06125	Arsenic	SW-846 6020	1	103056150001A	11/10/2010	08:41	Choon Y Tian	2
06128	Cadmium	SW-846 6020	1	103056150001A	11/10/2010	08:41	Choon Y Tian	2
06133	Copper	SW-846 6020	1	103056150001A	11/10/2010	08:41	Choon Y Tian	2
06135	Lead	SW-846 6020	1	103056150001A	11/10/2010	08:41	Choon Y Tian	2
06149	Zinc	SW-846 6020	1	103056150001A	11/10/2010	08:41	Choon Y Tian	2
00159	Mercury	SW-846 7471A	1	103155711004	11/12/2010	07:31	Damary Valentin	1
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	103056150001	11/01/2010	22:10	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	103155711004	11/11/2010	23:40	Annamaria Stipkovits	1
02487	Food and Tissue Preparation	RAD-PCO/AP001 modified	1	103058812487	11/01/2010	06:15	Joseph S Feister	n.a.
04193	Percent Lipids	SW-846 3545A Rev. 1, 2/07 mod	1	103121348AASE1	11/08/2010	14:00	Robert T Vincent	1

*=This limit was used in the evaluation of the final result

Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Sample Description: TS2TS03-Fish TA
NONE
Blue Ledge Mine

LLI Sample # SW 6126551
LLI Group # 1218750
Account # 13015

Project Name: Blue Ledge Mine

Collected: 10/25/2010 12:49

Submitted: 10/29/2010 08:50
Reported: 11/16/2010 16:58

Innovative Tech. Solutions Inc
2730 Shadelands Drive
Suite 100
Walnut creek CA 94598

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	**mg/kg**	
06125	Arsenic	7440-38-2	N.D.	0.0583	0.388	2
06128	Cadmium	7440-43-9	0.317	0.0350	0.0971	2
06133	Copper	7440-50-8	7.77	0.0641	0.388	2
06135	Lead	7439-92-1	0.156 J	0.0101	0.194	2
06149	Zinc	7440-66-6	50.0	0.544	2.91	2
	SW-846 7471A		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0253 J	0.0028	0.0988	1
Percent Lipids	**SW-846 3545A Rev. 1, 2/07 mod**		**% by wt.**	**% by wt.**	**% by wt.**	
04193	Percent Lipids	66455-18-3	6.4	0.10	0.10	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06125	Arsenic	SW-846 6020	1	103056150001A	11/10/2010 08:43	Choon Y Tian	2
06128	Cadmium	SW-846 6020	1	103056150001A	11/10/2010 08:43	Choon Y Tian	2
06133	Copper	SW-846 6020	1	103056150001A	11/10/2010 08:43	Choon Y Tian	2
06135	Lead	SW-846 6020	1	103056150001A	11/10/2010 08:43	Choon Y Tian	2
06149	Zinc	SW-846 6020	1	103056150001A	11/10/2010 08:43	Choon Y Tian	2
00159	Mercury	SW-846 7471A	1	103155711004	11/12/2010 07:33	Damary Valentin	1
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	103056150001	11/01/2010 22:10	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	103155711004	11/11/2010 23:40	Annamaria Stipkovits	1
02487	Food and Tissue Preparation	RAD-PCO/AP001 modified	1	103058812487	11/01/2010 06:15	Joseph S Feister	n.a.
04193	Percent Lipids	SW-846 3545A Rev. 1, 2/07 mod	1	103121348AASE1	11/08/2010 14:00	Robert T Vincent	1

*=This limit was used in the evaluation of the final result

Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Sample Description: TS2TS04-Fish TA
NONE
Blue Ledge Mine

LLI Sample # SW 6126552
LLI Group # 1218750
Account # 13015

Project Name: Blue Ledge Mine

Collected: 10/25/2010 12:30

Submitted: 10/29/2010 08:50
Reported: 11/16/2010 16:58

Innovative Tech. Solutions Inc
2730 Shadelands Drive
Suite 100
Walnut creek CA 94598

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	**mg/kg**	
06125	Arsenic	7440-38-2	0.202 J	0.0600	0.400	2
06128	Cadmium	7440-43-9	0.353	0.0360	0.100	2
06133	Copper	7440-50-8	6.02	0.0660	0.400	2
06135	Lead	7439-92-1	0.334	0.0104	0.200	2
06149	Zinc	7440-66-6	53.1	0.560	3.00	2
	SW-846 7471A		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0578 J	0.0028	0.0988	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06125	Arsenic	SW-846 6020	1	103056150001A	11/10/2010 08:45	Choon Y Tian	2
06128	Cadmium	SW-846 6020	1	103056150001A	11/10/2010 08:45	Choon Y Tian	2
06133	Copper	SW-846 6020	1	103056150001A	11/10/2010 08:45	Choon Y Tian	2
06135	Lead	SW-846 6020	1	103056150001A	11/10/2010 08:45	Choon Y Tian	2
06149	Zinc	SW-846 6020	1	103056150001A	11/10/2010 08:45	Choon Y Tian	2
00159	Mercury	SW-846 7471A	1	103155711004	11/12/2010 07:34	Damary Valentin	1
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	103056150001	11/01/2010 22:10	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	103155711004	11/11/2010 23:40	Annamaria Stipkovits	1
02487	Food and Tissue Preparation	RAD-PCO/AP001 modified	1	103058812487	11/01/2010 06:15	Joseph S Feister	n.a.

*=This limit was used in the evaluation of the final result

Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Sample Description: TS2TS05-Fish TA
NONE
Blue Ledge Mine

LLI Sample # SW 6126553
LLI Group # 1218750
Account # 13015

Project Name: Blue Ledge Mine

Collected: 10/25/2010 12:37

Submitted: 10/29/2010 08:50
Reported: 11/16/2010 16:58

Innovative Tech. Solutions Inc
2730 Shadelands Drive
Suite 100
Walnut creek CA 94598

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	**mg/kg**	
06125	Arsenic	7440-38-2	0.191 J	0.0600	0.400	2
06128	Cadmium	7440-43-9	0.525	0.0360	0.100	2
06133	Copper	7440-50-8	16.7	0.0660	0.400	2
06135	Lead	7439-92-1	0.679	0.0104	0.200	2
06149	Zinc	7440-66-6	69.9	0.560	3.00	2
	SW-846 7471A		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0273 J	0.0028	0.0992	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06125	Arsenic	SW-846 6020	1	103056150001A	11/10/2010 08:51	Choon Y Tian	2
06128	Cadmium	SW-846 6020	1	103056150001A	11/10/2010 08:51	Choon Y Tian	2
06133	Copper	SW-846 6020	1	103056150001A	11/10/2010 08:51	Choon Y Tian	2
06135	Lead	SW-846 6020	1	103056150001A	11/10/2010 08:51	Choon Y Tian	2
06149	Zinc	SW-846 6020	1	103056150001A	11/10/2010 08:51	Choon Y Tian	2
00159	Mercury	SW-846 7471A	1	103155711004	11/12/2010 07:35	Damary Valentin	1
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	103056150001	11/01/2010 22:10	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	103155711004	11/11/2010 23:40	Annamaria Stipkovits	1
02487	Food and Tissue Preparation	RAD-PCO/AP001 modified	1	103058812487	11/01/2010 06:15	Joseph S Feister	n.a.

*=This limit was used in the evaluation of the final result

Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Sample Description: TS5TS01-Filet TA
NONE
Blue Ledge Mine

LLI Sample # SW 6126554
LLI Group # 1218750
Account # 13015

Project Name: Blue Ledge Mine

Collected: 10/25/2010 14:42

Submitted: 10/29/2010 08:50
Reported: 11/16/2010 16:58

Innovative Tech. Solutions Inc
2730 Shadelands Drive
Suite 100
Walnut creek CA 94598

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	**mg/kg**	
06125	Arsenic	7440-38-2	N.D.	0.0577	0.385	2
06128	Cadmium	7440-43-9	N.D.	0.0346	0.0962	2
06133	Copper	7440-50-8	0.749	0.0635	0.385	2
06135	Lead	7439-92-1	0.0446 J	0.0100	0.192	2
06149	Zinc	7440-66-6	9.24	0.538	2.88	2
Percent Lipids	**SW-846 3545A Rev. 1, 2/07 mod**		**% by wt.**	**% by wt.**	**% by wt.**	
04193	Percent Lipids	66455-18-3	1.5	0.10	0.10	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06125	Arsenic	SW-846 6020	1	103056150001A	11/10/2010 08:53	Choon Y Tian	2
06128	Cadmium	SW-846 6020	1	103056150001A	11/10/2010 08:53	Choon Y Tian	2
06133	Copper	SW-846 6020	1	103056150001A	11/10/2010 08:53	Choon Y Tian	2
06135	Lead	SW-846 6020	1	103056150001A	11/10/2010 08:53	Choon Y Tian	2
06149	Zinc	SW-846 6020	1	103056150001A	11/10/2010 08:53	Choon Y Tian	2
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	103056150001	11/01/2010 22:10	Annamaria Stipkovits	1
02487	Food and Tissue Preparation	RAD-PCO/AP001 modified	1	103058812487	11/01/2010 06:15	Joseph S Feister	n.a.
04193	Percent Lipids	SW-846 3545A Rev. 1, 2/07 mod	1	103121348AASE1	11/08/2010 14:00	Robert T Vincent	1

*=This limit was used in the evaluation of the final result

Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Sample Description: TS5TS01-Fish TA
NONE
Blue Ledge Mine

LLI Sample # SW 6126555
LLI Group # 1218750
Account # 13015

Project Name: Blue Ledge Mine

Collected: 10/25/2010 14:42

Submitted: 10/29/2010 08:50
Reported: 11/16/2010 16:58

Innovative Tech. Solutions Inc
2730 Shadelands Drive
Suite 100
Walnut creek CA 94598

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	**mg/kg**	
06125	Arsenic	7440-38-2	N.D.	0.0588	0.392	2
06128	Cadmium	7440-43-9	0.0419 J	0.0353	0.0980	2
06133	Copper	7440-50-8	2.62	0.0647	0.392	2
06135	Lead	7439-92-1	0.0270 J	0.0102	0.196	2
06149	Zinc	7440-66-6	43.8	0.549	2.94	2
	SW-846 7471A		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0359 J	0.0028	0.0966	1
Percent Lipids	**SW-846 3545A Rev. 1, 2/07 mod**		**% by wt.**	**% by wt.**	**% by wt.**	
04193	Percent Lipids	66455-18-3	6.0	0.10	0.10	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
06125	Arsenic	SW-846 6020	1	103056150001A	11/10/2010	08:55	Choon Y Tian	2
06128	Cadmium	SW-846 6020	1	103056150001A	11/10/2010	08:55	Choon Y Tian	2
06133	Copper	SW-846 6020	1	103056150001A	11/10/2010	08:55	Choon Y Tian	2
06135	Lead	SW-846 6020	1	103056150001A	11/10/2010	08:55	Choon Y Tian	2
06149	Zinc	SW-846 6020	1	103056150001A	11/10/2010	08:55	Choon Y Tian	2
00159	Mercury	SW-846 7471A	1	103155711004	11/12/2010	07:39	Damary Valentin	1
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	103056150001	11/01/2010	22:10	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	103155711004	11/11/2010	23:40	Annamaria Stipkovits	1
02487	Food and Tissue Preparation	RAD-PCO/AP001 modified	1	103058812487	11/01/2010	06:15	Joseph S Feister	n.a.
04193	Percent Lipids	SW-846 3545A Rev. 1, 2/07 mod	1	103131348AASE1	11/08/2010	14:00	Robert T Vincent	1

*=This limit was used in the evaluation of the final result

Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Sample Description: TS5TS02-Filet TA
NONE
Blue Ledge Mine

LLI Sample # SW 6126556
LLI Group # 1218750
Account # 13015

Project Name: Blue Ledge Mine

Collected: 10/25/2010 14:54

Submitted: 10/29/2010 08:50
Reported: 11/16/2010 16:58

Innovative Tech. Solutions Inc
2730 Shadelands Drive
Suite 100
Walnut creek CA 94598

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	**mg/kg**	
06125	Arsenic	7440-38-2	N.D.	0.0600	0.400	2
06128	Cadmium	7440-43-9	N.D.	0.0360	0.100	2
06133	Copper	7440-50-8	0.607	0.0660	0.400	2
06135	Lead	7439-92-1	0.0208 J	0.0104	0.200	2
06149	Zinc	7440-66-6	19.9	0.560	3.00	2
Percent Lipids	**SW-846 3545A Rev. 1, 2/07 mod**		**% by wt.**	**% by wt.**	**% by wt.**	
04193	Percent Lipids	66455-18-3	2.9	0.10	0.10	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06125	Arsenic	SW-846 6020	1	103056150001A	11/10/2010 08:57	Choon Y Tian	2
06128	Cadmium	SW-846 6020	1	103056150001A	11/10/2010 08:57	Choon Y Tian	2
06133	Copper	SW-846 6020	1	103056150001A	11/10/2010 08:57	Choon Y Tian	2
06135	Lead	SW-846 6020	1	103056150001A	11/10/2010 08:57	Choon Y Tian	2
06149	Zinc	SW-846 6020	1	103056150001A	11/10/2010 08:57	Choon Y Tian	2
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	103056150001	11/01/2010 22:10	Annamaria Stipkovits	1
02487	Food and Tissue Preparation	RAD-PCO/AP001 modified	1	103058812487	11/01/2010 06:15	Joseph S Feister	n.a.
04193	Percent Lipids	SW-846 3545A Rev. 1, 2/07 mod	1	103121348AASE1	11/08/2010 14:00	Robert T Vincent	1

*=This limit was used in the evaluation of the final result

Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Sample Description: TS5TS02-Fish TA
NONE
Blue Ledge Mine

LLI Sample # SW 6126557
LLI Group # 1218750
Account # 13015

Project Name: Blue Ledge Mine

Collected: 10/25/2010 14:54

Submitted: 10/29/2010 08:50
Reported: 11/16/2010 16:58

Innovative Tech. Solutions Inc
2730 Shadelands Drive
Suite 100
Walnut creek CA 94598

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	**mg/kg**	
06125	Arsenic	7440-38-2	0.101 J	0.0588	0.392	2
06128	Cadmium	7440-43-9	0.0386 J	0.0353	0.0980	2
06133	Copper	7440-50-8	2.03	0.0647	0.392	2
06135	Lead	7439-92-1	0.0505 J	0.0102	0.196	2
06149	Zinc	7440-66-6	40.8	0.549	2.94	2
	SW-846 7471A		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0354 J	0.0028	0.0993	1
Percent Lipids	**SW-846 3545A Rev. 1, 2/07 mod**		**% by wt.**	**% by wt.**	**% by wt.**	
04193	Percent Lipids	66455-18-3	6.1	0.10	0.10	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06125	Arsenic	SW-846 6020	1	103056150001A	11/10/2010 08:59	Choon Y Tian	2
06128	Cadmium	SW-846 6020	1	103056150001A	11/10/2010 08:59	Choon Y Tian	2
06133	Copper	SW-846 6020	1	103056150001A	11/10/2010 08:59	Choon Y Tian	2
06135	Lead	SW-846 6020	1	103056150001A	11/10/2010 08:59	Choon Y Tian	2
06149	Zinc	SW-846 6020	1	103056150001A	11/10/2010 08:59	Choon Y Tian	2
00159	Mercury	SW-846 7471A	1	103155711004	11/12/2010 07:40	Damary Valentin	1
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	103056150001	11/01/2010 22:10	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	103155711004	11/11/2010 23:40	Annamaria Stipkovits	1
02487	Food and Tissue Preparation	RAD-PCO/AP001 modified	1	103058812487	11/01/2010 06:15	Joseph S Feister	n.a.
04193	Percent Lipids	SW-846 3545A Rev. 1, 2/07 mod	1	103121348AASE1	11/08/2010 14:00	Robert T Vincent	1

*=This limit was used in the evaluation of the final result

Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Sample Description: TS5TS03-Fish TA
NONE
Blue Ledge Mine

LLI Sample # SW 6126558
LLI Group # 1218750
Account # 13015

Project Name: Blue Ledge Mine

Collected: 10/25/2010 14:50

Submitted: 10/29/2010 08:50
Reported: 11/16/2010 16:58

Innovative Tech. Solutions Inc
2730 Shadelands Drive
Suite 100
Walnut creek CA 94598

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	**mg/kg**	
06125	Arsenic	7440-38-2	0.146 J	0.0588	0.392	2
06128	Cadmium	7440-43-9	0.0604 J	0.0353	0.0980	2
06133	Copper	7440-50-8	1.03	0.0647	0.392	2
06135	Lead	7439-92-1	0.0221 J	0.0102	0.196	2
06149	Zinc	7440-66-6	25.4	0.549	2.94	2
	SW-846 7471A		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0500 J	0.0028	0.0986	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06125	Arsenic	SW-846 6020	1	103056150001A	11/10/2010 09:01	Choon Y Tian	2
06128	Cadmium	SW-846 6020	1	103056150001A	11/10/2010 09:01	Choon Y Tian	2
06133	Copper	SW-846 6020	1	103056150001A	11/10/2010 09:01	Choon Y Tian	2
06135	Lead	SW-846 6020	1	103056150001A	11/10/2010 09:01	Choon Y Tian	2
06149	Zinc	SW-846 6020	1	103056150001A	11/10/2010 09:01	Choon Y Tian	2
00159	Mercury	SW-846 7471A	1	103155711004	11/12/2010 07:41	Damary Valentin	1
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	103056150001	11/01/2010 22:10	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	103155711004	11/11/2010 23:40	Annamaria Stipkovits	1
02487	Food and Tissue Preparation	RAD-PCO/AP001 modified	1	103058812487	11/01/2010 06:15	Joseph S Feister	n.a.

*=This limit was used in the evaluation of the final result

Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Sample Description: TS3TS04-Filet TA
NONE
Blue Ledge Mine

LLI Sample # SW 6126559
LLI Group # 1218750
Account # 13015

Project Name: Blue Ledge Mine

Collected: 10/25/2010 10:22

Submitted: 10/29/2010 08:50
Reported: 11/16/2010 16:58

Innovative Tech. Solutions Inc
2730 Shadelands Drive
Suite 100
Walnut creek CA 94598

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	**mg/kg**	
06125	Arsenic	7440-38-2	N.D.	0.0577	0.385	2
06128	Cadmium	7440-43-9	0.0590 J	0.0346	0.0962	2
06133	Copper	7440-50-8	1.19	0.0635	0.385	2
06135	Lead	7439-92-1	0.0272 J	0.0100	0.192	2
06149	Zinc	7440-66-6	22.3	0.538	2.88	2
	SW-846 7471A		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0303 J	0.0028	0.0974	1
Percent Lipids	**SW-846 3545A Rev. 1, 2/07 mod**		**% by wt.**	**% by wt.**	**% by wt.**	
04193	Percent Lipids	66455-18-3	2.9	0.10	0.10	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06125	Arsenic	SW-846 6020	1	103056150001A	11/10/2010 09:03	Choon Y Tian	2
06128	Cadmium	SW-846 6020	1	103056150001A	11/10/2010 09:03	Choon Y Tian	2
06133	Copper	SW-846 6020	1	103056150001A	11/10/2010 09:03	Choon Y Tian	2
06135	Lead	SW-846 6020	1	103056150001A	11/10/2010 09:03	Choon Y Tian	2
06149	Zinc	SW-846 6020	1	103056150001A	11/10/2010 09:03	Choon Y Tian	2
00159	Mercury	SW-846 7471A	1	103155711004	11/12/2010 07:42	Damary Valentin	1
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	103056150001	11/01/2010 22:10	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	103155711004	11/11/2010 23:40	Annamaria Stipkovits	1
02487	Food and Tissue Preparation	RAD-PCO/AP001 modified	1	103058812487	11/01/2010 06:15	Joseph S Feister	n.a.
04193	Percent Lipids	SW-846 3545A Rev. 1, 2/07 mod	1	103121348AASE1	11/08/2010 14:00	Robert T Vincent	1

*=This limit was used in the evaluation of the final result

Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Sample Description: TS3TS04-Fish TA
NONE
Blue Ledge Mine

LLI Sample # SW 6126560
LLI Group # 1218750
Account # 13015

Project Name: Blue Ledge Mine

Collected: 10/25/2010 10:22

Submitted: 10/29/2010 08:50
Reported: 11/16/2010 16:58

Innovative Tech. Solutions Inc
2730 Shadelands Drive
Suite 100
Walnut creek CA 94598

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	**mg/kg**	
06125	Arsenic	7440-38-2	0.0886 J	0.0594	0.396	2
06128	Cadmium	7440-43-9	0.191	0.0356	0.0990	2
06133	Copper	7440-50-8	6.45	0.0653	0.396	2
06135	Lead	7439-92-1	0.126 J	0.0103	0.198	2
06149	Zinc	7440-66-6	53.5	0.554	2.97	2
	SW-846 7471A		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0238 J	0.0027	0.0957	1
Percent Lipids	**SW-846 3545A Rev. 1, 2/07 mod**		**% by wt.**	**% by wt.**	**% by wt.**	
04193	Percent Lipids	66455-18-3	6.0	0.10	0.10	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06125	Arsenic	SW-846 6020	1	103056150002A	11/10/2010 10:02	Choon Y Tian	2
06128	Cadmium	SW-846 6020	1	103056150002A	11/10/2010 10:02	Choon Y Tian	2
06133	Copper	SW-846 6020	1	103056150002A	11/10/2010 10:02	Choon Y Tian	2
06135	Lead	SW-846 6020	1	103056150002A	11/10/2010 10:02	Choon Y Tian	2
06149	Zinc	SW-846 6020	1	103056150002A	11/10/2010 10:02	Choon Y Tian	2
00159	Mercury	SW-846 7471A	1	103155711005	11/12/2010 07:46	Damary Valentin	1
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	103056150002	11/01/2010 22:21	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	103155711005	11/11/2010 23:40	Annamaria Stipkovits	1
02487	Food and Tissue Preparation	RAD-PCO/AP001 modified	1	103058812487	11/01/2010 06:15	Joseph S Feister	n.a.
04193	Percent Lipids	SW-846 3545A Rev. 1, 2/07 mod	1	103121348AASE1	11/08/2010 14:00	Robert T Vincent	1

*=This limit was used in the evaluation of the final result

Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Sample Description: TS4TS01-Filet TA
NONE
Blue Ledge Mine

LLI Sample # SW 6126561
LLI Group # 1218750
Account # 13015

Project Name: Blue Ledge Mine

Collected: 10/26/2010 12:35

Submitted: 10/29/2010 08:50
Reported: 11/16/2010 16:58

Innovative Tech. Solutions Inc
2730 Shadelands Drive
Suite 100
Walnut creek CA 94598

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	**mg/kg**	
06125	Arsenic	7440-38-2	N.D.	0.0600	0.400	2
06128	Cadmium	7440-43-9	N.D.	0.0360	0.100	2
06133	Copper	7440-50-8	0.595	0.0660	0.400	2
06135	Lead	7439-92-1	0.0169 J	0.0104	0.200	2
06149	Zinc	7440-66-6	15.6	0.560	3.00	2
Percent Lipids	**SW-846 3545A Rev. 1, 2/07 mod**		**% by wt.**	**% by wt.**	**% by wt.**	
04193	Percent Lipids	66455-18-3	0.57	0.10	0.10	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06125	Arsenic	SW-846 6020	1	103056150002A	11/10/2010 10:13	Choon Y Tian	2
06128	Cadmium	SW-846 6020	1	103056150002A	11/10/2010 10:13	Choon Y Tian	2
06133	Copper	SW-846 6020	1	103056150002A	11/10/2010 10:13	Choon Y Tian	2
06135	Lead	SW-846 6020	1	103056150002A	11/10/2010 10:13	Choon Y Tian	2
06149	Zinc	SW-846 6020	1	103056150002A	11/10/2010 10:13	Choon Y Tian	2
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	103056150002	11/01/2010 22:21	Annamaria Stipkovits	1
02487	Food and Tissue Preparation	RAD-PCO/AP001 modified	1	103058812487	11/01/2010 06:15	Joseph S Feister	n.a.
04193	Percent Lipids	SW-846 3545A Rev. 1, 2/07 mod	1	103121348AASE1	11/08/2010 14:00	Robert T Vincent	1

*=This limit was used in the evaluation of the final result

Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Sample Description: TS4TS01-Fish TA
NONE
Blue Ledge Mine

LLI Sample # SW 6126562
LLI Group # 1218750
Account # 13015

Project Name: Blue Ledge Mine

Collected: 10/26/2010 12:35

Submitted: 10/29/2010 08:50
Reported: 11/16/2010 16:58

Innovative Tech. Solutions Inc
2730 Shadelands Drive
Suite 100
Walnut creek CA 94598

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	**mg/kg**	
06125	Arsenic	7440-38-2	0.140 J	0.0594	0.396	2
06128	Cadmium	7440-43-9	N.D.	0.0356	0.0990	2
06133	Copper	7440-50-8	3.01	0.0653	0.396	2
06135	Lead	7439-92-1	0.119 J	0.0103	0.198	2
06149	Zinc	7440-66-6	44.2	0.554	2.97	2
	SW-846 7471A		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0386 J	0.0028	0.0990	1
Percent Lipids	**SW-846 3545A Rev. 1, 2/07 mod**		**% by wt.**	**% by wt.**	**% by wt.**	
04193	Percent Lipids	66455-18-3	0.77	0.10	0.10	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06125	Arsenic	SW-846 6020	1	103056150002A	11/10/2010 10:15	Choon Y Tian	2
06128	Cadmium	SW-846 6020	1	103056150002A	11/10/2010 10:15	Choon Y Tian	2
06133	Copper	SW-846 6020	1	103056150002A	11/10/2010 10:15	Choon Y Tian	2
06135	Lead	SW-846 6020	1	103056150002A	11/10/2010 10:15	Choon Y Tian	2
06149	Zinc	SW-846 6020	1	103056150002A	11/10/2010 10:15	Choon Y Tian	2
00159	Mercury	SW-846 7471A	1	103155711005	11/12/2010 07:47	Damary Valentin	1
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	103056150002	11/01/2010 22:21	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	103155711005	11/11/2010 23:40	Annamaria Stipkovits	1
02487	Food and Tissue Preparation	RAD-PCO/AP001 modified	1	103058812487	11/01/2010 06:15	Joseph S Feister	n.a.
04193	Percent Lipids	SW-846 3545A Rev. 1, 2/07 mod	1	103121348AASE1	11/08/2010 14:00	Robert T Vincent	1

*=This limit was used in the evaluation of the final result

Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Sample Description: TS4TS02-Filet TA
NONE
Blue Ledge Mine

LLI Sample # SW 6126563
LLI Group # 1218750
Account # 13015

Project Name: Blue Ledge Mine

Collected: 10/26/2010 12:40

Submitted: 10/29/2010 08:50
Reported: 11/16/2010 16:58

Innovative Tech. Solutions Inc
2730 Shadelands Drive
Suite 100
Walnut creek CA 94598

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	**mg/kg**	
06125	Arsenic	7440-38-2	N.D.	0.0594	0.396	2
06128	Cadmium	7440-43-9	N.D.	0.0356	0.0990	2
06133	Copper	7440-50-8	0.787	0.0653	0.396	2
06135	Lead	7439-92-1	N.D.	0.0103	0.198	2
06149	Zinc	7440-66-6	10.5	0.554	2.97	2
	SW-846 7471A		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0575 J	0.0028	0.0992	1
Percent Lipids	**SW-846 3545A Rev. 1, 2/07 mod**		**% by wt.**	**% by wt.**	**% by wt.**	
04193	Percent Lipids	66455-18-3	1.1	0.10	0.10	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06125	Arsenic	SW-846 6020	1	103056150002A	11/10/2010 10:21	Choon Y Tian	2
06128	Cadmium	SW-846 6020	1	103056150002A	11/10/2010 10:21	Choon Y Tian	2
06133	Copper	SW-846 6020	1	103056150002A	11/10/2010 10:21	Choon Y Tian	2
06135	Lead	SW-846 6020	1	103056150002A	11/10/2010 10:21	Choon Y Tian	2
06149	Zinc	SW-846 6020	1	103056150002A	11/10/2010 10:21	Choon Y Tian	2
00159	Mercury	SW-846 7471A	1	103155711005	11/12/2010 07:48	Damary Valentin	1
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	103056150002	11/01/2010 22:21	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	103155711005	11/11/2010 23:40	Annamaria Stipkovits	1
02487	Food and Tissue Preparation	RAD-PCO/AP001 modified	1	103058812487	11/01/2010 06:15	Joseph S Feister	n.a.
04193	Percent Lipids	SW-846 3545A Rev. 1, 2/07 mod	1	103121348AASE	11/08/2010 13:00	Robert T Vincent	1

*=This limit was used in the evaluation of the final result

Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Sample Description: TS4TS02-Fish TA
NONE
Blue Ledge Mine

LLI Sample # SW 6126564
LLI Group # 1218750
Account # 13015

Project Name: Blue Ledge Mine

Collected: 10/26/2010 12:40

Submitted: 10/29/2010 08:50
Reported: 11/16/2010 16:58

Innovative Tech. Solutions Inc
2730 Shadelands Drive
Suite 100
Walnut creek CA 94598

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	**mg/kg**	
06125	Arsenic	7440-38-2	0.182 J	0.0600	0.400	2
06128	Cadmium	7440-43-9	0.153	0.0360	0.100	2
06133	Copper	7440-50-8	6.11	0.0660	0.400	2
06135	Lead	7439-92-1	1.24	0.0104	0.200	2
06149	Zinc	7440-66-6	56.3	0.560	3.00	2
	SW-846 7471A		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0477 J	0.0027	0.0955	1
Percent Lipids	**SW-846 3545A Rev. 1, 2/07 mod**		**% by wt.**	**% by wt.**	**% by wt.**	
04193	Percent Lipids	66455-18-3	5.2	0.10	0.10	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06125	Arsenic	SW-846 6020	1	103056150002A	11/10/2010 10:23	Choon Y Tian	2
06128	Cadmium	SW-846 6020	1	103056150002A	11/10/2010 10:23	Choon Y Tian	2
06133	Copper	SW-846 6020	1	103056150002A	11/10/2010 10:23	Choon Y Tian	2
06135	Lead	SW-846 6020	1	103056150002A	11/10/2010 10:23	Choon Y Tian	2
06149	Zinc	SW-846 6020	1	103056150002A	11/10/2010 10:23	Choon Y Tian	2
00159	Mercury	SW-846 7471A	1	103155711005	11/12/2010 07:49	Damary Valentin	1
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	103056150002	11/01/2010 22:21	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	103155711005	11/11/2010 23:40	Annamaria Stipkovits	1
02487	Food and Tissue Preparation	RAD-PCO/AP001 modified	1	103058812487	11/01/2010 06:15	Joseph S Feister	n.a.
04193	Percent Lipids	SW-846 3545A Rev. 1, 2/07 mod	1	103121348AASE	11/08/2010 13:00	Robert T Vincent	1

*=This limit was used in the evaluation of the final result

Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Sample Description: TS3TS01-Filet TA
NONE
Blue Ledge Mine

LLI Sample # SW 6126565
LLI Group # 1218750
Account # 13015

Project Name: Blue Ledge Mine

Collected: 10/26/2010 10:12

Submitted: 10/29/2010 08:50
Reported: 11/16/2010 16:58

Innovative Tech. Solutions Inc
2730 Shadelands Drive
Suite 100
Walnut creek CA 94598

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	**mg/kg**	
06125	Arsenic	7440-38-2	N.D.	0.0594	0.396	2
06128	Cadmium	7440-43-9	0.0770 J	0.0356	0.0990	2
06133	Copper	7440-50-8	1.09	0.0653	0.396	2
06135	Lead	7439-92-1	N.D.	0.0103	0.198	2
06149	Zinc	7440-66-6	8.77	0.554	2.97	2
	SW-846 7471A		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0300 J	0.0028	0.0985	1
Percent Lipids	**SW-846 3545A Rev. 1, 2/07 mod**		**% by wt.**	**% by wt.**	**% by wt.**	
04193	Percent Lipids	66455-18-3	0.98	0.10	0.10	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
06125	Arsenic	SW-846 6020	1	103056150002A	11/10/2010	10:25	Choon Y Tian	2
06128	Cadmium	SW-846 6020	1	103056150002A	11/10/2010	10:25	Choon Y Tian	2
06133	Copper	SW-846 6020	1	103056150002A	11/10/2010	10:25	Choon Y Tian	2
06135	Lead	SW-846 6020	1	103056150002A	11/10/2010	10:25	Choon Y Tian	2
06149	Zinc	SW-846 6020	1	103056150002A	11/10/2010	10:25	Choon Y Tian	2
00159	Mercury	SW-846 7471A	1	103155711005	11/12/2010	07:58	Damary Valentin	1
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	103056150002	11/01/2010	22:21	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	103155711005	11/11/2010	23:40	Annamaria Stipkovits	1
02487	Food and Tissue Preparation	RAD-PCO/AP001 modified	1	103058812487	11/01/2010	06:15	Joseph S Feister	n.a.
04193	Percent Lipids	SW-846 3545A Rev. 1, 2/07 mod	1	103121348AASE	11/08/2010	13:00	Robert T Vincent	1

*=This limit was used in the evaluation of the final result

Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Sample Description: TS3TS01-Fish TA
NONE
Blue Ledge Mine

LLI Sample # SW 6126566
LLI Group # 1218750
Account # 13015

Project Name: Blue Ledge Mine

Collected: 10/26/2010 10:12

Submitted: 10/29/2010 08:50
Reported: 11/16/2010 16:58

Innovative Tech. Solutions Inc
2730 Shadelands Drive
Suite 100
Walnut creek CA 94598

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	**mg/kg**	
06125	Arsenic	7440-38-2	0.127 J	0.0594	0.396	2
06128	Cadmium	7440-43-9	0.200	0.0356	0.0990	2
06133	Copper	7440-50-8	6.22	0.0653	0.396	2
06135	Lead	7439-92-1	0.164 J	0.0103	0.198	2
06149	Zinc	7440-66-6	38.9	0.554	2.97	2
	SW-846 7471A		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0332 J	0.0028	0.0972	1
Percent Lipids	**SW-846 3545A Rev. 1, 2/07 mod**		**% by wt.**	**% by wt.**	**% by wt.**	
04193	Percent Lipids	66455-18-3	4.3	0.10	0.10	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06125	Arsenic	SW-846 6020	1	103056150002A	11/10/2010 10:27	Choon Y Tian	2
06128	Cadmium	SW-846 6020	1	103056150002A	11/10/2010 10:27	Choon Y Tian	2
06133	Copper	SW-846 6020	1	103056150002A	11/10/2010 10:27	Choon Y Tian	2
06135	Lead	SW-846 6020	1	103056150002A	11/10/2010 10:27	Choon Y Tian	2
06149	Zinc	SW-846 6020	1	103056150002A	11/10/2010 10:27	Choon Y Tian	2
00159	Mercury	SW-846 7471A	1	103155711005	11/12/2010 07:59	Damary Valentin	1
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	103056150002	11/01/2010 22:21	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	103155711005	11/11/2010 23:40	Annamaria Stipkovits	1
02487	Food and Tissue Preparation	RAD-PCO/AP001 modified	1	103058812487	11/01/2010 06:15	Joseph S Feister	n.a.
04193	Percent Lipids	SW-846 3545A Rev. 1, 2/07 mod	1	103121348AASE	11/08/2010 13:00	Robert T Vincent	1

*=This limit was used in the evaluation of the final result

Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Sample Description: TS3TS02-Filet TA
NONE
Blue Ledge Mine

LLI Sample # SW 6126567
LLI Group # 1218750
Account # 13015

Project Name: Blue Ledge Mine

Collected: 10/26/2010 10:17

Submitted: 10/29/2010 08:50
Reported: 11/16/2010 16:58

Innovative Tech. Solutions Inc
2730 Shadelands Drive
Suite 100
Walnut creek CA 94598

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	**mg/kg**	
06125	Arsenic	7440-38-2	N.D.	0.0594	0.396	2
06128	Cadmium	7440-43-9	0.0938 J	0.0356	0.0990	2
06133	Copper	7440-50-8	2.37	0.0653	0.396	2
06135	Lead	7439-92-1	0.0223 J	0.0103	0.198	2
06149	Zinc	7440-66-6	34.8	0.554	2.97	2
Percent Lipids	**SW-846 3545A Rev. 1, 2/07 mod**		**% by wt.**	**% by wt.**	**% by wt.**	
04193	Percent Lipids	66455-18-3	1.9	0.10	0.10	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06125	Arsenic	SW-846 6020	1	103056150002A	11/10/2010 10:29	Choon Y Tian	2
06128	Cadmium	SW-846 6020	1	103056150002A	11/10/2010 10:29	Choon Y Tian	2
06133	Copper	SW-846 6020	1	103056150002A	11/10/2010 10:29	Choon Y Tian	2
06135	Lead	SW-846 6020	1	103056150002A	11/10/2010 10:29	Choon Y Tian	2
06149	Zinc	SW-846 6020	1	103056150002A	11/10/2010 10:29	Choon Y Tian	2
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	103056150002	11/01/2010 22:21	Annamaria Stipkovits	1
02487	Food and Tissue Preparation	RAD-PCO/AP001 modified	1	103058812487	11/01/2010 06:15	Joseph S Feister	n.a.
04193	Percent Lipids	SW-846 3545A Rev. 1, 2/07 mod	1	103121348AASE	11/08/2010 13:00	Robert T Vincent	1

*=This limit was used in the evaluation of the final result

Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Sample Description: TS3TS02-Fish TA
NONE
Blue Ledge Mine

LLI Sample # SW 6126568
LLI Group # 1218750
Account # 13015

Project Name: Blue Ledge Mine

Collected: 10/26/2010 10:17

Submitted: 10/29/2010 08:50
Reported: 11/16/2010 16:58

Innovative Tech. Solutions Inc
2730 Shadelands Drive
Suite 100
Walnut creek CA 94598

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	**mg/kg**	
06125	Arsenic	7440-38-2	0.151 J	0.0577	0.385	2
06128	Cadmium	7440-43-9	0.182	0.0346	0.0962	2
06133	Copper	7440-50-8	7.16	0.0635	0.385	2
06135	Lead	7439-92-1	0.404	0.0100	0.192	2
06149	Zinc	7440-66-6	70.2	0.538	2.88	2
	SW-846 7471A		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0339 J	0.0028	0.0992	1
Percent Lipids	**SW-846 3545A Rev. 1, 2/07 mod**		**% by wt.**	**% by wt.**	**% by wt.**	
04193	Percent Lipids	66455-18-3	4.6	0.10	0.10	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06125	Arsenic	SW-846 6020	1	103056150002A	11/10/2010 10:31	Choon Y Tian	2
06128	Cadmium	SW-846 6020	1	103056150002A	11/10/2010 10:31	Choon Y Tian	2
06133	Copper	SW-846 6020	1	103056150002A	11/10/2010 10:31	Choon Y Tian	2
06135	Lead	SW-846 6020	1	103056150002A	11/10/2010 10:31	Choon Y Tian	2
06149	Zinc	SW-846 6020	1	103056150002A	11/10/2010 10:31	Choon Y Tian	2
00159	Mercury	SW-846 7471A	1	103155711005	11/12/2010 08:00	Damary Valentin	1
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	103056150002	11/01/2010 22:21	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	103155711005	11/11/2010 23:40	Annamaria Stipkovits	1
02487	Food and Tissue Preparation	RAD-PCO/AP001 modified	1	103058812487	11/01/2010 06:15	Joseph S Feister	n.a.
04193	Percent Lipids	SW-846 3545A Rev. 1, 2/07 mod	1	103121348AASE	11/08/2010 13:00	Robert T Vincent	1

*=This limit was used in the evaluation of the final result

Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Sample Description: TS3TS03-Filet TA
NONE
Blue Ledge Mine

LLI Sample # SW 6126569
LLI Group # 1218750
Account # 13015

Project Name: Blue Ledge Mine

Collected: 10/26/2010 10:21

Submitted: 10/29/2010 08:50
Reported: 11/16/2010 16:58

Innovative Tech. Solutions Inc
2730 Shadelands Drive
Suite 100
Walnut creek CA 94598

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	**mg/kg**	
06125	Arsenic	7440-38-2	N.D.	0.0577	0.385	2
06128	Cadmium	7440-43-9	N.D.	0.0346	0.0962	2
06133	Copper	7440-50-8	0.287 J	0.0635	0.385	2
06135	Lead	7439-92-1	N.D.	0.0100	0.192	2
06149	Zinc	7440-66-6	8.40	0.538	2.88	2
	SW-846 7471A		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0939 J	0.0028	0.0971	1
Percent Lipids	**SW-846 3545A Rev. 1, 2/07 mod**		**% by wt.**	**% by wt.**	**% by wt.**	
04193	Percent Lipids	66455-18-3	0.33	0.10	0.10	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06125	Arsenic	SW-846 6020	1	103056150002A	11/10/2010 10:33	Choon Y Tian	2
06128	Cadmium	SW-846 6020	1	103056150002A	11/10/2010 10:33	Choon Y Tian	2
06133	Copper	SW-846 6020	1	103056150002A	11/10/2010 10:33	Choon Y Tian	2
06135	Lead	SW-846 6020	1	103056150002A	11/10/2010 10:33	Choon Y Tian	2
06149	Zinc	SW-846 6020	1	103056150002A	11/10/2010 10:33	Choon Y Tian	2
00159	Mercury	SW-846 7471A	1	103155711005	11/12/2010 08:01	Damary Valentin	1
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	103056150002	11/01/2010 22:21	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	103155711005	11/11/2010 23:40	Annamaria Stipkovits	1
02487	Food and Tissue Preparation	RAD-PCO/AP001 modified	1	103058812487	11/01/2010 06:15	Joseph S Feister	n.a.
04193	Percent Lipids	SW-846 3545A Rev. 1, 2/07 mod	1	103121348AASE	11/08/2010 13:00	Robert T Vincent	1

*=This limit was used in the evaluation of the final result

Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Sample Description: TS3TS03-Fish TA
NONE
Blue Ledge Mine

LLI Sample # SW 6126570
LLI Group # 1218750
Account # 13015

Project Name: Blue Ledge Mine

Collected: 10/26/2010 10:21

Submitted: 10/29/2010 08:50
Reported: 11/16/2010 16:58

Innovative Tech. Solutions Inc
2730 Shadelands Drive
Suite 100
Walnut creek CA 94598

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	**mg/kg**	
06125	Arsenic	7440-38-2	0.0686 J	0.0588	0.392	2
06128	Cadmium	7440-43-9	0.0375 J	0.0353	0.0980	2
06133	Copper	7440-50-8	1.83	0.0647	0.392	2
06135	Lead	7439-92-1	0.0274 J	0.0102	0.196	2
06149	Zinc	7440-66-6	38.3	0.549	2.94	2
	SW-846 7471A		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0627 J	0.0027	0.0953	1
Percent Lipids	**SW-846 3545A Rev. 1, 2/07 mod**		**% by wt.**	**% by wt.**	**% by wt.**	
04193	Percent Lipids	66455-18-3	0.81	0.10	0.10	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
06125	Arsenic	SW-846 6020	1	103056150002A	11/10/2010	10:35	Choon Y Tian	2
06128	Cadmium	SW-846 6020	1	103056150002A	11/10/2010	10:35	Choon Y Tian	2
06133	Copper	SW-846 6020	1	103056150002A	11/10/2010	10:35	Choon Y Tian	2
06135	Lead	SW-846 6020	1	103056150002A	11/10/2010	10:35	Choon Y Tian	2
06149	Zinc	SW-846 6020	1	103056150002A	11/10/2010	10:35	Choon Y Tian	2
00159	Mercury	SW-846 7471A	1	103155711005	11/12/2010	08:02	Damary Valentin	1
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	103056150002	11/01/2010	22:21	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	103155711005	11/11/2010	23:40	Annamaria Stipkovits	1
02487	Food and Tissue Preparation	RAD-PCO/AP001 modified	1	103058812487	11/01/2010	06:15	Joseph S Feister	n.a.
04193	Percent Lipids	SW-846 3545A Rev. 1, 2/07 mod	1	103121348AASE	11/08/2010	13:00	Robert T Vincent	1

*=This limit was used in the evaluation of the final result

Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Sample Description: TS5TS04-Fish TA
NONE
Blue Ledge Mine

LLI Sample # SW 6126571
LLI Group # 1218750
Account # 13015

Project Name: Blue Ledge Mine

Collected: 10/25/2010 14:59

Submitted: 10/29/2010 08:50
Reported: 11/16/2010 16:58

Innovative Tech. Solutions Inc
2730 Shadelands Drive
Suite 100
Walnut creek CA 94598

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	**mg/kg**	
06125	Arsenic	7440-38-2	0.135 J	0.0583	0.388	2
06128	Cadmium	7440-43-9	N.D.	0.0350	0.0971	2
06133	Copper	7440-50-8	0.442	0.0641	0.388	2
06135	Lead	7439-92-1	0.0153 J	0.0101	0.194	2
06149	Zinc	7440-66-6	19.8	0.544	2.91	2
	SW-846 7471A		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0346 J	0.0028	0.0971	1

General Sample Comments

State of California Lab Certification No. 2501

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06125	Arsenic	SW-846 6020	1	103056150002A	11/10/2010 10:37	Choon Y Tian	2
06128	Cadmium	SW-846 6020	1	103056150002A	11/10/2010 10:37	Choon Y Tian	2
06133	Copper	SW-846 6020	1	103056150002A	11/10/2010 10:37	Choon Y Tian	2
06135	Lead	SW-846 6020	1	103056150002A	11/10/2010 10:37	Choon Y Tian	2
06149	Zinc	SW-846 6020	1	103056150002A	11/10/2010 10:37	Choon Y Tian	2
00159	Mercury	SW-846 7471A	1	103155711005	11/12/2010 08:03	Damary Valentin	1
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	103056150002	11/01/2010 22:21	Annamaria Stipkovits	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	103155711005	11/11/2010 23:40	Annamaria Stipkovits	1
02487	Food and Tissue Preparation	RAD-PCO/AP001 modified	1	103058812487	11/01/2010 06:15	Joseph S Feister	n.a.

*=This limit was used in the evaluation of the final result

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Analysis Report

Quality Control Summary

Client Name: Innovative Tech. Solutions Inc Group Number: 1218750
Reported: 11/16/10 at 04:58 PM

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL**	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 103056150001A	Sample number(s): 6126540-6126559								
Arsenic	N.D.	0.0600	0.400	mg/kg	115		80-120		
Cadmium	N.D.	0.0360	0.100	mg/kg	106		80-120		
Copper	N.D.	0.0660	0.400	mg/kg	106		80-120		
Lead	0.0156 J	0.0104	0.200	mg/kg	101		80-120		
Zinc	N.D.	0.560	3.00	mg/kg	117		80-120		
Batch number: 103056150002A	Sample number(s): 6126560-6126571								
Arsenic	N.D.	0.0600	0.400	mg/kg	107		80-120		
Cadmium	N.D.	0.0360	0.100	mg/kg	100		80-120		
Copper	N.D.	0.0660	0.400	mg/kg	108		80-120		
Lead	0.0107 J	0.0104	0.200	mg/kg	101		80-120		
Zinc	N.D.	0.560	3.00	mg/kg	108		80-120		
Batch number: 103155711004	Sample number(s): 6126540-6126553,6126555,6126557-6126559								
Mercury	N.D.	0.0029	0.100	mg/kg	101		80-120		
Batch number: 103155711005	Sample number(s): 6126560,6126562-6126566,6126568-6126571								
Mercury	N.D.	0.0029	0.100	mg/kg	107		80-120		
Batch number: 103121348AASE	Sample number(s): 6126563-6126570								
Percent Lipids	N.D.	0.10	0.10		94		89-111		
Batch number: 103121348AASE1	Sample number(s): 6126540-6126551,6126554,6126556-6126557,6126559-6126562								
Percent Lipids	N.D.	0.10	0.10		93		89-111		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 103056150001A	Sample number(s): 6126540-6126559 UNSPK: 6126540 BKG: 6126540								
Arsenic	121	123	75-125	1	20	N.D.	N.D.	0 (1)	20
Cadmium	114	114	75-125	2	20	0.0457 J	0.0415 J	9 (1)	20
Copper	117	110	75-125	7	20	1.07	0.952	12 (1)	20
Lead	114	108	75-125	7	20	0.0913 J	0.0537 J	52* (1)	20
Zinc	98	110	75-125	4	20	13.6	11.0	21* (1)	20
Batch number: 103056150002A	Sample number(s): 6126560-6126571 UNSPK: 6126560 BKG: 6126560								
Arsenic	142*	111	75-125	23*	20	0.0886 J	0.0741 J	18 (1)	20
Cadmium	122	114	75-125	5	20	0.191	0.126	41* (1)	20

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

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Analysis Report

Quality Control Summary

Client Name: Innovative Tech. Solutions Inc Group Number: 1218750
Reported: 11/16/10 at 04:58 PM

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Copper	122	103	75-125	11	20	6.45	4.62	33*	20
Lead	135*	118	75-125	11	20	0.126 J	0.137 J	8 (1)	20
Zinc	109 (2)	37 (2)	75-125	12	20	53.5	42.3	23*	20
Batch number: 103155711004	Sample number(s): 6126540-6126553,6126555,6126557-6126559 UNSPK: 6126540 BKG: 6126540								
Mercury	86	99	80-120	10	20	0.0719 J	0.0670 J	7 (1)	20
Batch number: 103155711005	Sample number(s): 6126560,6126562-6126566,6126568-6126571 UNSPK: 6126564 BKG: 6126564								
Mercury	92	95	80-120	0	20	0.0477 J	0.0355 J	29* (1)	20
Batch number: 103121348AASE	Sample number(s): 6126563-6126570 BKG: 6126564								
Percent Lipids						5.2	4.0	26*	13.5
Batch number: 103121348AASE1	Sample number(s): 6126540-6126551,6126554,6126556-6126557,6126559-6126562 BKG: 6126541								
Percent Lipids						5.4	5.9	10	13.5

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories

102810-07 1042

For Lancaster Laboratories use only

Acct. # 13015 Group# 1218750 Sample # 6126540-71

COC # 213314

Page 1 of 2

Please print. Instructions on reverse side correspond with circled numbers.

(1)

Client: ITSI Acct. #:

Project Name/#: Blue Ledge Mine PWSID #:

Project Manager: Jeff Hess / Kent Parrish P.O.#:

Sampler: Roquerio Leong Quote #:

Name of state where samples were collected: OREGON

For Lab Use Only

FSC:

SCR#:

Preservation Codes

H=HCl T=Thiosulfate

N=HNO_3 B=NaOH

S=H_2SO_4 O=Other

Metals: As, Cd, Cu, Pb, Zn by 6010B

(2) (3) (4) (5) (6)

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Other Fish Sample	Total # of Containers	Total Metals (FILET)	Hg	Total Metal (Whole FISH)	Hg						Remarks
TS1 TS01	10/25/2010	10:30					X	1	X	X	X	X						
TS1 TS02	10/25/2010	10:36					X	1	X	X	X	X						
TS1 TS03		10:40					X	1	X	X	X	X						
TS2 TS01		12:35					X	1	X	X	X	X						
TS2 TS02		12:40					X	1	X	X	X	X						
TS2 TS03		12:49					X	1	X	X	X	X						
TS2 TS04		12:30					X	1	~~X~~ KG	~~X~~ KG	X	X						whole fish only
TS2 TS05		12:37					X	1	~~X~~ KG	~~X~~ KG	X	X						whole fish only
TS5 TS01		14:42					X	1	X	X	X	X						
TS5 TS02		14:54					X	1	X	X	X	X						

(7) **Turnaround Time Requested** (TAT) (please circle): Normal Rush

(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)

Date results are needed:

Rush results requested by (please circle): Phone Fax E-mail

Phone #: Fax #: (925) 2568998

E-mail address: KCarlyon@itsi.com

(8) **Data Package Options** (please circle if required)

Type I (validation/NJ Reg) TX TRRP-13

Type II (Tier II) MA MCP CT RCP

Type III (Reduced NJ)

Type IV (CLP SOW)

Type VI (Raw Data Only)

SDG Complete? Yes No

Site-specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate volume.)

Internal COC Required? Yes / No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
Roquerio Leong	10/27/10	7:45	Jeff Hess	10/27/10	7:45
Jeff Hess			[illegible]	10/28/10	1545
[illegible]	10/28/10	1545	Fed Ex		
			[illegible]	10/29/10	0850

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Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories

1028110-07 2 of 2

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Acct. # 13015 Group# 1218750 Sample # 6126540-71

COC # 213315 Page 2 of 2

Please print. Instructions on reverse side correspond with circled numbers.

(1) Client: ITSI Acct. #:

Project Name/#: Blue Ledge Mine PWSID #:

Project Manager: Jeff Hess / Kent Parrish P.O.#:

Sampler: Rogerio Leon Quote #:

Name of state where samples were collected: Oregon

For Lab Use Only
FSC:
SCR#:

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

metals: As, Cd, Cu, Pb, Zn by 6010 B

(2) Sample Identification	Date Collected	Time Collected	(3) Grab	Composite	Matrix: Soil	Water (Potable / NPDES)	Other Fish Sample	(4) Total # of Containers	(5) Analyses Requested / Preservation Codes: Total Metals (FILET)	Hg (FILET)	Total Metals (WHOLE FISH)	Hg (WHOLE FISH)					Remarks
TS5 TS03	10/25/2010	14:50					X	1	~~X~~ KC	~~X~~ KC	X	X					whole fish only
TS5 TS04	10/25/2010	14:59					X	1	X	X	X	X					
TS4 TS01	10/26/2010	1235					X	1	X	X	X	X					
TS4 TS02	10/26/2010	1240					X	1	X	X	X	X					
TS3 TS01	10/26/2010	1012					X	1	X	X	X	X					
TS3 TS02	10/26/10	1017					X	1	X	X	X	X					
TS3 TS03	10/26/10	1021					X	1	X	X	X	X					
TS3 TS04	10/26/10	1022					X	1	~~X~~ KC	~~X~~ KC	X	X					whole fish only

(6) Temperature of samples upon receipt (if requested)

(7) **Turnaround Time Requested** (TAT) (please circle): Normal Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed:
Rush results requested by (please circle): Phone Fax E-mail
Phone #: Fax #: (925) 256 8998
E-mail address: KCarlyon@itsi.com

(8) **Data Package Options** (please circle if required)
Type I (validation/NJ Reg) TX TRRP-13
Type II (Tier II) MA MCP CT RCP
Type III (Reduced NJ)
Type IV (CLP SOW)
Type VI (Raw Data Only)
Site-specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate volume.)
Internal COC Required? Yes / No
SDG Complete? Yes No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
Rogerio Leon	10/27/10	7:45	Jeff Hess	10/27/10	745
Jeff Hess			[illegible]	10/28/10	1545
[illegible]	10/28/10	1630	[illegible]		

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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
ug	microgram(s)	**mg**	milligram(s)
ml	milliliter(s)	**l**	liter(s)
m3	cubic meter(s)	**ul**	microliter(s)

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

J estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quantitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike sample not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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ATTACHMENT 3

DATA VALIDATION REPORTS

AUTOMATED DATA REVIEW SUMMARY for MY7E59

Facility:	Blue Ledge Site
Event:	Focused RI
Guidance Document:	Blue Ledge QAPP
Contract Laboratory:	BONNER ANALYTICAL TESTING COMPANY, HATTIESBURY, MS
Field Contractor:	Not Applicable
Data Review Contractor:	ITSI Walnut Creek
SDG:	MY7E59, Certified - 11/21/201 AM by wtse
QC Level:	S2BVE
Project Manager:	Jeff Hess
Data Reviewer:	Kristen Carlyon
Data Reviewer Title:	Senior Chemist
Date of Review Report:	14-Dec-2010

Samples Included in SDG MY7E59

Analytical Method/ Leach Method	Normal Water Samples	Field QC Water Samples
C245.1/NONE	14	1
SW6010B/NONE	14	1

AUTOMATED DATA REVIEW SUMMARY for MY7E59

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistant with the requirements contained in the Blue Ledge QAPP to the extent possible. Where definitive guidance is not provided, data has been evaluated in a conservative manner using professional judgment. In cases where two qualifiers are listed as an action, such as 'J/UJ', the first qualifier applies to positive results, and the second to non-detect results.

Samples were collected by Innovative Technical Solutions, Inc., Walnut Creek, CA; analyses were performed by BONNER ANALYTICAL TESTING COMPANY, HATTIESBURY, MS and were reported under sample delivery group (SDG) MY7E59. Results have been evaluated electronically using electronic data deliverables (EDDs) provided by the laboratory. The laboratory data summary forms (hard copy) have been reviewed during this effort and compared to the automated review output. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative.

The following quality control elements were supported by the electronic deliverable and were evaluated during this review effort:

- A common laboratory artifact was detected in the sample at a concentartion less than 10X the concentration detected in the associated method blank.
- A common laboratory artifact was detected in the sample at a concentartion less than 10X the concentration detected in the associated method blank. (Negative)
- Field Duplicate RPD
- Lab Replicate RPD
- Matrix spike recovery was outside establisted criteria.
- Percent recovery of laboratory control sample recovery was outside established limits
- Prep Hold Time
- Test Hold Time

The following quality control elements were either not applicable to the deliverable, or were not supported by the electronic deliverable, and were therefore not included in the automated data review. Those elements required for the project were reviewed manually, as narrated in the Comment section below.

- Ambient Blank
- Calibration Blank
- Calibration Blank - Negative

AUTOMATED DATA REVIEW SUMMARY for MY7E59

Continuing Calibration Verification percent recovery, percent difference, or percent drift

Detected in the associated equipment rinsate blank.

Detected in the associated field (i.e., ambient) blank.

Detected in the associated trip blank.

Initial Calibration Verification percent recovery, percent difference, or percent drift

Material Blank

MS RPD exceeded established criteria.

Negative Blank

Surrogate recovery out of criteria (upper or lower limit)

AUTOMATED DATA REVIEW SUMMARY for MY7E59

A minimum of ten percent of sample and QC results were manually evaluated for compliance with project specific requirements and consistency with hard copy results. The following summaries were generated during the evaluation of this data set and are included in this report as applicable.

Batch – The analytical batch report is reviewed for completeness and compliance with project specific requirements. Incomplete or non-compliant run sequences are identified and their impact on data quality are discussed in the narrative.

QC Outlier – Results exceeding the evaluation criteria are reviewed for compliance with project requirements and a minimum of ten percent of the non-compliant QC values reported electronically are verified for consistency with hard-copy values.

Qualified Results – Qualified results are evaluated for compliance with project requirements and ten percent of qualified results are verified for consistency with the QC Outliers.

Rejected Results – All rejected results are evaluated for compliance with project requirements. The reason for rejection of the data is verified against hard copy data.

Field Duplicates – Field duplicate comparison results are evaluated for compliance with project requirements and ten percent of values reported are verified for consistency with the hard-copy data.

Data Submission Warnings – Warnings encountered during the data submission process are evaluated and their affect on data quality is discussed in the narrative below.

Analytical deficiencies, project non-compliance issues and inconsistencies with hard copy results observed during ADR evaluation process and their impact on data quality are summarized in the narrative below.

Out of control events experienced by the laboratory have warranted the qualification of 0.00% (0 results) and the rejection of 0.00% (0 results) of the data set. These deficiencies are detailed in the following tables and discussed in the narrative below, where appropriate.

Narrative Comments

Calibrations/ICSA/CRI Wincadre results reviewed and qualifiers added as appropriate.

AUTOMATED DATA REVIEW SUMMARY for MY7E59

14-Dec-2010

Released by Kristen Carlyon, Senior Chemist

Reason and Comment Code Definitions

Reasons	
Code	**Definition**
A	Serial dilution
A1	Ambient Blank
B1	Blank
B2	Calibration Blank
B3	Calibration Blank - Negative
B4	Negative Blank
B5	The analyte was found in blank and sample
C1	Diluted Out
C10	Continuing Calibration Verification RRF
C11	Continuing Calibration Verification
C2	Flag Parent Only
C2S	Flag Parent (Soil); Batch (Water)
C3	No Action
C4	No QC Outliers
C5	One or both values <5x RL
C6	Recalculated Value
C7	Material Blanks
C8	Spike Insignificant
C9	No Flags; set to ND by method/cal. blank
D1	Lab Replicate RPD
D2	MS RPD
D4	No precision available

AUTOMATED DATA REVIEW SUMMARY for MY7E59

Reason and Comment Code Definitions

D5	Field Duplicate RPD
D6	LCS RPD
D7	Field Dup not usable
E	Exceeds LinearCalibration Range
F	Hydrocarbon pattern does not match standard
G	Initial Calibration RRF
G1	Initial Calibration RSD
G2	Initial Calibration Verification
H1	Test Hold Time
H2	Prep Hold Time
I	Internal standard
J	CRA/CRI Recovery
K	An analyte (non-common lab artifact) was detected
K1	Equipment Blank
K2	Field Blank
K3	Trip Blank
L	LCS Recovery
L1	Blank - Negative
M	MS Recovery
N	Blank - No Action
O	Interference check sample
P	Sample preservation/collection requirement not met
P1	Confirmation Column/Detector RPD
P2	Improper preparation/extraction

Reason and Comment Code Definitions

Q1	Material Blank
S	Surrogate
S1	Sample less than 50% solids
T	Receipt Temperature
T2	RSD of lab triplicate out
TI	Tentatively Identified Compound
TR	Trace Level Detect
V	Sample Receipt Condition
W	Column breakdown (pesticides)
X	Raised reporting limit
X1	Unresolved Isomers; no peak separation
Y	Analyte not confirmed on second column
Y1	False Positive
Y2	Sum of species greater than total result
Z	Data rejected due to radiological anomolies
Z1	Data rejected, more valid data available

AUTOMATED DATA REVIEW SUMMARY for MY7E59

Batch Report

Test Method: C245.1; Leach Method: NONE

Analytical Batch	Prep Batch	Leach Batch	Location	Matrix	Field Sample ID	Lab Sample ID	Calibration Ref	Collection Date/Time	Analysis Date/Time	Sample Type
1	NA	NA	LABQC	WQ	LABQC	0110307-BL		03-Nov-2010 12:00:00 AM	04-Nov-2010 8:55:00 AM	LB
	NA	NA	TS1	WS	TS1SW01	1011022-01		25-Oct-2010 10:05:00 AM	04-Nov-2010 8:58:00 AM	N
	NA	NA	TS2	WS	TS2SW01	1011022-02		25-Oct-2010 1:15:00 PM	04-Nov-2010 9:00:00 AM	N
	NA	NA	TS3	WS	TS3SW01	1011022-03		26-Oct-2010 10:35:00 AM	04-Nov-2010 9:02:00 AM	N
	NA	NA	TS3	WS	TS3SW02	1011022-04		26-Oct-2010 10:45:00 AM	04-Nov-2010 9:04:00 AM	FD
	NA	NA	TS3	WS	TS3SW02	0110307-DU		26-Oct-2010 10:45:00 AM	04-Nov-2010 9:06:00 AM	LR
	NA	NA	TS3	WS	TS3SW02	0110307-MS		26-Oct-2010 10:45:00 AM	04-Nov-2010 9:08:00 AM	MS
	NA	NA	TS4	WS	TS4SW01	1011022-05		26-Oct-2010 1:10:00 PM	04-Nov-2010 9:10:00 AM	N
	NA	NA	TS5	WS	TS5SW01	1011022-06		25-Oct-2010 3:20:00 PM	04-Nov-2010 9:12:00 AM	N
	NA	NA	TS6	WS	TS6SW01	1011022-07		26-Oct-2010 2:33:00 PM	04-Nov-2010 9:14:00 AM	N
	NA	NA	TS7	WS	TS7SW01	1011022-08		26-Oct-2010 3:00:00 PM	04-Nov-2010 9:20:00 AM	N
	NA	NA	TS8	WS	TS8SW01	1011022-09		27-Oct-2010 10:00:00 AM	04-Nov-2010 9:21:00 AM	N
	NA	NA	TS9	WS	TS9SW01	1011022-10		27-Oct-2010 10:30:00 AM	04-Nov-2010 9:23:00 AM	N
	NA	NA	TS10	WS	TS10SW01	1011022-11		27-Oct-2010 11:00:00 AM	04-Nov-2010 9:26:00 AM	N
	NA	NA	TS11	WS	TS11SW01	1011022-12		27-Oct-2010 12:05:00 PM	04-Nov-2010 9:27:00 AM	N
	NA	NA	TS14	WS	TS14SW01	1011022-13		28-Oct-2010 9:50:00 AM	04-Nov-2010 9:29:00 AM	N
	NA	NA	TS15	WS	TS15SW01	1011022-14		28-Oct-2010 11:05:00 AM	04-Nov-2010 9:32:00 AM	N

AUTOMATED DATA REVIEW SUMMARY for MY7E59

Batch Report

1	NA	NA	TS17	WS	TS17SW01	1011022-15		28-Oct-2010 2:50:00 PM	04-Nov-2010 9:34:00 AM	N

Test Method: SW6010B; Leach Method: NONE

Analytical Batch	Prep Batch	Leach Batch	Location	Matrix	Field Sample ID	Lab Sample ID	Calibration Ref	Collection Date/Time	Analysis Date/Time	Sample Type
2	NA	NA	LABQC	WQ	LABQC	0110303-BL		03-Nov-2010 12:00:00 AM	03-Nov-2010 6:40:00 PM	LB
	NA	NA	LABQC	WQ	LABQC	0110303-BS		03-Nov-2010 12:00:00 AM	03-Nov-2010 6:44:00 PM	BS
	NA	NA	TS1	WS	TS1SW01	1011022-01		25-Oct-2010 10:05:00 AM	03-Nov-2010 6:48:00 PM	N
	NA	NA	TS2	WS	TS2SW01	1011022-02		25-Oct-2010 1:15:00 PM	03-Nov-2010 6:52:00 PM	N
	NA	NA	TS3	WS	TS3SW01	1011022-03		26-Oct-2010 10:35:00 AM	03-Nov-2010 6:56:00 PM	N
	NA	NA	TS3	WS	TS3SW02	1011022-04		26-Oct-2010 10:45:00 AM	03-Nov-2010 6:59:00 PM	FD
	NA	NA	TS3	WS	TS3SW02	0110303-MS		26-Oct-2010 10:45:00 AM	03-Nov-2010 7:03:00 PM	MS
	NA	NA	TS3	WS	TS3SW02	0110303-DU		26-Oct-2010 10:45:00 AM	03-Nov-2010 7:07:00 PM	LR
	NA	NA	TS4	WS	TS4SW01	1011022-05		26-Oct-2010 1:10:00 PM	03-Nov-2010 7:15:00 PM	N
	NA	NA	TS5	WS	TS5SW01	1011022-06		25-Oct-2010 3:20:00 PM	03-Nov-2010 7:27:00 PM	N
	NA	NA	TS6	WS	TS6SW01	1011022-07		26-Oct-2010 2:33:00 PM	03-Nov-2010 7:31:00 PM	N
	NA	NA	TS7	WS	TS7SW01	1011022-08		26-Oct-2010 3:00:00 PM	03-Nov-2010 7:35:00 PM	N
	NA	NA	TS8	WS	TS8SW01	1011022-09		27-Oct-2010 10:00:00 AM	03-Nov-2010 7:39:00 PM	N
	NA	NA	TS9	WS	TS9SW01	1011022-10		27-Oct-2010 10:30:00 AM	03-Nov-2010 7:43:00 PM	N
	NA	NA	TS10	WS	TS10SW01	1011022-11		27-Oct-2010 11:00:00 AM	03-Nov-2010 7:46:00 PM	N
	NA	NA	TS11	WS	TS11SW01	1011022-12		27-Oct-2010 12:05:00 PM	03-Nov-2010 8:10:00 PM	N
	NA	NA	TS14	WS	TS14SW01	1011022-13		28-Oct-2010 9:50:00 AM	03-Nov-2010 8:14:00 PM	N

AUTOMATED DATA REVIEW SUMMARY for MY7E59

Batch Report

2	NA	NA	TS15	WS	TS15SW01	1011022-14	28-Oct-2010 11:05:00 AM	03-Nov-2010 8:18:00 PM	N
	NA	NA	TS17	WS	TS17SW01	1011022-15	28-Oct-2010 2:50:00 PM	03-Nov-2010 8:22:00 PM	N

AUTOMATED DATA REVIEW SUMMARY for MY7E59

QC Outlier Report

Test/Prep	QC Element	Sample ID	Dil'n	Analyte	Result	Units	Qualifier	Warning Limits	Control Limits	Reason	Comment
SW6010B / SW3010A	Lab Replicate RPD	0110303-DU (LR)	1.00	Iron	23.6	RPD	J/UJ	< 20	< 40	D1	

AUTOMATED DATA REVIEW SUMMARY for MY7E59

Qualified Results

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW6010B/NONE	WS	TS5SW01	N	Iron	100	82.8 J	82.8 J	UG/L	TR
SW6010B/NONE	WS	TS8SW01	N	Iron	100	97.7 J	97.7 J	UG/L	TR

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
C245.1/NONE	WS	TS17SW01	N	Mercury	0.20	0.080 J	0.080 J	UG/L	TR

AUTOMATED DATA REVIEW SUMMARY for MY7E59

Detected Results

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
C245.1/NONE	WS	TS15SW01	N	Mercury	0.20	5.6	5.6	UG/L	
C245.1/NONE	WS	TS17SW01	N	Mercury	0.20	0.080 J	0.080 J	UG/L	TR

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW6010B/NONE	WS	TS14SW01	N	Iron	100	324	324	UG/L	
SW6010B/NONE	WS	TS15SW01	N	Iron	100	37500	37500	UG/L	
SW6010B/NONE	WS	TS17SW01	N	Iron	100	1940	1940	UG/L	
SW6010B/NONE	WS	TS1SW01	N	Iron	100	433	433	UG/L	
SW6010B/NONE	WS	TS2SW01	N	Iron	100	389	389	UG/L	
SW6010B/NONE	WS	TS3SW01	N	Iron	100	106	106	UG/L	
SW6010B/NONE	WS	TS3SW02	FD	Iron	100	101	101	UG/L	
SW6010B/NONE	WS	TS4SW01	N	Iron	100	105	105	UG/L	
SW6010B/NONE	WS	TS5SW01	N	Iron	100	82.8 J	82.8 J	UG/L	TR
SW6010B/NONE	WS	TS6SW01	N	Iron	100	821	821	UG/L	
SW6010B/NONE	WS	TS8SW01	N	Iron	100	97.7 J	97.7 J	UG/L	TR
SW6010B/NONE	WS	TS9SW01	N	Iron	100	179	179	UG/L	

AUTOMATED DATA REVIEW SUMMARY for MY7E59

Rejected Results

AUTOMATED DATA REVIEW SUMMARY for MY7E60

Facility:	Blue Ledge Site
Event:	Focused RI
Guidance Document:	Blue Ledge QAPP
Contract Laboratory:	BONNER ANALYTICAL TESTING COMPANY, HATTIESBURY, MS
Field Contractor:	Not Applicable
Data Review Contractor:	ITSI Walnut Creek
SDG:	MY7E60, Certified - 12/21/201AM by wtse
QC Level:	S2BVE
Project Manager:	Jeff Hess
Data Reviewer:	Kristen Carlyon
Data Reviewer Title:	Senior Chemist
Date of Review Report:	22-Dec-2010

Samples Included in SDG MY7E60

Analytical Method/ Leach Method	Normal Soil Samples	Field QC Soil Samples
SW6010B/NONE	9	0
SW7471A/NONE	9	0

AUTOMATED DATA REVIEW SUMMARY for MY7E60

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistant with the requirements contained in the Blue Ledge QAPP to the extent possible. Where definitive guidance is not provided, data has been evaluated in a conservative manner using professional judgment. In cases where two qualifiers are listed as an action, such as 'J/UJ', the first qualifier applies to positive results, and the second to non-detect results.

Samples were collected by Innovative Technical Solutions, Inc., Walnut Creek, CA; analyses were performed by BONNER ANALYTICAL TESTING COMPANY, HATTIESBURY, MS and were reported under sample delivery group (SDG) MY7E60. Results have been evaluated electronically using electronic data deliverables (EDDs) provided by the laboratory. The laboratory data summary forms (hard copy) have been reviewed during this effort and compared to the automated review output. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative.

The following quality control elements were supported by the electronic deliverable and were evaluated during this review effort:

- A common laboratory artifact was detected in the sample at a concentartion less than 10X the concentration detected in the associated method blank.
- A common laboratory artifact was detected in the sample at a concentartion less than 10X the concentration detected in the associated method blank. (Negative)
- Lab Replicate RPD
- Matrix spike recovery was outside establisted criteria.
- Percent recovery of laboratory control sample recovery was outside established limits
- Prep Hold Time
- Test Hold Time

The following quality control elements were either not applicable to the deliverable, or were not supported by the electronic deliverable, and were therefore not included in the automated data review. Those elements required for the project were reviewed manually, as narrated in the Comment section below.

- Ambient Blank
- Calibration Blank
- Calibration Blank - Negative
- Continuing Calibration Verification percent recovery, percent difference, or percent drift

Detected in the associated equipment rinsate blank.

Detected in the associated field (i.e., ambient) blank.

Detected in the associated trip blank.

Field Duplicate RPD

Initial Calibration Verification percent recovery, percent difference, or percent drift

Material Blank

MS RPD exceeded established criteria.

Negative Blank

Surrogate recovery out of criteria (upper or lower limit)

AUTOMATED DATA REVIEW SUMMARY for MY7E60

A minimum of ten percent of sample and QC results were manually evaluated for compliance with project specific requirements and consistency with hard copy results. The following summaries were generated during the evaluation of this data set and are included in this report as applicable.

Batch – The analytical batch report is reviewed for completeness and compliance with project specific requirements. Incomplete or non-compliant run sequences are identified and their impact on data quality are discussed in the narrative.

QC Outlier – Results exceeding the evaluation criteria are reviewed for compliance with project requirements and a minimum of ten percent of the non-compliant QC values reported electronically are verified for consistency with hard-copy values.

Qualified Results – Qualified results are evaluated for compliance with project requirements and ten percent of qualified results are verified for consistency with the QC Outliers.

Rejected Results – All rejected results are evaluated for compliance with project requirements. The reason for rejection of the data is verified against hard copy data.

Field Duplicates – Field duplicate comparison results are evaluated for compliance with project requirements and ten percent of values reported are verified for consistency with the hard-copy data.

Data Submission Warnings – Warnings encountered during the data submission process are evaluated and their affect on data quality is discussed in the narrative below.

Analytical deficiencies, project non-compliance issues and inconsistencies with hard copy results observed during ADR evaluation process and their impact on data quality are summarized in the narrative below.

Out of control events experienced by the laboratory have warranted the qualification of 14.10% (11 results) and the rejection of 0.00% (0 results) of the data set. These deficiencies are detailed in the following tables and discussed in the narrative below, where appropriate.

Narrative Comments

Calibrations/ICSA/CRI Wincadre results reviewed and qualifiers added as appropriate.

AUTOMATED DATA REVIEW SUMMARY for MY7E60

22-Dec-2010

Released by Kristen Carlyon, Senior Chemist

Reason and Comment Code Definitions

Reasons	
Code	**Definition**
A	Serial dilution
A1	Ambient Blank
B1	Blank
B2	Calibration Blank
B3	Calibration Blank - Negative
B4	Negative Blank
B5	The analyte was found in blank and sample
C1	Diluted Out
C10	Continuing Calibration Verification RRF
C11	Continuing Calibration Verification
C2	Flag Parent Only
C2S	Flag Parent (Soil); Batch (Water)
C3	No Action
C4	No QC Outliers
C5	One or both values <5x RL
C6	Recalculated Value
C7	Material Blanks
C8	Spike Insignificant
C9	No Flags; set to ND by method/cal. blank
D1	Lab Replicate RPD
D2	MS RPD
D4	No precision available

AUTOMATED DATA REVIEW SUMMARY for MY7E60

Reason and Comment Code Definitions

D5	Field Duplicate RPD
D6	LCS RPD
D7	Field Dup not usable
E	Exceeds LinearCalibration Range
F	Hydrocarbon pattern does not match standard
G	Initial Calibration RRF
G1	Initial Calibration RSD
G2	Initial Calibration Verification
H1	Test Hold Time
H2	Prep Hold Time
I	Internal standard
J	CRA/CRI Recovery
K	An analyte (non-common lab artifact) was detected
K1	Equipment Blank
K2	Field Blank
K3	Trip Blank
L	LCS Recovery
L1	Blank - Negative
M	MS Recovery
N	Blank - No Action
O	Interference check sample
P	Sample preservation/collection requirement not met
P1	Confirmation Column/Detector RPD
P2	Improper preparation/extraction

AUTOMATED DATA REVIEW SUMMARY for MY7E60

Reason and Comment Code Definitions

Q1	Material Blank
S	Surrogate
S1	Sample less than 50% solids
T	Receipt Temperature
T2	RSD of lab triplicate out
TI	Tentatively Identified Compound
TR	Trace Level Detect
V	Sample Receipt Condition
W	Column breakdown (pesticides)
X	Raised reporting limit
X1	Unresolved Isomers; no peak separation
Y	Analyte not confirmed on second column
Y1	False Positive
Y2	Sum of species greater than total result
Z	Data rejected due to radiological anomolies
Z1	Data rejected, more valid data available

AUTOMATED DATA REVIEW SUMMARY for MY7E60

Batch Report

Test Method: SW6010B; Leach Method: NONE

Analytical Batch	Prep Batch	Leach Batch	Location	Matrix	Field Sample ID	Lab Sample ID	Calibration Ref	Collection Date/Time	Analysis Date/Time	Sample Type
2	NA	NA	LABQC	SQ	LABQC	0120802-BL		09-Dec-2010 12:00:00 AM	14-Dec-2010 3:14:00 AM	LB
	NA	NA	LABQC	SQ	LABQC	0120802-BS		09-Dec-2010 12:00:00 AM	14-Dec-2010 3:18:00 AM	BS
	NA	NA	TS1	SE	TS1SE01A	1012041-01		25-Oct-2010 10:45:00 AM	14-Dec-2010 3:21:00 AM	N
	NA	NA	TS1	SE	TS1SE01B	1012041-02		25-Oct-2010 10:48:00 AM	14-Dec-2010 3:25:00 AM	N
	NA	NA	TS4	SE	TS4SE01A	1012041-03		26-Oct-2010 1:00:00 PM	14-Dec-2010 3:29:00 AM	N
	NA	NA	TS5	SE	TS5SE01	1012041-04		25-Oct-2010 3:30:00 PM	14-Dec-2010 3:33:00 AM	N
	NA	NA	TS6	SO	TS6SE01	1012041-05		26-Oct-2010 2:37:00 PM	14-Dec-2010 3:37:00 AM	N
	NA	NA	TS7	SE	TS7SE01	1012041-06		26-Oct-2010 3:05:00 PM	14-Dec-2010 3:41:00 AM	N
	NA	NA	TS9	SE	TS9SE01	1012041-07		27-Oct-2010 10:37:00 AM	14-Dec-2010 3:44:00 AM	N
	NA	NA	TS10	SE	TS10SE01	1012041-08		27-Oct-2010 11:05:00 AM	14-Dec-2010 3:48:00 AM	N
	NA	NA	TS10	SE	TS10SE01	0120802-MS		27-Oct-2010 11:05:00 AM	14-Dec-2010 4:00:00 AM	MS
	NA	NA	TS10	SE	TS10SE01	0120802-DU		27-Oct-2010 11:05:00 AM	14-Dec-2010 4:04:00 AM	LR
	NA	NA	TS14	SE	TS14SE01	1012041-09		28-Oct-2010 10:25:00 AM	14-Dec-2010 4:12:00 AM	N

Test Method: SW7471A; Leach Method: NONE

Analytical Batch	Prep Batch	Leach Batch	Location	Matrix	Field Sample ID	Lab Sample ID	Calibration Ref	Collection Date/Time	Analysis Date/Time	Sample Type
1	NA	NA	LABQC	SQ	LABQC	0120906-BL		09-Dec-2010 12:00:00 AM	09-Dec-2010 1:43:00 PM	LB
	NA	NA	LABQC	SQ	LABQC	0120906-BS		09-Dec-2010 12:00:00 AM	09-Dec-2010 1:47:00 PM	BS

AUTOMATED DATA REVIEW SUMMARY for MY7E60

Batch Report

1	NA	NA	TS1	SE	TS1SE01A	1012041-01	25-Oct-2010 10:45:00 AM	09-Dec-2010 1:48:00 PM	N
	NA	NA	TS1	SE	TS1SE01B	1012041-02	25-Oct-2010 10:48:00 AM	09-Dec-2010 1:50:00 PM	N
	NA	NA	TS4	SE	TS4SE01A	1012041-03	26-Oct-2010 1:00:00 PM	09-Dec-2010 1:52:00 PM	N
	NA	NA	TS5	SE	TS5SE01	1012041-04	25-Oct-2010 3:30:00 PM	09-Dec-2010 1:55:00 PM	N
	NA	NA	TS6	SO	TS6SE01	1012041-05	26-Oct-2010 2:37:00 PM	09-Dec-2010 1:56:00 PM	N
	NA	NA	TS7	SE	TS7SE01	1012041-06	26-Oct-2010 3:05:00 PM	09-Dec-2010 1:58:00 PM	N
	NA	NA	TS9	SE	TS9SE01	1012041-07	27-Oct-2010 10:37:00 AM	09-Dec-2010 2:00:00 PM	N
	NA	NA	TS10	SE	TS10SE01	1012041-08	27-Oct-2010 11:05:00 AM	09-Dec-2010 2:02:00 PM	N
	NA	NA	TS10	SE	TS10SE01	0120906-DU	27-Oct-2010 11:05:00 AM	09-Dec-2010 2:08:00 PM	LR
	NA	NA	TS10	SE	TS10SE01	0120906-MS	27-Oct-2010 11:05:00 AM	09-Dec-2010 2:10:00 PM	MS
	NA	NA	TS14	SE	TS14SE01	1012041-09	28-Oct-2010 10:25:00 AM	09-Dec-2010 2:12:00 PM	N

AUTOMATED DATA REVIEW SUMMARY for MY7E60

QC Outlier Report

Test/Prep	QC Element	Sample ID	Dil'n	Analyte	Result	Units	Qualifier	Warning Limits	Control Limits	Reason	Comment
SW6010B / SW3050B	Blank	0120802-BL (LB)	1.00	Copper	0.45	MG/KG	U//	< 0.14	< 2.5	B1	
SW6010B / SW3050B	Blank	0120802-BL (LB)	1.00	Zinc	0.75	MG/KG	U//	< 0.044	< 6	B1	
SW6010B / SW3050B	Lab Replicate RPD	0120802-DU (LR)	1.00	Arsenic	50.0	RPD	J/UJ	< 20	< 40	D1	
SW6010B / SW3050B	Lab Replicate RPD	0120802-DU (LR)	1.00	Cadmium	31.8	RPD	J/UJ	< 20	< 40	D1	
SW6010B / SW3050B	Lab Replicate RPD	0120802-DU (LR)	1.00	Lead	26.7	RPD	J/UJ	< 20	< 40	D1	
SW7471A / METHOD	Lab Replicate RPD	0120906-DU (LR)	1.00	Mercury	20.7	RPD	J/UJ	< 20	< 40	D1	
SW7471A / METHOD	LCS Recovery	0120906-BS (BS)	2.00	Mercury	123	PERCENT	J/None	80 - 120	50 - 130	L	
SW7471A / METHOD	Test Hold Time	TS10SE01 (N)	1.00		43.0	Days	J/UJ	< 28	< 56	H1	
SW7471A / METHOD	Test Hold Time	TS14SE01 (N)	1.00		42.0	Days	J/UJ	< 28	< 56	H1	
SW7471A / METHOD	Test Hold Time	TS1SE01A (N)	1.00		45.0	Days	J/UJ	< 28	< 56	H1	
SW7471A / METHOD	Test Hold Time	TS1SE01B (N)	1.00		45.0	Days	J/UJ	< 28	< 56	H1	
SW7471A / METHOD	Test Hold Time	TS4SE01A (N)	1.00		44.0	Days	J/UJ	< 28	< 56	H1	
SW7471A / METHOD	Test Hold Time	TS5SE01 (N)	1.00		45.0	Days	J/UJ	< 28	< 56	H1	
SW7471A / METHOD	Test Hold Time	TS6SE01 (N)	1.00		44.0	Days	J/UJ	< 28	< 56	H1	
SW7471A / METHOD	Test Hold Time	TS7SE01 (N)	1.00		44.0	Days	J/UJ	< 28	< 56	H1	
SW7471A / METHOD	Test Hold Time	TS9SE01 (N)	1.00		43.0	Days	J/UJ	< 28	< 56	H1	

AUTOMATED DATA REVIEW SUMMARY for MY7E60

Qualified Results

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW7471A/NONE	SE	TS10SE01	N	Mercury	0.10	0.078 J	0.078 J	MG/KG	H1/L/TR
SW7471A/NONE	SE	TS14SE01	N	Mercury	0.10	0.14	0.14 J	MG/KG	H1/L
SW7471A/NONE	SE	TS1SE01A	N	Mercury	0.10	0.068 J	0.068 J	MG/KG	H1/L/TR
SW7471A/NONE	SE	TS1SE01B	N	Mercury	0.10	0.11	0.11 J	MG/KG	H1/L
SW7471A/NONE	SE	TS4SE01A	N	Mercury	0.10	0.15	0.15 J	MG/KG	H1/L
SW7471A/NONE	SE	TS5SE01	N	Mercury	0.10	0.21	0.21 J	MG/KG	H1/L
SW7471A/NONE	SO	TS6SE01	N	Mercury	0.10	1.5	1.5 J	MG/KG	H1/L
SW7471A/NONE	SE	TS7SE01	N	Mercury	0.10	0.40	0.40 J	MG/KG	H1/L
SW7471A/NONE	SE	TS9SE01	N	Mercury	0.10	0.18	0.18 J	MG/KG	H1/L

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW6010B/NONE	SE	TS10SE01	N	Arsenic	1.0	0.72 J	0.72 J	MG/KG	TR
SW6010B/NONE	SE	TS10SE01	N	Cadmium	0.50	0.066 J	0.066 J	MG/KG	TR
SW6010B/NONE	SE	TS14SE01	N	Cadmium	0.50	0.19 J	0.19 J	MG/KG	TR
SW6010B/NONE	SE	TS4SE01A	N	Cadmium	0.50	0.26 J	0.26 J	MG/KG	TR
SW6010B/NONE	SE	TS5SE01	N	Cadmium	0.50	0.26 J	0.26 J	MG/KG	TR

AUTOMATED DATA REVIEW SUMMARY for MY7E60

Detected Results

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW7471A/NONE	SE	TS10SE01	N	Mercury	0.10	0.078 J	0.078 J	MG/KG	H1/L/TR
SW7471A/NONE	SE	TS14SE01	N	Mercury	0.10	0.14	0.14 J	MG/KG	H1/L
SW7471A/NONE	SE	TS1SE01A	N	Mercury	0.10	0.068 J	0.068 J	MG/KG	H1/L/TR
SW7471A/NONE	SE	TS1SE01B	N	Mercury	0.10	0.11	0.11 J	MG/KG	H1/L
SW7471A/NONE	SE	TS4SE01A	N	Mercury	0.10	0.15	0.15 J	MG/KG	H1/L
SW7471A/NONE	SE	TS5SE01	N	Mercury	0.10	0.21	0.21 J	MG/KG	H1/L
SW7471A/NONE	SO	TS6SE01	N	Mercury	0.10	1.5	1.5 J	MG/KG	H1/L
SW7471A/NONE	SE	TS7SE01	N	Mercury	0.10	0.40	0.40 J	MG/KG	H1/L
SW7471A/NONE	SE	TS9SE01	N	Mercury	0.10	0.18	0.18 J	MG/KG	H1/L

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW6010B/NONE	SE	TS10SE01	N	Arsenic	1.0	0.72 J	0.72 J	MG/KG	TR
SW6010B/NONE	SE	TS10SE01	N	Cadmium	0.50	0.066 J	0.066 J	MG/KG	TR
SW6010B/NONE	SE	TS10SE01	N	Copper	2.5	58.6	58.6	MG/KG	
SW6010B/NONE	SE	TS10SE01	N	Lead	1.0	1.3	1.3	MG/KG	
SW6010B/NONE	SE	TS10SE01	N	Zinc	6.0	18.1	18.1	MG/KG	
SW6010B/NONE	SE	TS14SE01	N	Arsenic	1.0	3.3	3.3	MG/KG	
SW6010B/NONE	SE	TS14SE01	N	Cadmium	0.50	0.19 J	0.19 J	MG/KG	TR
SW6010B/NONE	SE	TS14SE01	N	Copper	2.5	48.3	48.3	MG/KG	
SW6010B/NONE	SE	TS14SE01	N	Lead	1.0	2.9	2.9	MG/KG	
SW6010B/NONE	SE	TS14SE01	N	Zinc	6.0	39.8	39.8	MG/KG	
SW6010B/NONE	SE	TS1SE01A	N	Arsenic	1.0	5.2	5.2	MG/KG	

AUTOMATED DATA REVIEW SUMMARY for MY7E60

Detected Results

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW6010B/NONE	SE	TS1SE01A	N	Cadmium	0.50	0.52	0.52	MG/KG	
SW6010B/NONE	SE	TS1SE01A	N	Copper	2.5	76.1	76.1	MG/KG	
SW6010B/NONE	SE	TS1SE01A	N	Lead	1.0	6.1	6.1	MG/KG	
SW6010B/NONE	SE	TS1SE01A	N	Zinc	6.0	135	135	MG/KG	
SW6010B/NONE	SE	TS1SE01B	N	Arsenic	1.0	5.0	5.0	MG/KG	
SW6010B/NONE	SE	TS1SE01B	N	Cadmium	0.50	0.50	0.50	MG/KG	
SW6010B/NONE	SE	TS1SE01B	N	Copper	2.5	88.9	88.9	MG/KG	
SW6010B/NONE	SE	TS1SE01B	N	Lead	1.0	5.9	5.9	MG/KG	
SW6010B/NONE	SE	TS1SE01B	N	Zinc	6.0	132	132	MG/KG	
SW6010B/NONE	SE	TS4SE01A	N	Arsenic	1.0	5.1	5.1	MG/KG	
SW6010B/NONE	SE	TS4SE01A	N	Cadmium	0.50	0.26 J	0.26 J	MG/KG	TR
SW6010B/NONE	SE	TS4SE01A	N	Copper	2.5	61.2	61.2	MG/KG	
SW6010B/NONE	SE	TS4SE01A	N	Lead	1.0	6.4	6.4	MG/KG	
SW6010B/NONE	SE	TS4SE01A	N	Zinc	6.0	75.5	75.5	MG/KG	
SW6010B/NONE	SE	TS5SE01	N	Arsenic	1.0	5.8	5.8	MG/KG	
SW6010B/NONE	SE	TS5SE01	N	Cadmium	0.50	0.26 J	0.26 J	MG/KG	TR
SW6010B/NONE	SE	TS5SE01	N	Copper	2.5	40.1	40.1	MG/KG	
SW6010B/NONE	SE	TS5SE01	N	Lead	1.0	5.6	5.6	MG/KG	
SW6010B/NONE	SE	TS5SE01	N	Zinc	6.0	47.9	47.9	MG/KG	
SW6010B/NONE	SO	TS6SE01	N	Arsenic	1.0	29.8	29.8	MG/KG	
SW6010B/NONE	SO	TS6SE01	N	Cadmium	0.50	10.0	10.0	MG/KG	
SW6010B/NONE	SO	TS6SE01	N	Copper	2.5	2550	2550	MG/KG	
SW6010B/NONE	SO	TS6SE01	N	Lead	1.0	202	202	MG/KG	

AUTOMATED DATA REVIEW SUMMARY for MY7E60

Detected Results

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW6010B/NONE	SO	TS6SE01	N	Zinc	6.0	1600	1600	MG/KG	
SW6010B/NONE	SE	TS7SE01	N	Arsenic	1.0	12.5	12.5	MG/KG	
SW6010B/NONE	SE	TS7SE01	N	Cadmium	0.50	0.50 J	0.50	MG/KG	
SW6010B/NONE	SE	TS7SE01	N	Copper	2.5	54.1	54.1	MG/KG	
SW6010B/NONE	SE	TS7SE01	N	Lead	1.0	6.9	6.9	MG/KG	
SW6010B/NONE	SE	TS7SE01	N	Zinc	6.0	47.9	47.9	MG/KG	
SW6010B/NONE	SE	TS9SE01	N	Arsenic	1.0	5.6	5.6	MG/KG	
SW6010B/NONE	SE	TS9SE01	N	Cadmium	0.50	0.80	0.80	MG/KG	
SW6010B/NONE	SE	TS9SE01	N	Copper	2.5	108	108	MG/KG	
SW6010B/NONE	SE	TS9SE01	N	Lead	1.0	6.4	6.4	MG/KG	
SW6010B/NONE	SE	TS9SE01	N	Zinc	6.0	144	144	MG/KG	

AUTOMATED DATA REVIEW SUMMARY for MY7E60

Rejected Results

AUTOMATED DATA REVIEW SUMMARY for MY7E62

Facility:	Blue Ledge Site
Event:	Focused RI
Guidance Document:	Blue Ledge QAPP
Contract Laboratory:	BONNER ANALYTICAL TESTING COMPANY, HATTIESBURY, MS
Field Contractor:	Not Applicable
Data Review Contractor:	ITSI Walnut Creek
SDG:	MY7E62, Certified - 12/13/201PM by wtse
QC Level:	S2BVE
Project Manager:	Jeff Hess
Data Reviewer:	Kristen Carlyon
Data Reviewer Title:	Senior Chemist
Date of Review Report:	14-Dec-2010

Samples Included in SDG MY7E62

Analytical Method/ Leach Method	Normal Soil Samples	Field QC Soil Samples
SW6010B/NONE	12	0
SW7471A/NONE	12	0

AUTOMATED DATA REVIEW SUMMARY for MY7E62

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistant with the requirements contained in the Blue Ledge QAPP to the extent possible. Where definitive guidance is not provided, data has been evaluated in a conservative manner using professional judgment. In cases where two qualifiers are listed as an action, such as 'J/UJ', the first qualifier applies to positive results, and the second to non-detect results.

Samples were collected by Not Applicable; analyses were performed by BONNER ANALYTICAL TESTING COMPANY, HATTIESBURY, MS and were reported under sample delivery group (SDG) MY7E62. Results have been evaluated electronically using electronic data deliverables (EDDs) provided by the laboratory. The laboratory data summary forms (hard copy) have been reviewed during this effort and compared to the automated review output. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative.

The following quality control elements were supported by the electronic deliverable and were evaluated during this review effort:

- A common laboratory artifact was detected in the sample at a concentartion less than 10X the concentration detected in the associated method blank.
- A common laboratory artifact was detected in the sample at a concentartion less than 10X the concentration detected in the associated method blank. (Negative)
- Lab Replicate RPD
- Matrix spike recovery was outside establisted criteria.
- Percent recovery of laboratory control sample recovery was outside established limits
- Prep Hold Time
- Test Hold Time

The following quality control elements were either not applicable to the deliverable, or were not supported by the electronic deliverable, and were therefore not included in the automated data review. Those elements required for the project were reviewed manually, as narrated in the Comment section below.

- Ambient Blank
- Calibration Blank
- Calibration Blank - Negative
- Continuing Calibration Verification percent recovery, percent difference, or percent drift

Detected in the associated equipment rinsate blank.

Detected in the associated field (i.e., ambient) blank.

Detected in the associated trip blank.

Field Duplicate RPD

Initial Calibration Verification percent recovery, percent difference, or percent drift

Material Blank

MS RPD exceeded established criteria.

Negative Blank

Surrogate recovery out of criteria (upper or lower limit)

AUTOMATED DATA REVIEW SUMMARY for MY7E62

A minimum of ten percent of sample and QC results were manually evaluated for compliance with project specific requirements and consistency with hard copy results. The following summaries were generated during the evaluation of this data set and are included in this report as applicable.

Batch – The analytical batch report is reviewed for completeness and compliance with project specific requirements. Incomplete or non-compliant run sequences are identified and their impact on data quality are discussed in the narrative.

QC Outlier – Results exceeding the evaluation criteria are reviewed for compliance with project requirements and a minimum of ten percent of the non-compliant QC values reported electronically are verified for consistency with hard-copy values.

Qualified Results – Qualified results are evaluated for compliance with project requirements and ten percent of qualified results are verified for consistency with the QC Outliers.

Rejected Results – All rejected results are evaluated for compliance with project requirements. The reason for rejection of the data is verified against hard copy data.

Field Duplicates – Field duplicate comparison results are evaluated for compliance with project requirements and ten percent of values reported are verified for consistency with the hard-copy data.

Data Submission Warnings – Warnings encountered during the data submission process are evaluated and their affect on data quality is discussed in the narrative below.

Analytical deficiencies, project non-compliance issues and inconsistencies with hard copy results observed during ADR evaluation process and their impact on data quality are summarized in the narrative below.

Out of control events experienced by the laboratory have warranted the qualification of 30.21% (29 results) and the rejection of 0.00% (0 results) of the data set. These deficiencies are detailed in the following tables and discussed in the narrative below, where appropriate.

Narrative Comments

Calibrations/ICSA/CRI Wincadre results reviewed and qualifiers added as appropriate.

AUTOMATED DATA REVIEW SUMMARY for MY7E62

14-Dec-2010

Released by Kristen Carlyon, Senior Chemist

Reason and Comment Code Definitions

Reasons	
Code	**Definition**
A	Serial dilution
A1	Ambient Blank
B1	Blank
B2	Calibration Blank
B3	Calibration Blank - Negative
B4	Negative Blank
B5	The analyte was found in blank and sample
C1	Diluted Out
C10	Continuing Calibration Verification RRF
C11	Continuing Calibration Verification
C2	Flag Parent Only
C2S	Flag Parent (Soil); Batch (Water)
C3	No Action
C4	No QC Outliers
C5	One or both values <5x RL
C6	Recalculated Value
C7	Material Blanks
C8	Spike Insignificant
C9	No Flags; set to ND by method/cal. blank
D1	Lab Replicate RPD
D2	MS RPD
D4	No precision available

AUTOMATED DATA REVIEW SUMMARY for MY7E62

Reason and Comment Code Definitions

D5	Field Duplicate RPD
D6	LCS RPD
D7	Field Dup not usable
E	Exceeds LinearCalibration Range
F	Hydrocarbon pattern does not match standard
G	Initial Calibration RRF
G1	Initial Calibration RSD
G2	Initial Calibration Verification
H1	Test Hold Time
H2	Prep Hold Time
I	Internal standard
J	CRA/CRI Recovery
K	An analyte (non-common lab artifact) was detected
K1	Equipment Blank
K2	Field Blank
K3	Trip Blank
L	LCS Recovery
L1	Blank - Negative
M	MS Recovery
N	Blank - No Action
O	Interference check sample
P	Sample preservation/collection requirement not met
P1	Confirmation Column/Detector RPD
P2	Improper preparation/extraction

AUTOMATED DATA REVIEW SUMMARY for MY7E62

Reason and Comment Code Definitions

Q1	Material Blank
S	Surrogate
S1	Sample less than 50% solids
T	Receipt Temperature
T2	RSD of lab triplicate out
TI	Tentatively Identified Compound
TR	Trace Level Detect
V	Sample Receipt Condition
W	Column breakdown (pesticides)
X	Raised reporting limit
X1	Unresolved Isomers; no peak separation
Y	Analyte not confirmed on second column
Y1	False Positive
Y2	Sum of species greater than total result
Z	Data rejected due to radiological anomolies
Z1	Data rejected, more valid data available

AUTOMATED DATA REVIEW SUMMARY for MY7E62

Batch Report

Test Method: SW6010B; Leach Method: NONE

Analytical Batch	Prep Batch	Leach Batch	Location	Matrix	Field Sample ID	Lab Sample ID	Calibration Ref	Collection Date/Time	Analysis Date/Time	Sample Type
2	NA	NA	LABQC	SQ	LABQC	0120211-BL		02-Dec-2010 12:00:00 AM	03-Dec-2010 11:00:00 AM	LB
	NA	NA	LABQC	SQ	LABQC	0120211-BS		02-Dec-2010 12:00:00 AM	03-Dec-2010 11:04:00 AM	BS
	NA	NA	TS1	SE	TS1RS01	1012033-01		25-Oct-2010 11:05:00 AM	03-Dec-2010 11:08:00 AM	N
	NA	NA	TS1	SO	TS1US01	1012033-02		25-Oct-2010 11:20:00 AM	03-Dec-2010 11:12:00 AM	N
	NA	NA	TS2	SE	TS2SE01	1012033-03		25-Oct-2010 1:20:00 PM	03-Dec-2010 11:16:00 AM	N
	NA	NA	TS2	SE	TS2SE01	0120211-MS		25-Oct-2010 1:20:00 PM	03-Dec-2010 11:20:00 AM	MS
	NA	NA	TS2	SE	TS2SE01	0120211-DU		25-Oct-2010 1:20:00 PM	03-Dec-2010 11:23:00 AM	LR
	NA	NA	TS2	SE	TS2RS01	1012033-04		25-Oct-2010 1:40:00 PM	03-Dec-2010 11:31:00 AM	N
	NA	NA	TS2	SO	TS2US01	1012033-05		25-Oct-2010 1:45:00 PM	03-Dec-2010 11:35:00 AM	N
	NA	NA	TS3	SE	TS3SE01	1012033-06		26-Oct-2010 11:00:00 AM	03-Dec-2010 11:47:00 AM	N
	NA	NA	TS3	SE	TS3RS01	1012033-07		26-Oct-2010 11:10:00 AM	03-Dec-2010 11:50:00 AM	N
	NA	NA	TS3	SO	TS3US01	1012033-08		26-Oct-2010 11:20:00 AM	03-Dec-2010 11:54:00 AM	N
	NA	NA	TS4	SE	TS4SE01B	1012033-09		26-Oct-2010 1:05:00 PM	03-Dec-2010 11:58:00 AM	N
	NA	NA	TS4	SE	TS4RS01	1012033-10		26-Oct-2010 1:20:00 PM	03-Dec-2010 12:02:00 PM	N
	NA	NA	TS5	SE	TS5RS01	1012033-11		25-Oct-2010 3:40:00 PM	03-Dec-2010 12:06:00 PM	N
	NA	NA	TS5	SO	TS5US01	1012033-12		25-Oct-2010 3:50:00 PM	03-Dec-2010 12:10:00 PM	N

AUTOMATED DATA REVIEW SUMMARY for MY7E62

Batch Report

Test Method: SW7471A; Leach Method: NONE

Analytical Batch	Prep Batch	Leach Batch	Location	Matrix	Field Sample ID	Lab Sample ID	Calibration Ref	Collection Date/Time	Analysis Date/Time	Sample Type
1	NA	NA	LABQC	SQ	LABQC	0120215-BL		02-Dec-2010 12:00:00 AM	03-Dec-2010 7:30:00 AM	LB
	NA	NA	LABQC	SQ	LABQC	0120215-BS		02-Dec-2010 12:00:00 AM	03-Dec-2010 7:32:00 AM	BS
	NA	NA	TS1	SE	TS1RS01	1012033-01		25-Oct-2010 11:05:00 AM	03-Dec-2010 7:34:00 AM	N
	NA	NA	TS1	SO	TS1US01	1012033-02		25-Oct-2010 11:20:00 AM	03-Dec-2010 7:36:00 AM	N
	NA	NA	TS2	SE	TS2SE01	0120215-DU		25-Oct-2010 1:20:00 PM	03-Dec-2010 7:40:00 AM	LR
	NA	NA	TS2	SE	TS2SE01	0120215-MS		25-Oct-2010 1:20:00 PM	03-Dec-2010 7:43:00 AM	MS
	NA	NA	TS2	SE	TS2RS01	1012033-04		25-Oct-2010 1:40:00 PM	03-Dec-2010 7:45:00 AM	N
	NA	NA	TS2	SO	TS2US01	1012033-05		25-Oct-2010 1:45:00 PM	03-Dec-2010 7:47:00 AM	N
	NA	NA	TS3	SE	TS3SE01	1012033-06		26-Oct-2010 11:00:00 AM	03-Dec-2010 7:49:00 AM	N
	NA	NA	TS3	SE	TS3RS01	1012033-07		26-Oct-2010 11:10:00 AM	03-Dec-2010 7:55:00 AM	N
	NA	NA	TS3	SO	TS3US01	1012033-08		26-Oct-2010 11:20:00 AM	03-Dec-2010 7:57:00 AM	N
	NA	NA	TS4	SE	TS4SE01B	1012033-09		26-Oct-2010 1:05:00 PM	03-Dec-2010 7:59:00 AM	N
	NA	NA	TS4	SE	TS4RS01	1012033-10		26-Oct-2010 1:20:00 PM	03-Dec-2010 8:01:00 AM	N
	NA	NA	TS5	SE	TS5RS01	1012033-11		25-Oct-2010 3:40:00 PM	03-Dec-2010 8:03:00 AM	N
	NA	NA	TS5	SO	TS5US01	1012033-12		25-Oct-2010 3:50:00 PM	03-Dec-2010 8:05:00 AM	N
	NA	NA	TS2	SE	TS2SE01	1012033-03		25-Oct-2010 1:20:00 PM	03-Dec-2010 8:08:00 AM	N

AUTOMATED DATA REVIEW SUMMARY for MY7E62

QC Outlier Report

Test/Prep	QC Element	Sample ID	Dil'n	Analyte	Result	Units	Qualifier	Warning Limits	Control Limits	Reason	Comment
SW6010B / SW3050B	Blank	0120211-BL (LB)	1.00	Zinc	0.079	MG/KG	U//	< 0.044	< 6	B1	
SW6010B / SW3050B	Lab Replicate RPD	0120211-DU (LR)	1.00	Arsenic	44.4	RPD	J/UJ	< 20	< 40	D1	
SW6010B / SW3050B	Lab Replicate RPD	0120211-DU (LR)	1.00	Cadmium	200	RPD	J/UJ	< 20	< 40	D1	
SW6010B / SW3050B	Lab Replicate RPD	0120211-DU (LR)	1.00	Copper	22.3	RPD	J/UJ	< 20	< 40	D1	
SW6010B / SW3050B	MS Recovery	TS2SE01 (MS)	1.00	Arsenic	65.0	PERCENT	J/UJ	75 - 125	50 - 135	M	
SW6010B / SW3050B	MS Recovery	TS2SE01 (MS)	1.00	Copper	52.8	PERCENT	J/UJ	75 - 125	50 - 135	M	
SW6010B / SW3050B	MS Recovery	TS2SE01 (MS)	1.00	Lead	36.8	PERCENT	J/ R	75 - 125	50 - 135	M	
SW7471A / METHOD	Lab Replicate RPD	0120215-DU (LR)	1.00	Mercury	50.0	RPD	J/UJ	< 20	< 40	D1	
SW7471A / METHOD	Test Hold Time	TS1RS01 (N)	1.00		39.0	Days	J/UJ	< 28	< 56	H1	
SW7471A / METHOD	Test Hold Time	TS1US01 (N)	1.00		39.0	Days	J/UJ	< 28	< 56	H1	
SW7471A / METHOD	Test Hold Time	TS2RS01 (N)	1.00		39.0	Days	J/UJ	< 28	< 56	H1	
SW7471A / METHOD	Test Hold Time	TS2SE01 (N)	1.00		39.0	Days	J/UJ	< 28	< 56	H1	
SW7471A / METHOD	Test Hold Time	TS2US01 (N)	1.00		39.0	Days	J/UJ	< 28	< 56	H1	
SW7471A / METHOD	Test Hold Time	TS3RS01 (N)	1.00		38.0	Days	J/UJ	< 28	< 56	H1	
SW7471A / METHOD	Test Hold Time	TS3SE01 (N)	1.00		38.0	Days	J/UJ	< 28	< 56	H1	
SW7471A / METHOD	Test Hold Time	TS3US01 (N)	1.00		38.0	Days	J/UJ	< 28	< 56	H1	
SW7471A / METHOD	Test Hold Time	TS4RS01 (N)	1.00		38.0	Days	J/UJ	< 28	< 56	H1	
SW7471A / METHOD	Test Hold Time	TS4SE01B (N)	1.00		38.0	Days	J/UJ	< 28	< 56	H1	

AUTOMATED DATA REVIEW SUMMARY for MY7E62

QC Outlier Report

Test/Prep	QC Element	Sample ID	Dil'n	Analyte	Result	Units	Qualifier	Warning Limits	Control Limits	Reason	Comment
SW7471A / METHOD	Test Hold Time	TS5RS01 (N)	1.00		39.0	Days	J/UJ	< 28	< 56	H1	
SW7471A / METHOD	Test Hold Time	TS5US01 (N)	1.00		39.0	Days	J/UJ	< 28	< 56	H1	

AUTOMATED DATA REVIEW SUMMARY for MY7E62

Qualified Results

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW6010B/NONE	SE	TS1RS01	N	Cadmium	0.50	0.50 J	0.50 U	MG/KG	B2
SW6010B/NONE	SO	TS1US01	N	Cadmium	0.50	0.50 J	0.50 U	MG/KG	B2
SW6010B/NONE	SE	TS2RS01	N	Cadmium	0.50	0.50 J	0.50 U	MG/KG	B2
SW6010B/NONE	SE	TS2SE01	N	Arsenic	1.0	5.5	5.5 J	MG/KG	M
SW6010B/NONE	SE	TS2SE01	N	Cadmium	0.56	0.56 J	0.56 U	MG/KG	B2
SW6010B/NONE	SE	TS2SE01	N	Copper	2.5	83.8	83.8 J	MG/KG	M
SW6010B/NONE	SE	TS2SE01	N	Lead	1.0	8.1	8.1 J	MG/KG	M
SW6010B/NONE	SO	TS2US01	N	Cadmium	0.50	0.50 J	0.50 U	MG/KG	B2
SW6010B/NONE	SE	TS3RS01	N	Cadmium	0.50	0.50 J	0.50 U	MG/KG	B2
SW6010B/NONE	SE	TS3SE01	N	Cadmium	0.50	0.50 J	0.50 U	MG/KG	B2
SW6010B/NONE	SO	TS3US01	N	Cadmium	0.50	0.50 J	0.50 U	MG/KG	B2
SW6010B/NONE	SE	TS4RS01	N	Cadmium	0.50	0.50 J	0.50 U	MG/KG	B2
SW6010B/NONE	SE	TS4SE01B	N	Cadmium	0.50	0.50 J	0.50 U	MG/KG	B2
SW6010B/NONE	SE	TS5RS01	N	Cadmium	0.50	0.50 J	0.50 U	MG/KG	B2
SW6010B/NONE	SO	TS5US01	N	Arsenic	1.0	0.89 J	0.89 J	MG/KG	TR
SW6010B/NONE	SO	TS5US01	N	Cadmium	0.50	0.50 J	0.50 U	MG/KG	B2
SW6010B/NONE	SO	TS5US01	N	Lead	1.0	0.91 J	0.91 J	MG/KG	TR

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW7471A/NONE	SE	TS1RS01	N	Mercury	0.14	0.14 U	0.14 UJ	MG/KG	H1
SW7471A/NONE	SO	TS1US01	N	Mercury	0.25	0.25 U	0.25 UJ	MG/KG	H1
SW7471A/NONE	SE	TS2RS01	N	Mercury	0.10	0.074 J	0.074 J	MG/KG	H1/TR
SW7471A/NONE	SE	TS2SE01	N	Mercury	0.10	0.18	0.18 J	MG/KG	H1

AUTOMATED DATA REVIEW SUMMARY for MY7E62

Qualified Results

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW7471A/NONE	SO	TS2US01	N	Mercury	0.10	0.063 J	0.063 J	MG/KG	H1/TR
SW7471A/NONE	SE	TS3RS01	N	Mercury	0.10	0.29	0.29 J	MG/KG	H1
SW7471A/NONE	SE	TS3SE01	N	Mercury	0.10	0.065 J	0.065 J	MG/KG	H1/TR
SW7471A/NONE	SO	TS3US01	N	Mercury	0.12	0.12 U	0.12 UJ	MG/KG	H1
SW7471A/NONE	SE	TS4RS01	N	Mercury	0.10	0.14	0.14 J	MG/KG	H1
SW7471A/NONE	SE	TS4SE01B	N	Mercury	0.10	0.055 J	0.055 J	MG/KG	H1/TR
SW7471A/NONE	SE	TS5RS01	N	Mercury	0.13	0.13 U	0.13 UJ	MG/KG	H1
SW7471A/NONE	SO	TS5US01	N	Mercury	0.13	0.13 U	0.13 UJ	MG/KG	H1

AUTOMATED DATA REVIEW SUMMARY for MY7E62

Detected Results

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW7471A/NONE	SE	TS2RS01	N	Mercury	0.10	0.074 J	0.074 J	MG/KG	H1/TR
SW7471A/NONE	SE	TS2SE01	N	Mercury	0.10	0.18	0.18 J	MG/KG	H1
SW7471A/NONE	SO	TS2US01	N	Mercury	0.10	0.063 J	0.063 J	MG/KG	H1/TR
SW7471A/NONE	SE	TS3RS01	N	Mercury	0.10	0.29	0.29 J	MG/KG	H1
SW7471A/NONE	SE	TS3SE01	N	Mercury	0.10	0.065 J	0.065 J	MG/KG	H1/TR
SW7471A/NONE	SE	TS4RS01	N	Mercury	0.10	0.14	0.14 J	MG/KG	H1
SW7471A/NONE	SE	TS4SE01B	N	Mercury	0.10	0.055 J	0.055 J	MG/KG	H1/TR

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW6010B/NONE	SE	TS1RS01	N	Arsenic	1.0	7.1	7.1	MG/KG	
SW6010B/NONE	SE	TS1RS01	N	Copper	2.5	31.0	31.0	MG/KG	
SW6010B/NONE	SE	TS1RS01	N	Lead	1.0	3.1	3.1	MG/KG	
SW6010B/NONE	SE	TS1RS01	N	Zinc	6.0	33.6	33.6	MG/KG	
SW6010B/NONE	SO	TS1US01	N	Arsenic	1.0	3.0	3.0	MG/KG	
SW6010B/NONE	SO	TS1US01	N	Copper	2.5	21.5	21.5	MG/KG	
SW6010B/NONE	SO	TS1US01	N	Lead	1.0	5.0	5.0	MG/KG	
SW6010B/NONE	SO	TS1US01	N	Zinc	6.0	25.1	25.1	MG/KG	
SW6010B/NONE	SE	TS2RS01	N	Arsenic	1.0	6.3	6.3	MG/KG	
SW6010B/NONE	SE	TS2RS01	N	Copper	2.5	60.2	60.2	MG/KG	
SW6010B/NONE	SE	TS2RS01	N	Lead	1.0	3.9	3.9	MG/KG	
SW6010B/NONE	SE	TS2RS01	N	Zinc	6.0	59.0	59.0	MG/KG	
SW6010B/NONE	SE	TS2SE01	N	Arsenic	1.0	5.5	5.5 J	MG/KG	M

AUTOMATED DATA REVIEW SUMMARY for MY7E62

Detected Results

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW6010B/NONE	SE	TS2SE01	N	Copper	2.5	83.8	83.8 J	MG/KG	M
SW6010B/NONE	SE	TS2SE01	N	Lead	1.0	8.1	8.1 J	MG/KG	M
SW6010B/NONE	SE	TS2SE01	N	Zinc	6.0	116	116	MG/KG	
SW6010B/NONE	SO	TS2US01	N	Arsenic	1.0	7.1	7.1	MG/KG	
SW6010B/NONE	SO	TS2US01	N	Copper	2.5	22.6	22.6	MG/KG	
SW6010B/NONE	SO	TS2US01	N	Lead	1.0	6.8	6.8	MG/KG	
SW6010B/NONE	SO	TS2US01	N	Zinc	6.0	45.6	45.6	MG/KG	
SW6010B/NONE	SE	TS3RS01	N	Arsenic	1.0	4.7	4.7	MG/KG	
SW6010B/NONE	SE	TS3RS01	N	Copper	2.5	85.5	85.5	MG/KG	
SW6010B/NONE	SE	TS3RS01	N	Lead	1.0	14.2	14.2	MG/KG	
SW6010B/NONE	SE	TS3RS01	N	Zinc	6.0	84.5	84.5	MG/KG	
SW6010B/NONE	SE	TS3SE01	N	Arsenic	1.0	3.8	3.8	MG/KG	
SW6010B/NONE	SE	TS3SE01	N	Copper	2.5	36.7	36.7	MG/KG	
SW6010B/NONE	SE	TS3SE01	N	Lead	1.0	4.0	4.0	MG/KG	
SW6010B/NONE	SE	TS3SE01	N	Zinc	6.0	57.9	57.9	MG/KG	
SW6010B/NONE	SO	TS3US01	N	Arsenic	1.0	1.5	1.5	MG/KG	
SW6010B/NONE	SO	TS3US01	N	Copper	2.5	43.0	43.0	MG/KG	
SW6010B/NONE	SO	TS3US01	N	Lead	1.0	3.9	3.9	MG/KG	
SW6010B/NONE	SO	TS3US01	N	Zinc	6.0	212	212	MG/KG	
SW6010B/NONE	SE	TS4RS01	N	Arsenic	1.0	6.5	6.5	MG/KG	
SW6010B/NONE	SE	TS4RS01	N	Copper	2.5	37.6	37.6	MG/KG	
SW6010B/NONE	SE	TS4RS01	N	Lead	1.0	5.1	5.1	MG/KG	
SW6010B/NONE	SE	TS4RS01	N	Zinc	6.0	55.8	55.8	MG/KG	

AUTOMATED DATA REVIEW SUMMARY for MY7E62

Detected Results

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW6010B/NONE	SE	TS4SE01B	N	Arsenic	1.0	3.0	3.0	MG/KG	
SW6010B/NONE	SE	TS4SE01B	N	Copper	2.5	30.1	30.1	MG/KG	
SW6010B/NONE	SE	TS4SE01B	N	Lead	1.0	2.8	2.8	MG/KG	
SW6010B/NONE	SE	TS4SE01B	N	Zinc	6.0	52.6	52.6	MG/KG	
SW6010B/NONE	SE	TS5RS01	N	Arsenic	1.0	3.3	3.3	MG/KG	
SW6010B/NONE	SE	TS5RS01	N	Copper	2.5	29.8	29.8	MG/KG	
SW6010B/NONE	SE	TS5RS01	N	Lead	1.0	5.6	5.6	MG/KG	
SW6010B/NONE	SE	TS5RS01	N	Zinc	6.0	87.4	87.4	MG/KG	
SW6010B/NONE	SO	TS5US01	N	Arsenic	1.0	0.89 J	0.89 J	MG/KG	TR
SW6010B/NONE	SO	TS5US01	N	Copper	2.5	44.8	44.8	MG/KG	
SW6010B/NONE	SO	TS5US01	N	Lead	1.0	0.91 J	0.91 J	MG/KG	TR
SW6010B/NONE	SO	TS5US01	N	Zinc	6.0	70.2	70.2	MG/KG	

AUTOMATED DATA REVIEW SUMMARY for MY7E62

Rejected Results

AUTOMATED DATA REVIEW SUMMARY for MY7E64

Facility:	Blue Ledge Site
Event:	Focused RI
Guidance Document:	Blue Ledge QAPP
Contract Laboratory:	BONNER ANALYTICAL TESTING COMPANY, HATTIESBURY, MS
Field Contractor:	Not Applicable
Data Review Contractor:	ITSI Walnut Creek
SDG:	MY7E64, Certified - 11/24/201PM by wtse
QC Level:	S2BVE
Project Manager:	Jeff Hess
Data Reviewer:	Kristen Carlyon
Data Reviewer Title:	Senior Chemist
Date of Review Report:	14-Dec-2010

Samples Included in SDG MY7E64

Analytical Method/ Leach Method	Normal Water Samples	Field QC Water Samples
SW6020/NONE	14	1

AUTOMATED DATA REVIEW SUMMARY for MY7E64

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistant with the requirements contained in the Blue Ledge QAPP to the extent possible. Where definitive guidance is not provided, data has been evaluated in a conservative manner using professional judgment. In cases where two qualifiers are listed as an action, such as 'J/UJ', the first qualifier applies to positive results, and the second to non-detect results.

Samples were collected by Not Applicable; analyses were performed by BONNER ANALYTICAL TESTING COMPANY, HATTIESBURY, MS and were reported under sample delivery group (SDG) MY7E64. Results have been evaluated electronically using electronic data deliverables (EDDs) provided by the laboratory. The laboratory data summary forms (hard copy) have been reviewed during this effort and compared to the automated review output. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative.

The following quality control elements were supported by the electronic deliverable and were evaluated during this review effort:

A common laboratory artifact was detected in the sample at a concentartion less than 10X the concentration detected in the associated method blank.

A common laboratory artifact was detected in the sample at a concentartion less than 10X the concentration detected in the associated method blank. (Negative)

Field Duplicate RPD

Lab Replicate RPD

Matrix spike recovery was outside establisted criteria.

Percent recovery of laboratory control sample recovery was outside established limits

Prep Hold Time

Test Hold Time

The following quality control elements were either not applicable to the deliverable, or were not supported by the electronic deliverable, and were therefore not included in the automated data review. Those elements required for the project were reviewed manually, as narrated in the Comment section below.

Ambient Blank

Calibration Blank

Calibration Blank - Negative

AUTOMATED DATA REVIEW SUMMARY for MY7E64

Continuing Calibration Verification percent recovery, percent difference, or percent drift

Detected in the associated equipment rinsate blank.

Detected in the associated field (i.e., ambient) blank.

Detected in the associated trip blank.

Initial Calibration Verification percent recovery, percent difference, or percent drift

Material Blank

MS RPD exceeded established criteria.

Negative Blank

Surrogate recovery out of criteria (upper or lower limit)

AUTOMATED DATA REVIEW SUMMARY for MY7E64

A minimum of ten percent of sample and QC results were manually evaluated for compliance with project specific requirements and consistency with hard copy results. The following summaries were generated during the evaluation of this data set and are included in this report as applicable.

Batch – The analytical batch report is reviewed for completeness and compliance with project specific requirements. Incomplete or non-compliant run sequences are identified and their impact on data quality are discussed in the narrative.

QC Outlier – Results exceeding the evaluation criteria are reviewed for compliance with project requirements and a minimum of ten percent of the non-compliant QC values reported electronically are verified for consistency with hard-copy values.

Qualified Results – Qualified results are evaluated for compliance with project requirements and ten percent of qualified results are verified for consistency with the QC Outliers.

Rejected Results – All rejected results are evaluated for compliance with project requirements. The reason for rejection of the data is verified against hard copy data.

Field Duplicates – Field duplicate comparison results are evaluated for compliance with project requirements and ten percent of values reported are verified for consistency with the hard-copy data.

Data Submission Warnings – Warnings encountered during the data submission process are evaluated and their affect on data quality is discussed in the narrative below.

Analytical deficiencies, project non-compliance issues and inconsistencies with hard copy results observed during ADR evaluation process and their impact on data quality are summarized in the narrative below.

Out of control events experienced by the laboratory have warranted the qualification of 34.74% (33 results) and the rejection of 0.00% (0 results) of the data set. These deficiencies are detailed in the following tables and discussed in the narrative below, where appropriate.

Narrative Comments

Calibrations/ICSA/CRI Wincadre results reviewed and qualifiers added as appropriate.

AUTOMATED DATA REVIEW SUMMARY for MY7E64

14-Dec-2010

Released by Kristen Carlyon, Senior Chemist

Reason and Comment Code Definitions

Reasons	
Code	**Definition**
A	Serial dilution
A1	Ambient Blank
B1	Blank
B2	Calibration Blank
B3	Calibration Blank - Negative
B4	Negative Blank
B5	The analyte was found in blank and sample
C1	Diluted Out
C10	Continuing Calibration Verification RRF
C11	Continuing Calibration Verification
C2	Flag Parent Only
C2S	Flag Parent (Soil); Batch (Water)
C3	No Action
C4	No QC Outliers
C5	One or both values <5x RL
C6	Recalculated Value
C7	Material Blanks
C8	Spike Insignificant
C9	No Flags; set to ND by method/cal. blank
D1	Lab Replicate RPD
D2	MS RPD
D4	No precision available

AUTOMATED DATA REVIEW SUMMARY for MY7E64

Reason and Comment Code Definitions

D5	Field Duplicate RPD
D6	LCS RPD
D7	Field Dup not usable
E	Exceeds LinearCalibration Range
F	Hydrocarbon pattern does not match standard
G	Initial Calibration RRF
G1	Initial Calibration RSD
G2	Initial Calibration Verification
H1	Test Hold Time
H2	Prep Hold Time
I	Internal standard
J	CRA/CRI Recovery
K	An analyte (non-common lab artifact) was detected
K1	Equipment Blank
K2	Field Blank
K3	Trip Blank
L	LCS Recovery
L1	Blank - Negative
M	MS Recovery
N	Blank - No Action
O	Interference check sample
P	Sample preservation/collection requirement not met
P1	Confirmation Column/Detector RPD
P2	Improper preparation/extraction

Reason and Comment Code Definitions

Q1	Material Blank
S	Surrogate
S1	Sample less than 50% solids
T	Receipt Temperature
T2	RSD of lab triplicate out
TI	Tentatively Identified Compound
TR	Trace Level Detect
V	Sample Receipt Condition
W	Column breakdown (pesticides)
X	Raised reporting limit
X1	Unresolved Isomers; no peak separation
Y	Analyte not confirmed on second column
Y1	False Positive
Y2	Sum of species greater than total result
Z	Data rejected due to radiological anomolies
Z1	Data rejected, more valid data available

AUTOMATED DATA REVIEW SUMMARY for MY7E64

Batch Report

Test Method: SW6020; Leach Method: NONE

Analytical Batch	Prep Batch	Leach Batch	Location	Matrix	Field Sample ID	Lab Sample ID	Calibration Ref	Collection Date/Time	Analysis Date/Time	Sample Type
1	NA	NA	LABQC	WQ	LABQC	0110304-BL		04-Nov-2010 12:00:00 AM	15-Nov-2010 9:03:00 PM	LB
	NA	NA	LABQC	WQ	LABQC	0110304-BS		04-Nov-2010 12:00:00 AM	15-Nov-2010 9:07:00 PM	BS
	NA	NA	TS1	WS	TS1SW01	1011025-01		25-Oct-2010 10:05:00 AM	15-Nov-2010 9:11:00 PM	N
	NA	NA	TS2	WS	TS2SW01	1011025-02		25-Oct-2010 1:15:00 PM	15-Nov-2010 9:15:00 PM	N
	NA	NA	TS3	WS	TS3SW01	1011025-03		26-Oct-2010 10:35:00 AM	15-Nov-2010 9:19:00 PM	N
	NA	NA	TS3	WS	TS3SW02	1011025-04		26-Oct-2010 10:45:00 AM	15-Nov-2010 9:23:00 PM	FD
	NA	NA	TS3	WS	TS3SW02	0110304-MS		26-Oct-2010 10:45:00 AM	15-Nov-2010 9:27:00 PM	MS
	NA	NA	TS3	WS	TS3SW02	0110304-DU		26-Oct-2010 10:45:00 AM	15-Nov-2010 9:31:00 PM	LR
	NA	NA	TS4	WS	TS4SW01	1011025-05		26-Oct-2010 1:10:00 PM	15-Nov-2010 9:39:00 PM	N
	NA	NA	TS5	WS	TS5SW01	1011025-06		25-Oct-2010 3:20:00 PM	15-Nov-2010 9:50:00 PM	N
	NA	NA	TS6	WS	TS6SW01	1011025-07		26-Oct-2010 2:33:00 PM	15-Nov-2010 9:54:00 PM	N
	NA	NA	TS7	WS	TS7SW01	1011025-08		26-Oct-2010 3:00:00 PM	15-Nov-2010 9:58:00 PM	N
	NA	NA	TS9	WS	TS9SW01	1011025-10		27-Oct-2010 10:30:00 AM	15-Nov-2010 10:02:00 PM	N
	NA	NA	TS8	WS	TS8SW01	1011025-09		27-Oct-2010 10:00:00 AM	15-Nov-2010 10:06:00 PM	N
	NA	NA	TS10	WS	TS10SW01	1011025-11		27-Oct-2010 11:00:00 AM	15-Nov-2010 10:10:00 PM	N
	NA	NA	TS11	WS	TS11SW01	1011025-12		27-Oct-2010 12:05:00 PM	15-Nov-2010 10:26:00 PM	N
	NA	NA	TS14	WS	TS14SW01	1011025-13		28-Oct-2010 9:50:00 AM	15-Nov-2010 10:30:00 PM	N
	NA	NA	TS15	WS	TS15SW01	1011025-14		28-Oct-2010 11:05:00 AM	15-Nov-2010 10:34:00 PM	N

AUTOMATED DATA REVIEW SUMMARY for MY7E64

Batch Report

1	NA	NA	TS17	WS	TS17SW01	1011025-15	28-Oct-2010 2:50:00 PM	15-Nov-2010 10:38:00 PM	N

AUTOMATED DATA REVIEW SUMMARY for MY7E64

QC Outlier Report

Test/Prep	QC Element	Sample ID	Dil'n	Analyte	Result	Units	Qualifier	Warning Limits	Control Limits	Reason	Comment
SW6020 / SW3020A	Blank	0110304-BL (LB)	1.00	Arsenic	0.14	UG/L	U//	< 0.063	< 1	B1	
SW6020 / SW3020A	Blank	0110304-BL (LB)	1.00	Cadmium	0.0080	UG/L	U//	< 0.007	< 1	B1	
SW6020 / SW3020A	Blank	0110304-BL (LB)	1.00	Lead	0.024	UG/L	U//	< 0.018	< 1	B1	
SW6020 / SW3020A	Lab Replicate RPD	0110304-DU (LR)	1.00	Arsenic	200	RPD	J/UJ	< 20	< 40	D1	
SW6020 / SW3020A	Lab Replicate RPD	0110304-DU (LR)	1.00	Cadmium	200	RPD	J/UJ	< 20	< 40	D1	
SW6020 / SW3020A	Lab Replicate RPD	0110304-DU (LR)	1.00	Lead	200	RPD	J/UJ	< 20	< 40	D1	

AUTOMATED DATA REVIEW SUMMARY for MY7E64

Qualified Results

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW6020/NONE	WS	TS10SW01	N	Arsenic	1.0	1.0 J	1.0 U	UG/L	B1/B2
SW6020/NONE	WS	TS10SW01	N	Cadmium	1.0	1.0 U	1.0 U	UG/L	B1
SW6020/NONE	WS	TS10SW01	N	Copper	2.0	0.56 J	0.56 J	UG/L	TR
SW6020/NONE	WS	TS10SW01	N	Lead	1.0	1.0 U	1.0 U	UG/L	B1/B2
SW6020/NONE	WS	TS10SW01	N	Zinc	2.0	0.85 J	0.85 J	UG/L	TR
SW6020/NONE	WS	TS11SW01	N	Arsenic	1.0	1.0 J	1.0 U	UG/L	B1/B2
SW6020/NONE	WS	TS11SW01	N	Cadmium	0.012	0.012 J	0.012 U	UG/L	B1
SW6020/NONE	WS	TS11SW01	N	Lead	1.0	1.0 J	1.0 U	UG/L	B1/B2
SW6020/NONE	WS	TS11SW01	N	Zinc	2.0	1.9 J	1.9 J	UG/L	TR
SW6020/NONE	WS	TS14SW01	N	Arsenic	1.0	1.0 J	1.0 U	UG/L	B1/B2
SW6020/NONE	WS	TS14SW01	N	Cadmium	0.014	0.014 J	0.014 U	UG/L	B1
SW6020/NONE	WS	TS14SW01	N	Lead	0.060	0.060 J	0.060 U	UG/L	B1
SW6020/NONE	WS	TS1SW01	N	Arsenic	0.79	0.79 J	0.79 U	UG/L	B1
SW6020/NONE	WS	TS2SW01	N	Arsenic	0.76	0.76 J	0.76 U	UG/L	B1
SW6020/NONE	WS	TS3SW01	N	Arsenic	0.59	0.59 J	0.59 U	UG/L	B1
SW6020/NONE	WS	TS3SW01	N	Cadmium	0.68	0.68 J	0.68 U	UG/L	B1
SW6020/NONE	WS	TS3SW01	N	Lead	0.36	0.36 J	0.36 U	UG/L	B1
SW6020/NONE	WS	TS3SW02	FD	Arsenic	1.0	1.0 J	1.0 U	UG/L	B1/B2
SW6020/NONE	WS	TS3SW02	FD	Cadmium	0.68	0.68 J	0.68 U	UG/L	B1
SW6020/NONE	WS	TS3SW02	FD	Lead	0.39	0.39 J	0.39 U	UG/L	B1
SW6020/NONE	WS	TS4SW01	N	Arsenic	0.58	0.58 J	0.58 U	UG/L	B1
SW6020/NONE	WS	TS4SW01	N	Cadmium	0.63	0.63 J	0.63 U	UG/L	B1
SW6020/NONE	WS	TS4SW01	N	Lead	0.33	0.33 J	0.33 U	UG/L	B1

AUTOMATED DATA REVIEW SUMMARY for MY7E64

Qualified Results

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW6020/NONE	WS	TS5SW01	N	Arsenic	1.0	1.0 J	1.0 U	UG/L	B1/B2
SW6020/NONE	WS	TS5SW01	N	Cadmium	0.0089	0.0089 J	0.0089 U	UG/L	B1/B2
SW6020/NONE	WS	TS5SW01	N	Copper	2.0	0.70 J	0.70 J	UG/L	TR
SW6020/NONE	WS	TS5SW01	N	Lead	0.044	0.044 J	0.044 U	UG/L	B1
SW6020/NONE	WS	TS5SW01	N	Zinc	2.0	1.8 J	1.8 J	UG/L	TR
SW6020/NONE	WS	TS6SW01	N	Arsenic	1.0	1.0 J	1.0 U	UG/L	B1/B2
SW6020/NONE	WS	TS7SW01	N	Arsenic	1.0	1.0 J	1.0 U	UG/L	B1/B2
SW6020/NONE	WS	TS7SW01	N	Cadmium	0.0096	0.0096 J	0.0096 U	UG/L	B1
SW6020/NONE	WS	TS7SW01	N	Copper	2.0	0.58 J	0.58 J	UG/L	TR
SW6020/NONE	WS	TS7SW01	N	Lead	1.0	1.0 U	1.0 U	UG/L	B1
SW6020/NONE	WS	TS8SW01	N	Arsenic	1.0	1.0 J	1.0 U	UG/L	B1/B2
SW6020/NONE	WS	TS8SW01	N	Cadmium	0.54	0.54 J	0.54 U	UG/L	B1
SW6020/NONE	WS	TS8SW01	N	Lead	0.37	0.37 J	0.37 U	UG/L	B1
SW6020/NONE	WS	TS9SW01	N	Arsenic	1.0	1.0 J	1.0 U	UG/L	B1/B2
SW6020/NONE	WS	TS9SW01	N	Cadmium	0.40	0.40 J	0.40 U	UG/L	B1
SW6020/NONE	WS	TS9SW01	N	Lead	0.81	0.81 J	0.81 U	UG/L	B1

AUTOMATED DATA REVIEW SUMMARY for MY7E64

Detected Results

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW6020/NONE	WS	TS10SW01	N	Copper	2.0	0.56 J	0.56 J	UG/L	TR
SW6020/NONE	WS	TS10SW01	N	Zinc	2.0	0.85 J	0.85 J	UG/L	TR
SW6020/NONE	WS	TS11SW01	N	Zinc	2.0	1.9 J	1.9 J	UG/L	TR
SW6020/NONE	WS	TS14SW01	N	Copper	2.0	2.7	2.7	UG/L	
SW6020/NONE	WS	TS14SW01	N	Zinc	2.0	2.1	2.1	UG/L	
SW6020/NONE	WS	TS15SW01	N	Arsenic	1.0	55.1	55.1	UG/L	
SW6020/NONE	WS	TS15SW01	N	Cadmium	1.0	31.1	31.1	UG/L	
SW6020/NONE	WS	TS15SW01	N	Copper	2.0	3700	3700	UG/L	
SW6020/NONE	WS	TS15SW01	N	Lead	1.0	443	443	UG/L	
SW6020/NONE	WS	TS15SW01	N	Zinc	2.0	4250	4250	UG/L	
SW6020/NONE	WS	TS17SW01	N	Arsenic	1.0	2.4	2.4	UG/L	
SW6020/NONE	WS	TS17SW01	N	Cadmium	1.0	1.1	1.1	UG/L	
SW6020/NONE	WS	TS17SW01	N	Copper	2.0	149	149	UG/L	
SW6020/NONE	WS	TS17SW01	N	Lead	1.0	23.8	23.8	UG/L	
SW6020/NONE	WS	TS17SW01	N	Zinc	2.0	151	151	UG/L	
SW6020/NONE	WS	TS1SW01	N	Cadmium	1.0	1.1	1.1	UG/L	
SW6020/NONE	WS	TS1SW01	N	Copper	2.0	87.3	87.3	UG/L	
SW6020/NONE	WS	TS1SW01	N	Lead	1.0	1.8	1.8	UG/L	
SW6020/NONE	WS	TS1SW01	N	Zinc	2.0	167	167	UG/L	
SW6020/NONE	WS	TS2SW01	N	Cadmium	1.0	1.1	1.1	UG/L	
SW6020/NONE	WS	TS2SW01	N	Copper	2.0	87.0	87.0	UG/L	
SW6020/NONE	WS	TS2SW01	N	Lead	1.0	1.4	1.4	UG/L	

AUTOMATED DATA REVIEW SUMMARY for MY7E64

Detected Results

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW6020/NONE	WS	TS2SW01	N	Zinc	2.0	167	167	UG/L	
SW6020/NONE	WS	TS3SW01	N	Copper	2.0	48.6	48.6	UG/L	
SW6020/NONE	WS	TS3SW01	N	Zinc	2.0	101	101	UG/L	
SW6020/NONE	WS	TS3SW02	FD	Copper	2.0	49.1	49.1	UG/L	
SW6020/NONE	WS	TS3SW02	FD	Zinc	2.0	102	102	UG/L	
SW6020/NONE	WS	TS4SW01	N	Copper	2.0	45.6	45.6	UG/L	
SW6020/NONE	WS	TS4SW01	N	Zinc	2.0	95.0	95.0	UG/L	
SW6020/NONE	WS	TS5SW01	N	Copper	2.0	0.70 J	0.70 J	UG/L	TR
SW6020/NONE	WS	TS5SW01	N	Zinc	2.0	1.8 J	1.8 J	UG/L	TR
SW6020/NONE	WS	TS6SW01	N	Cadmium	1.0	7.3	7.3	UG/L	
SW6020/NONE	WS	TS6SW01	N	Copper	2.0	527	527	UG/L	
SW6020/NONE	WS	TS6SW01	N	Lead	1.0	3.3	3.3	UG/L	
SW6020/NONE	WS	TS6SW01	N	Zinc	2.0	1120	1120	UG/L	
SW6020/NONE	WS	TS7SW01	N	Copper	2.0	0.58 J	0.58 J	UG/L	TR
SW6020/NONE	WS	TS7SW01	N	Zinc	2.0	2.3	2.3	UG/L	
SW6020/NONE	WS	TS8SW01	N	Copper	2.0	34.5	34.5	UG/L	
SW6020/NONE	WS	TS8SW01	N	Zinc	2.0	80.3	80.3	UG/L	
SW6020/NONE	WS	TS9SW01	N	Copper	2.0	28.0	28.0	UG/L	
SW6020/NONE	WS	TS9SW01	N	Zinc	2.0	57.9	57.9	UG/L	

AUTOMATED DATA REVIEW SUMMARY for MY7E64

Rejected Results

AUTOMATED DATA REVIEW SUMMARY for MY7E86

Facility:	Blue Ledge Site
Event:	Focused RI
Guidance Document:	Blue Ledge QAPP
Contract Laboratory:	BONNER ANALYTICAL TESTING COMPANY, HATTIESBURY, MS
Field Contractor:	Not Applicable
Data Review Contractor:	ITSI Walnut Creek
SDG:	MY7E86, Certified - 12/13/201PM by wtse
QC Level:	S2BVE
Project Manager:	Jeff Hess
Data Reviewer:	Kristen Carlyon
Data Reviewer Title:	Senior Chemist
Date of Review Report:	14-Dec-2010

Samples Included in SDG MY7E86

Analytical Method/ Leach Method	Normal Soil Samples	Field QC Soil Samples
SW6010B/NONE	12	0
SW7471A/NONE	12	0

AUTOMATED DATA REVIEW SUMMARY for MY7E86

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistant with the requirements contained in the Blue Ledge QAPP to the extent possible. Where definitive guidance is not provided, data has been evaluated in a conservative manner using professional judgment. In cases where two qualifiers are listed as an action, such as 'J/UJ', the first qualifier applies to positive results, and the second to non-detect results.

Samples were collected by Innovative Technical Solutions, Inc., Walnut Creek, CA; analyses were performed by BONNER ANALYTICAL TESTING COMPANY, HATTIESBURY, MS and were reported under sample delivery group (SDG) MY7E86. Results have been evaluated electronically using electronic data deliverables (EDDs) provided by the laboratory. The laboratory data summary forms (hard copy) have been reviewed during this effort and compared to the automated review output. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative.

The following quality control elements were supported by the electronic deliverable and were evaluated during this review effort:

- A common laboratory artifact was detected in the sample at a concentartion less than 10X the concentration detected in the associated method blank.
- A common laboratory artifact was detected in the sample at a concentartion less than 10X the concentration detected in the associated method blank. (Negative)
- Lab Replicate RPD
- Matrix spike recovery was outside establisted criteria.
- Percent recovery of laboratory control sample recovery was outside established limits
- Prep Hold Time
- Test Hold Time

The following quality control elements were either not applicable to the deliverable, or were not supported by the electronic deliverable, and were therefore not included in the automated data review. Those elements required for the project were reviewed manually, as narrated in the Comment section below.

- Ambient Blank
- Calibration Blank
- Calibration Blank - Negative
- Continuing Calibration Verification percent recovery, percent difference, or percent drift

AUTOMATED DATA REVIEW SUMMARY for MY7E86

Detected in the associated equipment rinsate blank.

Detected in the associated field (i.e., ambient) blank.

Detected in the associated trip blank.

Field Duplicate RPD

Initial Calibration Verification percent recovery, percent difference, or percent drift

Material Blank

MS RPD exceeded established criteria.

Negative Blank

Surrogate recovery out of criteria (upper or lower limit)

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A minimum of ten percent of sample and QC results were manually evaluated for compliance with project specific requirements and consistency with hard copy results. The following summaries were generated during the evaluation of this data set and are included in this report as applicable.

Batch – The analytical batch report is reviewed for completeness and compliance with project specific requirements. Incomplete or non-compliant run sequences are identified and their impact on data quality are discussed in the narrative.

QC Outlier – Results exceeding the evaluation criteria are reviewed for compliance with project requirements and a minimum of ten percent of the non-compliant QC values reported electronically are verified for consistency with hard-copy values.

Qualified Results – Qualified results are evaluated for compliance with project requirements and ten percent of qualified results are verified for consistency with the QC Outliers.

Rejected Results – All rejected results are evaluated for compliance with project requirements. The reason for rejection of the data is verified against hard copy data.

Field Duplicates – Field duplicate comparison results are evaluated for compliance with project requirements and ten percent of values reported are verified for consistency with the hard-copy data.

Data Submission Warnings – Warnings encountered during the data submission process are evaluated and their affect on data quality is discussed in the narrative below.

Analytical deficiencies, project non-compliance issues and inconsistencies with hard copy results observed during ADR evaluation process and their impact on data quality are summarized in the narrative below.

Out of control events experienced by the laboratory have warranted the qualification of 87.50% (98 results) and the rejection of 0.00% (0 results) of the data set. These deficiencies are detailed in the following tables and discussed in the narrative below, where appropriate.

Narrative Comments

Calibrations/ICSA/CRI Wincadre results reviewed and qualifiers added as appropriate.

AUTOMATED DATA REVIEW SUMMARY for MY7E86

14-Dec-2010

Released by Kristen Carlyon, Senior Chemist

Reason and Comment Code Definitions

Reasons	
Code	**Definition**
A	Serial dilution
A1	Ambient Blank
B1	Blank
B2	Calibration Blank
B3	Calibration Blank - Negative
B4	Negative Blank
B5	The analyte was found in blank and sample
C1	Diluted Out
C10	Continuing Calibration Verification RRF
C11	Continuing Calibration Verification
C2	Flag Parent Only
C2S	Flag Parent (Soil); Batch (Water)
C3	No Action
C4	No QC Outliers
C5	One or both values <5x RL
C6	Recalculated Value
C7	Material Blanks
C8	Spike Insignificant
C9	No Flags; set to ND by method/cal. blank
D1	Lab Replicate RPD
D2	MS RPD
D4	No precision available

AUTOMATED DATA REVIEW SUMMARY for MY7E86

Reason and Comment Code Definitions

D5	Field Duplicate RPD
D6	LCS RPD
D7	Field Dup not usable
E	Exceeds LinearCalibration Range
F	Hydrocarbon pattern does not match standard
G	Initial Calibration RRF
G1	Initial Calibration RSD
G2	Initial Calibration Verification
H1	Test Hold Time
H2	Prep Hold Time
I	Internal standard
J	CRA/CRI Recovery
K	An analyte (non-common lab artifact) was detected
K1	Equipment Blank
K2	Field Blank
K3	Trip Blank
L	LCS Recovery
L1	Blank - Negative
M	MS Recovery
N	Blank - No Action
O	Interference check sample
P	Sample preservation/collection requirement not met
P1	Confirmation Column/Detector RPD
P2	Improper preparation/extraction

AUTOMATED DATA REVIEW SUMMARY for MY7E86

Reason and Comment Code Definitions

Q1	Material Blank
S	Surrogate
S1	Sample less than 50% solids
T	Receipt Temperature
T2	RSD of lab triplicate out
TI	Tentatively Identified Compound
TR	Trace Level Detect
V	Sample Receipt Condition
W	Column breakdown (pesticides)
X	Raised reporting limit
X1	Unresolved Isomers; no peak separation
Y	Analyte not confirmed on second column
Y1	False Positive
Y2	Sum of species greater than total result
Z	Data rejected due to radiological anomolies
Z1	Data rejected, more valid data available

AUTOMATED DATA REVIEW SUMMARY for MY7E86

Batch Report

Test Method: SW6010B; Leach Method: NONE

Analytical Batch	Prep Batch	Leach Batch	Location	Matrix	Field Sample ID	Lab Sample ID	Calibration Ref	Collection Date/Time	Analysis Date/Time	Sample Type
2	NA	NA	LABQC	SQ	LABQC	0120210-BL		02-Dec-2010 12:00:00 AM	03-Dec-2010 12:05:00 PM	LB
	NA	NA	LABQC	SQ	LABQC	0120210-BS		02-Dec-2010 12:00:00 AM	03-Dec-2010 12:09:00 PM	BS
	NA	NA	TS7	SE	TS7RS01	1012036-01		26-Oct-2010 3:10:00 PM	03-Dec-2010 12:12:00 PM	N
	NA	NA	TS7	SO	TS7US01	1012036-02		26-Oct-2010 3:15:00 PM	03-Dec-2010 12:16:00 PM	N
	NA	NA	TS7	SO	TS7US01	0120210-MS		26-Oct-2010 3:15:00 PM	03-Dec-2010 12:19:00 PM	MS
	NA	NA	TS7	SO	TS7US01	0120210-DU		26-Oct-2010 3:15:00 PM	03-Dec-2010 12:22:00 PM	LR
	NA	NA	TS4	SO	TS4US01	1012036-03		26-Oct-2010 1:25:00 PM	03-Dec-2010 12:29:00 PM	N
	NA	NA	TS8	SE	TS8SE01	1012036-04		27-Oct-2010 10:05:00 AM	03-Dec-2010 12:33:00 PM	N
	NA	NA	TS8	SE	TS8RS01	1012036-05		27-Oct-2010 10:10:00 AM	03-Dec-2010 12:36:00 PM	N
	NA	NA	TS11	SE	TS11SE01	1012036-06		27-Oct-2010 12:15:00 PM	03-Dec-2010 12:47:00 PM	N
	NA	NA	TS11	SE	TS11RS01	1012036-07		27-Oct-2010 12:10:00 PM	03-Dec-2010 12:50:00 PM	N
	NA	NA	TS15	SE	TS15SE01	1012036-08		28-Oct-2010 11:10:00 AM	03-Dec-2010 12:53:00 PM	N
	NA	NA	TS16	SE	TS16SE01A	1012036-09		28-Oct-2010 2:30:00 PM	03-Dec-2010 12:57:00 PM	N
	NA	NA	TS16	SE	TS16SE01B	1012036-10		28-Oct-2010 2:35:00 PM	03-Dec-2010 1:00:00 PM	N
	NA	NA	TS17	SE	TS17SE01A	1012036-11		28-Oct-2010 3:00:00 PM	03-Dec-2010 1:04:00 PM	N
	NA	NA	TS17	SE	TS17SE01B	1012036-12		28-Oct-2010 3:05:00 PM	03-Dec-2010 1:07:00 PM	N

AUTOMATED DATA REVIEW SUMMARY for MY7E86

Batch Report

Test Method: SW7471A; Leach Method: NONE

Analytical Batch	Prep Batch	Leach Batch	Location	Matrix	Field Sample ID	Lab Sample ID	Calibration Ref	Collection Date/Time	Analysis Date/Time	Sample Type
1	NA	NA	LABQC	SQ	LABQC	0120216-BL		02-Dec-2010 12:00:00 AM	03-Dec-2010 9:03:00 AM	LB
	NA	NA	LABQC	SQ	LABQC	0120216-BS		02-Dec-2010 12:00:00 AM	03-Dec-2010 9:05:00 AM	BS
	NA	NA	TS7	SE	TS7RS01	1012036-01		26-Oct-2010 3:10:00 PM	03-Dec-2010 9:07:00 AM	N
	NA	NA	TS7	SO	TS7US01	1012036-02		26-Oct-2010 3:15:00 PM	03-Dec-2010 9:09:00 AM	N
	NA	NA	TS7	SO	TS7US01	0120216-DU		26-Oct-2010 3:15:00 PM	03-Dec-2010 9:12:00 AM	LR
	NA	NA	TS7	SO	TS7US01	0120216-MS		26-Oct-2010 3:15:00 PM	03-Dec-2010 9:14:00 AM	MS
	NA	NA	TS4	SO	TS4US01	1012036-03		26-Oct-2010 1:25:00 PM	03-Dec-2010 9:16:00 AM	N
	NA	NA	TS8	SE	TS8SE01	1012036-04		27-Oct-2010 10:05:00 AM	03-Dec-2010 9:18:00 AM	N
	NA	NA	TS8	SE	TS8RS01	1012036-05		27-Oct-2010 10:10:00 AM	03-Dec-2010 9:20:00 AM	N
	NA	NA	TS11	SE	TS11SE01	1012036-06		27-Oct-2010 12:15:00 PM	03-Dec-2010 9:24:00 AM	N
	NA	NA	TS11	SE	TS11RS01	1012036-07		27-Oct-2010 12:10:00 PM	03-Dec-2010 9:30:00 AM	N
	NA	NA	TS15	SE	TS15SE01	1012036-08		28-Oct-2010 11:10:00 AM	03-Dec-2010 9:32:00 AM	N
	NA	NA	TS16	SE	TS16SE01A	1012036-09		28-Oct-2010 2:30:00 PM	03-Dec-2010 9:34:00 AM	N
	NA	NA	TS16	SE	TS16SE01B	1012036-10		28-Oct-2010 2:35:00 PM	03-Dec-2010 9:36:00 AM	N
	NA	NA	TS17	SE	TS17SE01A	1012036-11		28-Oct-2010 3:00:00 PM	03-Dec-2010 9:38:00 AM	N
	NA	NA	TS17	SE	TS17SE01B	1012036-12		28-Oct-2010 3:05:00 PM	03-Dec-2010 9:41:00 AM	N

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QC Outlier Report

Test/Prep	QC Element	Sample ID	Dil'n	Analyte	Result	Units	Qualifier	Warning Limits	Control Limits	Reason	Comment

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Qualified Results

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW6010B/NONE	SE	TS11RS01	N	Arsenic	1.0	2.6	2.6 J	MG/KG	L
SW6010B/NONE	SE	TS11RS01	N	Cadmium	0.50	1.6	1.6 J	MG/KG	L
SW6010B/NONE	SE	TS11RS01	N	Copper	2.5	33.4	33.4 J	MG/KG	L
SW6010B/NONE	SE	TS11RS01	N	Iron	10.0	15900	15900 J	MG/KG	L
SW6010B/NONE	SE	TS11RS01	N	Lead	1.0	3.8	3.8 J	MG/KG	L
SW6010B/NONE	SE	TS11RS01	N	Zinc	6.0	40.1	40.1 J	MG/KG	L
SW6010B/NONE	SE	TS11SE01	N	Arsenic	1.0	3.4	3.4 J	MG/KG	L
SW6010B/NONE	SE	TS11SE01	N	Cadmium	0.50	1.8	1.8 J	MG/KG	L
SW6010B/NONE	SE	TS11SE01	N	Copper	2.5	25.1	25.1 J	MG/KG	L
SW6010B/NONE	SE	TS11SE01	N	Iron	10.0	17800	17800 J	MG/KG	L
SW6010B/NONE	SE	TS11SE01	N	Lead	1.0	4.1	4.1 J	MG/KG	L
SW6010B/NONE	SE	TS11SE01	N	Zinc	6.0	48.3	48.3 J	MG/KG	L
SW6010B/NONE	SE	TS15SE01	N	Arsenic	1.0	44.6	44.6 J	MG/KG	L
SW6010B/NONE	SE	TS15SE01	N	Cadmium	0.50	14.5	14.5 J	MG/KG	L
SW6010B/NONE	SE	TS15SE01	N	Copper	2.5	3340	3340 J	MG/KG	L
SW6010B/NONE	SE	TS15SE01	N	Iron	10.0	42700	42700 J	MG/KG	L
SW6010B/NONE	SE	TS15SE01	N	Lead	1.0	184	184 J	MG/KG	L
SW6010B/NONE	SE	TS15SE01	N	Zinc	6.0	1680	1680 J	MG/KG	L
SW6010B/NONE	SE	TS16SE01A	N	Arsenic	1.0	2.7	2.7 J	MG/KG	L
SW6010B/NONE	SE	TS16SE01A	N	Cadmium	0.50	1.8	1.8 J	MG/KG	L
SW6010B/NONE	SE	TS16SE01A	N	Copper	2.5	75.4	75.4 J	MG/KG	L
SW6010B/NONE	SE	TS16SE01A	N	Iron	10.0	16900	16900 J	MG/KG	L
SW6010B/NONE	SE	TS16SE01A	N	Lead	1.0	4.3	4.3 J	MG/KG	L

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Qualified Results

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW6010B/NONE	SE	TS16SE01A	N	Zinc	6.0	75.3	75.3 J	MG/KG	L
SW6010B/NONE	SE	TS16SE01B	N	Arsenic	1.0	2.7	2.7 J	MG/KG	L
SW6010B/NONE	SE	TS16SE01B	N	Cadmium	0.50	1.6	1.6 J	MG/KG	L
SW6010B/NONE	SE	TS16SE01B	N	Copper	2.5	32.4	32.4 J	MG/KG	L
SW6010B/NONE	SE	TS16SE01B	N	Iron	10.0	14900	14900 J	MG/KG	L
SW6010B/NONE	SE	TS16SE01B	N	Lead	1.0	3.3	3.3 J	MG/KG	L
SW6010B/NONE	SE	TS16SE01B	N	Zinc	6.0	43.7	43.7 J	MG/KG	L
SW6010B/NONE	SE	TS17SE01A	N	Arsenic	1.0	2.9	2.9 J	MG/KG	L
SW6010B/NONE	SE	TS17SE01A	N	Cadmium	0.50	2.3	2.3 J	MG/KG	L
SW6010B/NONE	SE	TS17SE01A	N	Copper	2.5	66.6	66.6 J	MG/KG	L
SW6010B/NONE	SE	TS17SE01A	N	Iron	10.0	21500	21500 J	MG/KG	L
SW6010B/NONE	SE	TS17SE01A	N	Lead	1.0	5.6	5.6 J	MG/KG	L
SW6010B/NONE	SE	TS17SE01A	N	Zinc	6.0	74.4	74.4 J	MG/KG	L
SW6010B/NONE	SE	TS17SE01B	N	Arsenic	1.0	1.5	1.5 J	MG/KG	L
SW6010B/NONE	SE	TS17SE01B	N	Cadmium	0.50	1.4	1.4 J	MG/KG	L
SW6010B/NONE	SE	TS17SE01B	N	Copper	2.5	39.9	39.9 J	MG/KG	L
SW6010B/NONE	SE	TS17SE01B	N	Iron	10.0	13500	13500 J	MG/KG	L
SW6010B/NONE	SE	TS17SE01B	N	Lead	1.0	2.9	2.9 J	MG/KG	L
SW6010B/NONE	SE	TS17SE01B	N	Zinc	6.0	36.1	36.1 J	MG/KG	L
SW6010B/NONE	SO	TS4US01	N	Arsenic	1.2	1.2 U	1.2 UJ	MG/KG	L1/L
SW6010B/NONE	SO	TS4US01	N	Cadmium	0.50	3.9	3.9 J	MG/KG	L
SW6010B/NONE	SO	TS4US01	N	Copper	2.5	41.7	41.7 J	MG/KG	L
SW6010B/NONE	SO	TS4US01	N	Iron	10.0	39000	39000 J	MG/KG	L

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Qualified Results

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW6010B/NONE	SO	TS4US01	N	Lead	1.0	1.9	1.9 J	MG/KG	L
SW6010B/NONE	SO	TS4US01	N	Zinc	6.0	67.0	67.0 J	MG/KG	L
SW6010B/NONE	SE	TS7RS01	N	Arsenic	1.0	4.4	4.4 J	MG/KG	L
SW6010B/NONE	SE	TS7RS01	N	Cadmium	0.50	1.8	1.8 J	MG/KG	L
SW6010B/NONE	SE	TS7RS01	N	Copper	2.5	29.8	29.8 J	MG/KG	L
SW6010B/NONE	SE	TS7RS01	N	Iron	10.0	18100	18100 J	MG/KG	L
SW6010B/NONE	SE	TS7RS01	N	Lead	1.0	6.0	6.0 J	MG/KG	L
SW6010B/NONE	SE	TS7RS01	N	Zinc	6.0	64.0	64.0 J	MG/KG	L
SW6010B/NONE	SO	TS7US01	N	Arsenic	1.0	2.6	2.6 J	MG/KG	L/M
SW6010B/NONE	SO	TS7US01	N	Cadmium	0.50	1.6	1.6 J	MG/KG	L/M
SW6010B/NONE	SO	TS7US01	N	Copper	2.5	26.5	26.5 J	MG/KG	L/M
SW6010B/NONE	SO	TS7US01	N	Iron	10.0	16100	16100 J	MG/KG	L/M
SW6010B/NONE	SO	TS7US01	N	Lead	1.0	3.5	3.5 J	MG/KG	L/M
SW6010B/NONE	SO	TS7US01	N	Zinc	6.0	43.6	43.6 J	MG/KG	L/M
SW6010B/NONE	SE	TS8RS01	N	Arsenic	1.0	2.7	2.7 J	MG/KG	L
SW6010B/NONE	SE	TS8RS01	N	Cadmium	0.50	1.5	1.5 J	MG/KG	L
SW6010B/NONE	SE	TS8RS01	N	Copper	2.5	79.1	79.1 J	MG/KG	L
SW6010B/NONE	SE	TS8RS01	N	Iron	10.0	14100	14100 J	MG/KG	L
SW6010B/NONE	SE	TS8RS01	N	Lead	1.0	4.0	4.0 J	MG/KG	L
SW6010B/NONE	SE	TS8RS01	N	Zinc	6.0	53.2	53.2 J	MG/KG	L
SW6010B/NONE	SE	TS8SE01	N	Arsenic	1.0	8.1	8.1 J	MG/KG	L
SW6010B/NONE	SE	TS8SE01	N	Cadmium	0.50	2.3	2.3 J	MG/KG	L
SW6010B/NONE	SE	TS8SE01	N	Copper	2.5	71.4	71.4 J	MG/KG	L

AUTOMATED DATA REVIEW SUMMARY for MY7E86

Qualified Results

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW6010B/NONE	SE	TS8SE01	N	Iron	10.0	18900	18900 J	MG/KG	L
SW6010B/NONE	SE	TS8SE01	N	Lead	1.0	9.0	9.0 J	MG/KG	L
SW6010B/NONE	SE	TS8SE01	N	Zinc	6.0	135	135 J	MG/KG	L

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW7471A/NONE	SE	TS11RS01	N	Mercury	0.10	0.092 J	0.092 J	MG/KG	H1/TR
SW7471A/NONE	SE	TS11SE01	N	Mercury	0.10	0.082 J	0.082 J	MG/KG	H1/TR
SW7471A/NONE	SE	TS15SE01	N	Mercury	0.10	1.2	1.2 J	MG/KG	H1
SW7471A/NONE	SE	TS16SE01A	N	Mercury	0.10	0.11 J	0.11 J	MG/KG	H1
SW7471A/NONE	SE	TS16SE01B	N	Mercury	0.10	0.060 J	0.060 J	MG/KG	H1/TR
SW7471A/NONE	SE	TS17SE01A	N	Mercury	0.10	0.13 J	0.13 J	MG/KG	H1
SW7471A/NONE	SE	TS17SE01B	N	Mercury	0.11	0.11 U	0.11 UJ	MG/KG	H1
SW7471A/NONE	SO	TS4US01	N	Mercury	0.12	0.12 U	0.12 UJ	MG/KG	H1
SW7471A/NONE	SE	TS7RS01	N	Mercury	0.10	0.46	0.46 J	MG/KG	H1
SW7471A/NONE	SO	TS7US01	N	Mercury	0.11	0.11 U	0.11 UJ	MG/KG	H1
SW7471A/NONE	SE	TS8RS01	N	Mercury	0.10	0.22	0.22 J	MG/KG	H1
SW7471A/NONE	SE	TS8SE01	N	Mercury	0.10	0.12 J	0.12 J	MG/KG	H1

AUTOMATED DATA REVIEW SUMMARY for MY7E86

Detected Results

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW7471A/NONE	SE	TS11RS01	N	Mercury	0.10	0.092 J	0.092 J	MG/KG	H1/TR
SW7471A/NONE	SE	TS11SE01	N	Mercury	0.10	0.082 J	0.082 J	MG/KG	H1/TR
SW7471A/NONE	SE	TS15SE01	N	Mercury	0.10	1.2	1.2 J	MG/KG	H1
SW7471A/NONE	SE	TS16SE01A	N	Mercury	0.10	0.11 J	0.11 J	MG/KG	H1
SW7471A/NONE	SE	TS16SE01B	N	Mercury	0.10	0.060 J	0.060 J	MG/KG	H1/TR
SW7471A/NONE	SE	TS17SE01A	N	Mercury	0.10	0.13 J	0.13 J	MG/KG	H1
SW7471A/NONE	SE	TS7RS01	N	Mercury	0.10	0.46	0.46 J	MG/KG	H1
SW7471A/NONE	SE	TS8RS01	N	Mercury	0.10	0.22	0.22 J	MG/KG	H1
SW7471A/NONE	SE	TS8SE01	N	Mercury	0.10	0.12 J	0.12 J	MG/KG	H1

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW6010B/NONE	SE	TS11RS01	N	Arsenic	1.0	2.6	2.6 J	MG/KG	L
SW6010B/NONE	SE	TS11RS01	N	Cadmium	0.50	1.6	1.6 J	MG/KG	L
SW6010B/NONE	SE	TS11RS01	N	Copper	2.5	33.4	33.4 J	MG/KG	L
SW6010B/NONE	SE	TS11RS01	N	Iron	10.0	15900	15900 J	MG/KG	L
SW6010B/NONE	SE	TS11RS01	N	Lead	1.0	3.8	3.8 J	MG/KG	L
SW6010B/NONE	SE	TS11RS01	N	Zinc	6.0	40.1	40.1 J	MG/KG	L
SW6010B/NONE	SE	TS11SE01	N	Arsenic	1.0	3.4	3.4 J	MG/KG	L
SW6010B/NONE	SE	TS11SE01	N	Cadmium	0.50	1.8	1.8 J	MG/KG	L
SW6010B/NONE	SE	TS11SE01	N	Copper	2.5	25.1	25.1 J	MG/KG	L
SW6010B/NONE	SE	TS11SE01	N	Iron	10.0	17800	17800 J	MG/KG	L
SW6010B/NONE	SE	TS11SE01	N	Lead	1.0	4.1	4.1 J	MG/KG	L

AUTOMATED DATA REVIEW SUMMARY for MY7E86

Detected Results

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW6010B/NONE	SE	TS11SE01	N	Zinc	6.0	48.3	48.3 J	MG/KG	L
SW6010B/NONE	SE	TS15SE01	N	Arsenic	1.0	44.6	44.6 J	MG/KG	L
SW6010B/NONE	SE	TS15SE01	N	Cadmium	0.50	14.5	14.5 J	MG/KG	L
SW6010B/NONE	SE	TS15SE01	N	Copper	2.5	3340	3340 J	MG/KG	L
SW6010B/NONE	SE	TS15SE01	N	Iron	10.0	42700	42700 J	MG/KG	L
SW6010B/NONE	SE	TS15SE01	N	Lead	1.0	184	184 J	MG/KG	L
SW6010B/NONE	SE	TS15SE01	N	Zinc	6.0	1680	1680 J	MG/KG	L
SW6010B/NONE	SE	TS16SE01A	N	Arsenic	1.0	2.7	2.7 J	MG/KG	L
SW6010B/NONE	SE	TS16SE01A	N	Cadmium	0.50	1.8	1.8 J	MG/KG	L
SW6010B/NONE	SE	TS16SE01A	N	Copper	2.5	75.4	75.4 J	MG/KG	L
SW6010B/NONE	SE	TS16SE01A	N	Iron	10.0	16900	16900 J	MG/KG	L
SW6010B/NONE	SE	TS16SE01A	N	Lead	1.0	4.3	4.3 J	MG/KG	L
SW6010B/NONE	SE	TS16SE01A	N	Zinc	6.0	75.3	75.3 J	MG/KG	L
SW6010B/NONE	SE	TS16SE01B	N	Arsenic	1.0	2.7	2.7 J	MG/KG	L
SW6010B/NONE	SE	TS16SE01B	N	Cadmium	0.50	1.6	1.6 J	MG/KG	L
SW6010B/NONE	SE	TS16SE01B	N	Copper	2.5	32.4	32.4 J	MG/KG	L
SW6010B/NONE	SE	TS16SE01B	N	Iron	10.0	14900	14900 J	MG/KG	L
SW6010B/NONE	SE	TS16SE01B	N	Lead	1.0	3.3	3.3 J	MG/KG	L
SW6010B/NONE	SE	TS16SE01B	N	Zinc	6.0	43.7	43.7 J	MG/KG	L
SW6010B/NONE	SE	TS17SE01A	N	Arsenic	1.0	2.9	2.9 J	MG/KG	L
SW6010B/NONE	SE	TS17SE01A	N	Cadmium	0.50	2.3	2.3 J	MG/KG	L
SW6010B/NONE	SE	TS17SE01A	N	Copper	2.5	66.6	66.6 J	MG/KG	L
SW6010B/NONE	SE	TS17SE01A	N	Iron	10.0	21500	21500 J	MG/KG	L

AUTOMATED DATA REVIEW SUMMARY for MY7E86

Detected Results

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW6010B/NONE	SE	TS17SE01A	N	Lead	1.0	5.6	5.6 J	MG/KG	L
SW6010B/NONE	SE	TS17SE01A	N	Zinc	6.0	74.4	74.4 J	MG/KG	L
SW6010B/NONE	SE	TS17SE01B	N	Arsenic	1.0	1.5	1.5 J	MG/KG	L
SW6010B/NONE	SE	TS17SE01B	N	Cadmium	0.50	1.4	1.4 J	MG/KG	L
SW6010B/NONE	SE	TS17SE01B	N	Copper	2.5	39.9	39.9 J	MG/KG	L
SW6010B/NONE	SE	TS17SE01B	N	Iron	10.0	13500	13500 J	MG/KG	L
SW6010B/NONE	SE	TS17SE01B	N	Lead	1.0	2.9	2.9 J	MG/KG	L
SW6010B/NONE	SE	TS17SE01B	N	Zinc	6.0	36.1	36.1 J	MG/KG	L
SW6010B/NONE	SO	TS4US01	N	Cadmium	0.50	3.9	3.9 J	MG/KG	L
SW6010B/NONE	SO	TS4US01	N	Copper	2.5	41.7	41.7 J	MG/KG	L
SW6010B/NONE	SO	TS4US01	N	Iron	10.0	39000	39000 J	MG/KG	L
SW6010B/NONE	SO	TS4US01	N	Lead	1.0	1.9	1.9 J	MG/KG	L
SW6010B/NONE	SO	TS4US01	N	Zinc	6.0	67.0	67.0 J	MG/KG	L
SW6010B/NONE	SE	TS7RS01	N	Arsenic	1.0	4.4	4.4 J	MG/KG	L
SW6010B/NONE	SE	TS7RS01	N	Cadmium	0.50	1.8	1.8 J	MG/KG	L
SW6010B/NONE	SE	TS7RS01	N	Copper	2.5	29.8	29.8 J	MG/KG	L
SW6010B/NONE	SE	TS7RS01	N	Iron	10.0	18100	18100 J	MG/KG	L
SW6010B/NONE	SE	TS7RS01	N	Lead	1.0	6.0	6.0 J	MG/KG	L
SW6010B/NONE	SE	TS7RS01	N	Zinc	6.0	64.0	64.0 J	MG/KG	L
SW6010B/NONE	SO	TS7US01	N	Arsenic	1.0	2.6	2.6 J	MG/KG	L/M
SW6010B/NONE	SO	TS7US01	N	Cadmium	0.50	1.6	1.6 J	MG/KG	L/M
SW6010B/NONE	SO	TS7US01	N	Copper	2.5	26.5	26.5 J	MG/KG	L/M
SW6010B/NONE	SO	TS7US01	N	Iron	10.0	16100	16100 J	MG/KG	L/M

AUTOMATED DATA REVIEW SUMMARY for MY7E86

Detected Results

Test Leach	Matrix	FieldSample ID	Type	Analyte	RL	Lab Result	Qualified Result	Units	Reason
SW6010B/NONE	SO	TS7US01	N	Lead	1.0	3.5	3.5 J	MG/KG	L/M
SW6010B/NONE	SO	TS7US01	N	Zinc	6.0	43.6	43.6 J	MG/KG	L/M
SW6010B/NONE	SE	TS8RS01	N	Arsenic	1.0	2.7	2.7 J	MG/KG	L
SW6010B/NONE	SE	TS8RS01	N	Cadmium	0.50	1.5	1.5 J	MG/KG	L
SW6010B/NONE	SE	TS8RS01	N	Copper	2.5	79.1	79.1 J	MG/KG	L
SW6010B/NONE	SE	TS8RS01	N	Iron	10.0	14100	14100 J	MG/KG	L
SW6010B/NONE	SE	TS8RS01	N	Lead	1.0	4.0	4.0 J	MG/KG	L
SW6010B/NONE	SE	TS8RS01	N	Zinc	6.0	53.2	53.2 J	MG/KG	L
SW6010B/NONE	SE	TS8SE01	N	Arsenic	1.0	8.1	8.1 J	MG/KG	L
SW6010B/NONE	SE	TS8SE01	N	Cadmium	0.50	2.3	2.3 J	MG/KG	L
SW6010B/NONE	SE	TS8SE01	N	Copper	2.5	71.4	71.4 J	MG/KG	L
SW6010B/NONE	SE	TS8SE01	N	Iron	10.0	18900	18900 J	MG/KG	L
SW6010B/NONE	SE	TS8SE01	N	Lead	1.0	9.0	9.0 J	MG/KG	L
SW6010B/NONE	SE	TS8SE01	N	Zinc	6.0	135	135 J	MG/KG	L

AUTOMATED DATA REVIEW SUMMARY for MY7E86

Rejected Results

Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437 **Web** www.lab-data.com **Fax** 760.634.0439

Innovative Technical Solutions, Inc.
2730 Shadelands Drive, Suite 100
Walnut Creek, CA 94598
ATTN: Ms. Kristen Carlyon

December 22, 2010

SUBJECT: Blue Ledge Mine, Data Validation

Dear Ms. Carlyon,

Enclosed are the final validation reports for the fractions listed below. This SDG was received on December 9, 2010. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 24530:

SDG #	Fraction
ITSI01	Metals, Percent Lipids

The data validation was performed under EPA Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Sampling and Analysis Plan/Quality Assurance Project Plan for Multi-Media Sampling Part 2, Blue Ledge Mine, Rogue River National Forest, Siskiyou County, California, ITSI October 2010
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Ming-Hwa Hwang

Ming-Hwa Hwang
Project Manager/Senior Chemist

V:\LOGIN\ITSI\Blue\24530COV.wpd

2 WEEK TAT (25% Surcharge)

Attachment 1

EDD Level 4

LDC #24530 (Innovative Technical Solutions, Inc.-CA / Blue Ledge Mine)

FPO #07163.0049FPO

LDC	SDG#	DATE REC'D	(3) DATE DUE	Metals (6020)		Hg (7471A)		% Lipids (3545A)																													
Matrix:	Water/Tissue			W	T	W	T	W	T	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	ITS01	12/09/10	12/23/10	0	32	0	28	0	32																												
Total	T/MH			0	32	0	28	0	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	92

Shaded cells indicate Level IV review (all other cells are Level III review). Sample counts do not include MS, MSD, or DUP's.

24530ST.wpd

Innovative Technical Solutions, Inc.
A Gilbane Company

DQ Reason

A	Serial dilution
A1	Ambient Blank
B1	Blank
B2	Calibration Blank
B3	Calibration Blank - Negative
B4	Negative Blank
C1	Diluted Out
C10	Continuing Calibration Verification RRF
C11	Continuing Calibration Verification %D or %R
C2	Flag Parent Only
C2S	Flag Parent (Soil); Batch (Water)
C3	No Action
C4	No QC Outliers
C5	One or both values <5x RL
C6	Recalculated Value
C7	Material Blanks
C8	Spike Insignificant
C9	Set to ND by method/cal. blank
D1	Lab Replicate RPD
D2	MS RPD
D3	Field duplicate not useable
D4	No precision available
D5	Field Duplicate RPD
D6	BS RPD
E	Exceeds LinearCalibration Range
F	Hydrocarbon pattern does not match standard
G	Initial Calibration RRF
G1	Initial Calibration RSD
G2	initial calibration verification percent recovery
H	Test Hold Time
H1	Prep Hold Time
I	Internal standard
J	CRA/CRI Recovery
K1	Equip Blank
K2	Field Blank
K3	Trip Blank

L	LCS Recovery
M	MS Recovery
N	Blank - No Action
O	Interference check sample
P	Column RPD
Q	Material Blank
S	Surrogate
S1	sample less than 50% solids
T	Receipt Temperature
T1	Relative Standard Deviation (RSD) of the Laboratory Triplicate samples was outside the QAPP control limits
TI	Tentatively Identified Compound
TR	Trace Level Detect
V	Sample Receipt Condition
W	Column breakdown (pesticides)
X	Raised reporting limit
Y	Analyte not confirmed on second column
Y1	False Positive
Y2	Sum of species greater than total result
Z	Data rejected due to radiological anomolies
Z1	Data rejected due to more technically valid data available

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Blue Ledge Mine

Collection Date: October 25 through October 26, 2010

LDC Report Date: December 17, 2010

Matrix: Tissue

Parameters: Metals

Validation Level: EPA Level IV

Laboratory: Lancaster Laboratories

Sample Delivery Group (SDG): ITS01

Sample Identification

TS1TS01-Filet TA	TS3TS04-Fish TA	TS4TS02-Fish TADUP
TS1TS01-Fish TA	TS4TS01-Filet TA	
TS1TS02-Filet TA	TS4TS01-Fish TA	
TS1TS02-Fish TA	TS4TS02-Filet TA	
TS1TS03-Filet TA	TS4TS02-Fish TA	
TS1TS03-Fish TA	TS3TS01-Filet TA	
TS2TS01-Filet TA	TS3TS01-Fish TA	
TS2TS01-Fish TA	TS3TS02-Filet TA	
TS2TS02-Filet TA	TS3TS02-Fish TA	
TS2TS02-Fish TA	TS3TS03-Filet TA	
TS2TS03-Filet TA	TS3TS03-Fish TA	
TS2TS03-Fish TA	TS5TS04-Fish TA	
TS2TS04-Fish TA	TS1TS01-Filet TAMS	
TS2TS05-Fish TA	TS1TS01-Filet TAMSD	
TS5TS01-Filet TA	TS1TS01-Filet TADUP	
TS5TS01-Fish TA	TS3TS04-Fish TAMS	
TS5TS02-Filet TA	TS3TS04-Fish TAMSD	
TS5TS02-Fish TA	TS3TS04-Fish TADUP	
TS5TS03-Fish TA	TS4TS02-Fish TAMS	
TS3TS04-Filet TA	TS4TS02-Fish TAMSD	

Introduction

This data review covers 41 tissue samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6020 and 7000 for Metals. The metals analyzed were Arsenic, Cadmium, Copper, Lead, Mercury, and Zinc.

The review follows the Sampling and Analysis Plan/Quality Assurance Project Plan for Multi-Media Sampling Part 2, Blue Ledge Mine, Rogue River National Forest, Siskiyou County, California, ITSI (October 2010), and the modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

The mass calibration was within 0.1 AMU and the percent relative standard deviation (%RSD) was less than or equal to 5%.

III. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Lead	0.016 mg/Kg	TS1TS01-Filet TA TS1TS01-Fish TA TS1TS02-Filet TA TS1TS02-Fish TA TS1TS03-Filet TA TS1TS03-Fish TA TS2TS01-Filet TA TS2TS01-Fish TA TS2TS02-Filet TA TS2TS02-Fish TA TS2TS03-Filet TA TS2TS03-Fish TA TS2TS04-Fish TA TS2TS05-Fish TA TS5TS01-Filet TA TS5TS01-Fish TA TS5TS02-Filet TA TS5TS02-Fish TA TS5TS03-Fish TA TS3TS04-Filet TA

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Lead	0.011 mg/Kg	TS3TS04-Fish TA TS4TS01-Filet TA TS4TS01-Fish TA TS4TS02-Filet TA TS4TS02-Fish TA TS3TS01-Filet TA TS3TS01-Fish TA TS3TS02-Filet TA TS3TS02-Fish TA TS3TS03-Filet TA TS3TS03-Fish TA TS5TS04-Fish TA
ICB/CCB	Mercury	0.12 ug/L	TS1TS01-Filet TA TS1TS01-Fish TA TS1TS02-Filet TA TS1TS02-Fish TA TS1TS03-Filet TA TS1TS03-Fish TA TS2TS01-Filet TA TS2TS01-Fish TA TS2TS02-Filet TA TS2TS02-Fish TA TS2TS03-Filet TA TS2TS03-Fish TA TS2TS04-Fish TA TS2TS05-Fish TA TS5TS01-Fish TA TS5TS02-Fish TA TS5TS03-Fish TA TS3TS04-Filet TA TS3TS04-Fish TA TS4TS01-Fish TA TS4TS02-Filet TA TS4TS02-Fish TA TS3TS01-Filet TA TS3TS01-Fish TA TS3TS02-Fish TA TS3TS03-Filet TA TS3TS03-Fish TA TS5TS04-Fish TA

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
TS1TS01-Filet TA	Mercury	0.072 mg/Kg	0.072U mg/Kg
TS1TS01-Fish TA	Mercury	0.045 mg/Kg	0.045U mg/Kg
TS1TS02-Filet TA	Lead Mercury	0.027 mg/Kg 0.094 mg/Kg	0.027U mg/Kg 0.094U mg/Kg

Sample	Analyte	Reported Concentration	Modified Final Concentration
TS1TS02-Fish TA	Lead Mercury	0.048 mg/Kg 0.070 mg/Kg	0.048U mg/Kg 0.070U mg/Kg
TS1TS03-Filet TA	Lead Mercury	0.075 mg/Kg 0.033 mg/Kg	0.075U mg/Kg 0.033U mg/Kg
TS1TS03-Fish TA	Lead Mercury	0.070 mg/Kg 0.025 mg/Kg	0.070U mg/Kg 0.025U mg/Kg
TS2TS01-Filet TA	Lead Mercury	0.015 mg/Kg 0.074 mg/Kg	0.015U mg/Kg 0.074U mg/Kg
TS2TS01-Fish TA	Mercury	0.056 mg/Kg	0.056U mg/Kg
TS2TS02-Filet TA	Lead Mercury	0.019 mg/Kg 0.053 mg/Kg	0.019U mg/Kg 0.053U mg/Kg
TS2TS02-Fish TA	Mercury	0.044 mg/Kg	0.044U mg/Kg
TS2TS03-Filet TA	Lead Mercury	0.017 mg/Kg 0.027 mg/Kg	0.017U mg/Kg 0.027U mg/Kg
TS2TS03-Fish TA	Mercury	0.025 mg/Kg	0.025U mg/Kg
TS2TS04-Fish TA	Mercury	0.058 mg/Kg	0.058U mg/Kg
TS2TS05-Fish TA	Mercury	0.027 mg/Kg	0.027U mg/Kg
TS5TS01-Filet TA	Lead	0.045 mg/Kg	0.045U mg/Kg
TS5TS01-Fish TA	Lead Mercury	0.027 mg/Kg 0.036 mg/Kg	0.027U mg/Kg 0.036U mg/Kg
TS5TS02-Filet TA	Lead	0.021 mg/Kg	0.021U mg/Kg
TS5TS02-Fish TA	Lead Mercury	0.051 mg/Kg 0.035 mg/Kg	0.051U mg/Kg 0.035U mg/Kg
TS5TS03-Fish TA	Lead Mercury	0.022 mg/Kg 0.050 mg/Kg	0.022U mg/Kg 0.050U mg/Kg
TS3TS04-Filet TA	Lead Mercury	0.027 mg/Kg 0.030 mg/Kg	0.027U mg/Kg 0.030U mg/Kg
TS3TS04-Fish TA	Mercury	0.024 mg/Kg	0.024U mg/Kg
TS4TS01-Filet TA	Lead	0.017 mg/Kg	0.017U mg/Kg

Sample	Analyte	Reported Concentration	Modified Final Concentration
TS4TS01-Fish TA	Mercury	0.039 mg/Kg	0.039U mg/Kg
TS4TS02-Filet TA	Mercury	0.058 mg/Kg	0.058U mg/Kg
TS4TS02-Fish TA	Mercury	0.048 mg/Kg	0.048U mg/Kg
TS3TS01-Filet TA	Mercury	0.030 mg/Kg	0.030U mg/Kg
TS3TS01-Fish TA	Mercury	0.033 mg/Kg	0.033U mg/Kg
TS3TS02-Filet TA	Lead	0.022 mg/Kg	0.022U mg/Kg
TS3TS02-Fish TA	Mercury	0.034 mg/Kg	0.034U mg/Kg
TS3TS03-Filet TA	Mercury	0.094 mg/Kg	0.094U mg/Kg
TS3TS03-Fish TA	Lead Mercury	0.027 mg/Kg 0.063 mg/Kg	0.027U mg/Kg 0.063U mg/Kg
TS5TS04-Fish TA	Lead Mercury	0.015 mg/Kg 0.035 mg/Kg	0.015U mg/Kg 0.035U mg/Kg

No field blanks were identified in this SDG.

V. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
TS3TS04-Fish TAMS/MSD (TS3TS04-Fish TA)	Arsenic Lead	142 (75-125) 135 (75-125)	- -	23 (≤20) -	J (all detects) J+ (all detects)	A

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits with the following exceptions:

DUP ID (Associated Samples)	Analyte	RPD (Limits)	Difference (Limits)	Flag	A or P
TS3TS04-Fish TADUP (TS3TS04-Fish TA)	Copper Zinc	33 (≤20) 23 (≤20)	- -	J (all detects) J (all detects)	A

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Internal Standards (ICP-MS)

All internal standard percent recoveries (%R) were within QC limits.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution analysis was performed by the laboratory. The analysis criteria were met.

XII. Sample Result Verification

All sample result verifications were acceptable.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

Blue Ledge Mine
Metals - Data Qualification Summary - SDG ITS01

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
ITS01	TS3TS04-Fish TA	Arsenic	J (all detects)	A	Matrix spike/Matrix spike duplicates (%R)(RPD) (M, D2)
ITS01	TS3TS04-Fish TA	Lead	J+ (all detects)	A	Matrix spike/Matrix spike duplicates (%R) (M)
ITS01	TS3TS04-Fish TA	Copper Zinc	J (all detects) J (all detects)	A	Duplicate sample analysis (RPD) (D1)

Blue Ledge Mine
Metals - Laboratory Blank Data Qualification Summary - SDG ITS01

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
ITS01	TS1TS01-Filet TA	Mercury	0.072U mg/Kg	A	B2
ITS01	TS1TS01-Fish TA	Mercury	0.045U mg/Kg	A	B2
ITS01	TS1TS02-Filet TA	Lead Mercury	0.027U mg/Kg 0.094U ug/L	A	B5 B2
ITS01	TS1TS02-Fish TA	Lead Mercury	0.048U mg/Kg 0.070U mg/Kg	A	B5 B2
ITS01	TS1TS03-Filet TA	Lead Mercury	0.075U mg/Kg 0.033U mg/Kg	A	B5 B2
ITS01	TS1TS03-Fish TA	Lead Mercury	0.070U mg/Kg 0.025U mg/Kg	A	B5 B2
ITS01	TS2TS01-Filet TA	Lead Mercury	0.015U mg/Kg 0.074U mg/Kg	A	B5 B2
ITS01	TS2TS01-Fish TA	Mercury	0.056U mg/Kg	A	B2
ITS01	TS2TS02-Filet TA	Lead Mercury	0.019U mg/Kg 0.053U mg/Kg	A	B5 B2
ITS01	TS2TS02-Fish TA	Mercury	0.044U mg/Kg	A	B2
ITS01	TS2TS03-Filet TA	Lead Mercury	0.017U mg/Kg 0.027U mg/Kg	A	B5 B2

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
ITS01	TS2TS03-Fish TA	Mercury	0.025U mg/Kg	A	B2
ITS01	TS2TS04-Fish TA	Mercury	0.058U mg/Kg	A	B2
ITS01	TS2TS05-Fish TA	Mercury	0.027U u mg/Kg	A	B2
ITS01	TS5TS01-Filet TA	Lead	0.045U mg/Kg	A	B5
ITS01	TS5TS01-Fish TA	Lead Mercury	0.027U mg/Kg 0.036U mg/Kg	A	B5 B2
ITS01	TS5TS02-Filet TA	Lead	0.021U mg/Kg	A	B5
ITS01	TS5TS02-Fish TA	Lead Mercury	0.051U mg/Kg 0.035U mg/Kg	A	B5 B2
ITS01	TS5TS03-Fish TA	Lead Mercury	0.022U mg/Kg 0.050U mg/Kg	A	B5 B2
ITS01	TS3TS04-Filet TA	Lead Mercury	0.027U mg/Kg 0.030U mg/Kg	A	B5 B2
ITS01	TS3TS04-Fish TA	Mercury	0.024U mg/Kg	A	B2
ITS01	TS4TS01-Filet TA	Lead	0.017U mg/Kg	A	B5
ITS01	TS4TS01-Fish TA	Mercury	0.039U mg/Kg	A	B2
ITS01	TS4TS02-Filet TA	Mercury	0.058U mg/Kg	A	B2
ITS01	TS4TS02-Fish TA	Mercury	0.048U mg/Kg	A	B2
ITS01	TS3TS01-Filet TA	Mercury	0.030U mg/Kg	A	B2
ITS01	TS3TS01-Fish TA	Mercury	0.033U mg/Kg	A	B2
ITS01	TS3TS02-Filet TA	Lead	0.022U mg/Kg	A	B5
ITS01	TS3TS02-Fish TA	Mercury	0.034U mg/Kg	A	B2
ITS01	TS3TS03-Filet TA	Mercury	0.094U mg/Kg	A	B2
ITS01	TS3TS03-Fish TA	Lead Mercury	0.027U mg/Kg 0.063U mg/Kg	A	B5 B2

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
ITS01	TS5TS04-Fish TA	Lead Mercury	0.015U mg/Kg 0.035U mg/Kg	A	B5 B2

Blue Ledge Mine
Metals - Field Blank Data Qualification Summary - SDG ITS01

No Sample Data Qualified in this SDG

LDC #: 24530A4

SDG #: ITS01

Laboratory: Lancaster Laboratories

VALIDATION COMPLETENESS WORKSHEET

Level IV

Date: 12-13-10

Page: 1 of 1

Reviewer: MG

2nd Reviewer: ✓

METHOD: Metals (EPA SW 846 Method 6020/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 10-25-10 through 10-26-10
II.	ICP/MS Tune	A	
III.	Calibration	A	
IV.	Blanks	SW	
V.	ICP Interference Check Sample (ICS) Analysis	A	
VI.	Matrix Spike Analysis	SW	MS/MSD
VII.	Duplicate Sample Analysis	SW	DUP
VIII.	Laboratory Control Samples (LCS)	A	LCS
IX.	Internal Standard (ICP-MS)	A	
X.	Furnace Atomic Absorption QC	N	not utilized
XI.	ICP Serial Dilution	A	
XII.	Sample Result Verification	A	
XIII.	Overall Assessment of Data	A	
XIV.	Field Duplicates	N	
XV	Field Blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

all tissue ~~not fish~~

1 1	TS1TS01-Filet TA NONE	11 1	TS2TS03-Filet TA NONE	21 2	TS3TS04-Fish TA NONE	31 2	TS3TS03-Fish TA NONE
2 1	TS1TS01-Fish TA NONE	12 1	TS2TS03-Fish TA NONE	22 2	TS4TS01-Filet TA NONE	32 2	TS5TS04-Fish TA NONE
3 1	TS1TS02-Filet TA NONE	13 1	TS2TS04-Fish TA NONE	23 2	TS4TS01-Fish TA NONE	33 1	TS1TS01-Filet TA NONEMS
4 1	TS1TS02-Fish TA NONE	14 1	TS2TS05-Fish TA NONE	24 2	TS4TS02-Filet TA NONE	34 1	TS1TS01-Filet TA NONEMSD
5 1	TS1TS03-Filet TA NONE	15 1	TS5TS01-Filet TA NONE	25 2	TS4TS02-Fish TA NONE	35 1	TS1TS01-Filet TA NONEDUP
6 1	TS1TS03-Fish TA NONE	16 1	TS5TS01-Fish TA NONE	26 2	TS3TS01-Filet TA NONE	36 2	TS3TS04-Fish TA NONEMS
7 1	TS2TS01-Filet TA NONE	17 1	TS5TS02-Filet TA NONE	27 2	TS3TS01-Fish TA NONE	37 2	TS3TS04-Fish TA NONEMSD
8 1	TS2TS01-Fish TA NONE	18 1	TS5TS02-Fish TA NONE	28 2	TS3TS02-Filet TA NONE	38 2	TS3TS04-Fish TA NONEDUP
9 1	TS2TS02-Filet TA NONE	19 1	TS5TS03-Fish TA NONE	29 2	TS3TS02-Fish TA NONE	39 2	TS4TS02-Fish TA NONEMS
10 1	TS2TS02-Fish TA NONE	20 1	TS3TS04-Filet TA NONE	30 2	TS3TS03-Filet TA NONE	40 2	TS4TS02-Fish TA NONEMSD
						41 2	TS4TS02-Fish TA NONEDUP

Notes:

1 PBS1

2 PBS2

LDC #: 24530A4

VALIDATION FINDINGS CHECKLIST

Reviewer: MG
2nd Reviewer: [illegible]

Method: Metals (EPA SW 846 Method 6010B/7000/6020)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. ICP/MS Tune				
Were all isotopes in the tuning solution mass resolution within 0.1 amu?	✓			
Were %RSD of isotopes in the tuning solution ≤5%?	✓			
III. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% (80-120% for mercury) QC limits?	✓			
Were all initial calibration correlation coefficients ≥ 0.995?	✓			
IV. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	✓			
V. ICP Interference Check Sample				
Were ICP interference check samples performed daily?	✓			
Were the AB solution percent recoveries (%R) with the 80-120% QC limits?	✓			
VI. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.		✓		
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of +/- RL(+/-2X RL for soil) was used for samples that were ≤ 5X the RL, including when only one of the duplicate sample values were ≤ 5X the RL.		✓		
VII. Laboratory control samples				
Was an LCS anaylzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% QC limits for water samples and laboratory established QC limits for soils?	✓			

LDC #: 24530A4

VALIDATION FINDINGS CHECKLIST

Reviewer: MG
2nd Reviewer: ✓

Validation Area	Yes	No	NA	Findings/Comments
VIII. Furnace Atomic Absorption QC				
If MSA was performed, was the correlation coefficients > 0.995?			✓	
Do all applicable analysies have duplicate injections? (Level IV only)			✓	
For sample concentrations > RL, are applicable duplicate injection RSD values < 20%? (Level IV only)			✓	
Were analytical spike recoveries within the 85-115% QC limits?			✓	
IX. ICP Serial Dilution				
Was an ICP serial dilution analyzed if analyte concentrations were > 50X the MDL (ICP)/>100X the MDL(ICP/MS)?	✓			
Were all percent differences (%Ds) < 10%?	✓			
Was there evidence of negative interference? If yes, professional judgement will be used to qualify the data.		✓		
X. Internal Standards (EPA SW 846 Method 6020/EPA 200.8)				
Were all the percent recoveries (%R) within the 30-120% (6020)/60-125% (200.8) of the intensity of the internal standard in the associated initial calibration?	✓			
If the %Rs were outside the criteria, was a reanalysis performed?			✓	
XI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
XII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target analytes were detected in the field duplicates.			✓	
XV. Field blanks				
Field blanks were identified in this SDG.		✓		
Target analytes were detected in the field blanks.			✓	

LDC #: 24530A4

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Reviewer: MG
2nd reviewer: [illegible]

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1→14, 16, 18→21, 23→27, 29→32	tis	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
15, 17, 22, 28	↓	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
QC 33→35	↓	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
36→38	↓	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
39→41	↓	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
Analysis Method		
ICP		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
ICP-MS	tis	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
GFAA		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____

Comments: Mercury by CVAA if performed

LDC #: 24530A4

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Reviewer: MG
2nd Reviewer: ✓

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Sample Concentration units, unless otherwise noted: mg/Kg

Soil preparation factor applied: 100x ~~Hg 100x~~ ✓ Qual U ~~B2~~ ~~B1~~, B5
Associated Samples: 1-20

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	3	4	5	6	7	9	11	15	16	17
Pb	0.016			0.08	0.027	0.048	0.075	0.070	0.015	0.019	0.017	0.045	0.027	0.021

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Sample Concentration units, unless otherwise noted: mg/Kg

Soil preparation factor applied: 100x
Associated Samples: 1-20

Qual U ~~B1~~, B5

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	18	19	20							
Pb	0.016			0.08	0.051	0.022	0.027							

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Sample Concentration units, unless otherwise noted: mg/Kg

Soil preparation factor applied: 100x
Associated Samples: 21-32

Qual U ~~B1~~, B5

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	22	28	31	32						
Pb	0.011			0.055	0.017	0.022	0.027	0.015						

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Sample Concentration units, unless otherwise noted: mg/Kg

Soil preparation factor applied: 167x
Associated Samples: 1-14, 16, 18-21, 23-27, 29-32

Qual U, B2, ~~B5~~

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	1	2	3	4	5	6	7	8	9	10
Hg		~~0.12~~	0.12	0.1	0.072	0.045	0.094	0.070	0.033	0.025	0.074	0.056	0.053	0.044

MG

LDC #: 24530A4

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Qual U B2, ~~B5~~

Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Sample Concentration units, unless otherwise noted: mg/Kg

Soil preparation factor applied: 167x
Associated Samples: 1-14, 16, 18-21, 23-27, 29-32

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	11	12	13	14	16	18	19	20	21	23
Hg		~~0.12~~ mg/g	0.12	0.1	0.027	0.025	0.058	0.027	0.036	0.035	0.050	0.030	0.024	0.039

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Sample Concentration units, unless otherwise noted: mg/Kg

Soil preparation factor applied: 167x
Associated Samples: 1-14, 16, 18-21, 23-27, 29-32

Qual U B2, ~~B5~~

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	24	25	26	27	29	30	31	32		
Hg		~~0.12~~ mg/g	0.12	0.1	0.058	0.048	0.030	0.033	0.034	0.094	0.063	0.035		

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 24530A4

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Trace metals (EPA SW 846 Method 6010/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a matrix spike analyzed for each matrix in this SDG?

Y (N) N/A Were matrix spike percent recoveries (%R) within the control limits of 75-125? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.

Y (N) N/A Were all duplicate sample relative percent differences (RPD) ≤ 20% for samples?

(Y) N N/A Was a post digestion spike analyzed for elements that did not meet the required criteria for matrix spike recovery?

LEVEL IV ONLY:

(Y) N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	MS/MSD ID	Matrix	Analyte	MS %Recovery	MSD %Recovery	RPD (Limits)	Associated Samples	Qualifications	Post Spike (%R)
1	36/37	tissue	As	142 (75-125)		23 (≤20)	21	J dets /A M, D2	
	↓	↓	Pb	135 (↓)			↓	J+ dets /A M	

Comments:

LDC #: 24530A4

VALIDATION FINDINGS WORKSHEET
Duplicate Analysis

Page: 1 of 1
Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a duplicate sample analyzed for each matrix in this SDG?

Y N N/A Were all duplicate sample relative percent differences (RPD) ≤ 20% for water samples and ≤ 35% for soil samples? If no, see qualifications below. A control limit of ±R.L. (±2X R.L. for soil) was used for sample values that were <5X the R.L., including the case when only one of the duplicate sample values was <5X R.L.. If field blanks were used for laboratory duplicates, note in the Overall Assessment.

LEVEL IV ONLY:

Y N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	Date	Duplicate ID	Matrix	Analyte	RPD (Limits)	Difference (Limits)	Associated Samples	Qualifications
1		38	tissue	Cu	33 (≤ 20)		21	J dets / A D1
		↓	↓	Zn	23 (↓)		↓	↓ D1

Comments:

DUP.4SW

LDC #: 24530A4

VALIDATION FINDINGS WORKSHEET
Initial and Continuing Calibration Calculation Verification

Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

An initial and continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

%R = Found / True x 100 Where, Found = concentration (in ug/L) of each analyte measured in the analysis of the ICV or CCV solution
True = concentration (in ug/L) of each analyte in the ICV or CCV source

Standard ID	Type of Analysis	Element	Found (ug/L)	True (ug/L)	Recalculated %R	Reported %R	Acceptable (Y/N)
	ICP (Initial calibration)						
0753 ICV	ICP/MS (Initial calibration)	Cd	49.50	50.0	99.0	99.0	Y
0701 ICV	CVAA (Initial calibration)	Hg	2.72	2.5	108.8	108.8	↓
	ICP (Continuing calibration)						↓
0802 CCV1	ICP/MS (Continuing calibration)	Zn	251.70	250.0	100.7	100.7	↓
0705 CCV1	CVAA (Continuing calibration)	Hg	0.99	1.0	99.0	99.0	↓
	GFAA (Initial calibration)						
	GFAA (Continuing calibation)						

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 24530A4

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Page: 1 of 1
Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Percent recoveries (%R) for an ICP interference check sample, a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$\%R = \frac{Found}{True} \times 100$ Where, Found = Concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = Concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$RPD = \frac{|S-D|}{(S+D)/2} \times 100$ Where, S = Original sample concentration
D = Duplicate sample concentration

An ICP serial dilution percent difference (%D) was recalculated using the following formula:

$\%D = \frac{|I-SDR|}{I} \times 100$ Where, I = Initial Sample Result (mg/L)
SDR = Serial Dilution Result (mg/L) (Instrument Reading x 5)

Sample ID	Type of Analysis	Element	Found / S / I (units)	True / D / SDR (units)	Recalculated %R / RPD / %D	Reported %R / RPD / %D	Acceptable (Y/N)
0800 ICSAB	ICP interference check	Cu	21.32 (µg/L)	20 (µg/L)	106.6	106.5	Y
0807 LCS	Laboratory control sample	Cd	5.31 (µg/L)	5.0 (µg/L)	106	106	
0815 33	Matrix spike	As	(SSR-SR) 2.404 (mg/kg)	1.9802 (mg/kg)	121	121	
0809 / 0813 35	Duplicate	Pb	0.0912 (mg/kg)	0.0537 (mg/kg)	52	52	
0809 / 0819 1	ICP serial dilution	Zn	70.54 ~~13~~ (µg/L) mg	79.65 (µg/L)	13	13	

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

TOTCLC.4SW

LDC #: 24530A4

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: MG
2nd reviewer: [illegible]

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments and within the linear range of the ICP?
Y N N/A Are all detection limits below the CRDL?

Detected analyte results for #1, Zn were recalculated and verified using the following equation:

Concentration = (RD)(FV)(Dil) / (In. Vol.)

RD = Raw data concentration
FV = Final volume (ml)
In. Vol. = Initial volume (ml) or weight (G)
Dil = Dilution factor

Recalculation:

$$\frac{(70.540\ \mu g/L)(0.100\ L)(2)}{(1.04\ g\ dry\ wt)} = 13.565\ \mu g/g \text{ or } mg/kg$$

#	Sample ID	Analyte	Reported Concentration (mg/kg)	Calculated Concentration (mg/kg)	Acceptable (Y/N)
1	1	Cd	0.046	0.046	Y
		Cu	1.1	1.1	
		Pb	0.091	0.091	
		Hg	0.072	0.072	
		Zn	13.6	13.6	
2	11	Cu	0.63	0.63	
		Pb	0.017	0.017	
		Hg	0.027	0.027	
		Zn	7.0	7.0	
3	21	As	0.089	0.089	
		Cd	0.19	0.19	
		Cu	6.4	6.4	
		Pb	0.13	0.13	
		Hg	0.024	0.024	
		Zn	53.5	53.5	
4	31	As	0.069	0.069	
		Cd	0.038	0.038	
		Cu	1.8	1.8	
		Pb	0.027	0.027	
		Hg	0.063	0.063	
		Zn	38.3	38.3	

Note:

RECALC.4SW

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Blue Ledge Mine

Collection Date: October 25 through October 26, 2010

LDC Report Date: December 17, 2010

Matrix: Tissue

Parameters: Percent Lipids

Validation Level: EPA Level IV

Laboratory: Lancaster Laboratories

Sample Delivery Group (SDG): ITS01

Sample Identification

TS1TS01-Filet TA
TS1TS01-Fish TA
TS1TS02-Filet TA
TS1TS02-Fish TA
TS1TS03-Filet TA
TS1TS03-Fish TA
TS2TS01-Filet TA
TS2TS01-Fish TA
TS2TS02-Filet TA
TS2TS02-Fish TA
TS2TS03-Filet TA
TS2TS03-Fish TA
TS2TS04-Fish TA
TS2TS05-Fish TA
TS5TS01-Filet TA
TS5TS01-Fish TA
TS5TS02-Filet TA
TS5TS02-Fish TA
TS5TS03-Fish TA
TS3TS04-Filet TA
TS3TS04-Fish TA
TS4TS01-Filet TA
TS4TS01-Fish TA
TS4TS02-Filet TA
TS4TS02-Fish TA
TS3TS01-Filet TA
TS3TS01-Fish TA
TS3TS02-Filet TA
TS3TS02-Fish TA
TS3TS03-Filet TA
TS3TS03-Fish TA
TS5TS04-Fish TA
TS1TS01-Fish TADUP
TS4TS02-Fish TADUP

Introduction

This data review covers 34 tissue samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 3545A, Revision 1 for Percent Lipids.

The review follows the Sampling and Analysis Plan/Quality Assurance Project Plan for Multi-Media Sampling Part 2, Blue Ledge Mine, Rogue River National Forest, Siskiyou County, California, ITSI (October 2010), and the modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified a P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

All criteria for the initial calibration of each method were met.

b. Calibration Verification

Calibration verification frequency and analysis criteria were met for each method when applicable.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No percent lipids were found in the method blanks.

No field blanks were identified in this SDG.

IV. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analysis were not required by the method.

V. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Sample Result Verification

All sample result verifications were acceptable.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

Blue Ledge Mine
Percent Lipids - Data Qualification Summary - SDG ITS01

No Sample Data Qualified in this SDG

Blue Ledge Mine
Percent Lipids - Laboratory Blank Data Qualification Summary - SDG ITS01

No Sample Data Qualified in this SDG

Blue Ledge Mine
Percent Lipids - Field Blank Data Qualification Summary - SDG ITS01

No Sample Data Qualified in this SDG

LDC #: 24530A6 **VALIDATION COMPLETENESS WORKSHEET** Date: 12-13-10

SDG #: ITS01 Level IV Page: 1 of 1

Laboratory: Lancaster Laboratories Reviewer: MG

2nd Reviewer: [illegible]

METHOD: Percent Lipids (EPA SW 846 Method 3545A, Rev. 1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 10-25-10 through 10-26-10
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	A	
IV	Matrix Spike/Matrix Spike Duplicates	N	
V	Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS
VII.	Sample result verification	A	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

all tissue ~~fish~~

1	TS1TS01-Filet TA NONE	11	TS2TS03-Filet TA NONE	21	TS3TS04-Fish TA NONE	31	TS3TS03-Fish TA NONE
2	TS1TS01-Fish TA NONE	12	TS2TS03-Fish TA NONE	22	TS4TS01-Filet TA NONE	32	TS5TS04-Fish TA NONE
3	TS1TS02-Filet TA NONE	13	TS2TS04-Fish TA NONE	23	TS4TS01-Fish TA NONE	33	TS1TS01-Fish TA NONEDUP
4	TS1TS02-Fish TA NONE	14	TS2TS05-Fish TA NONE	24	TS4TS02-Filet TA NONE	34	TS4TS02-Fish TA NONEDUP
5	TS1TS03-Filet TA NONE	15	TS5TS01-Filet TA NONE	25	TS4TS02-Fish TA NONE	35	
6	TS1TS03-Fish TA NONE	16	TS5TS01-Fish TA NONE	26	TS3TS01-Filet TA NONE	36	
7	TS2TS01-Filet TA NONE	17	TS5TS02-Filet TA NONE	27	TS3TS01-Fish TA NONE	37	
8	TS2TS01-Fish TA NONE	18	TS5TS02-Fish TA NONE	28	TS3TS02-Filet TA NONE	38	
9	TS2TS02-Filet TA NONE	19	TS5TS03-Fish TA NONE	29	TS3TS02-Fish TA NONE	39	PBS1
10	TS2TS02-Fish TA NONE	20	TS3TS04-Filet TA NONE	30	TS3TS03-Filet TA NONE	40	PBS2

Notes:

LDC #: 24530A6

VALIDATION FINDINGS CHECKLIST

Reviewer: MG
2nd Reviewer: [illegible]

Method: Inorganics (EPA Method 3545A)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial calibration correlation coefficients ≥ 0.995?			✓	
Were all initial and continuing calibration verification %Rs within the 90-110% QC limits?			✓	
Were titrant checks performed as required? (Level IV only)			✓	
Were balance checks performed as required? (Level IV only)	✓			
III. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which ~~matrix~~ does not have an associated MS/MSD or MS/DUP. Soil / Water. (tissue)		✓		Dup only
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.			✓	
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of ≤ CRDL(≤ 2X CRDL for soil) was used for samples that were ≤ 5X the CRDL, including when only one of the duplicate sample values were ≤ 5X the CRDL.			✓	
V. Laboratory control samples				
Was an LCS anaylzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% (85-115% for Method 300.0) QC limits?	✓			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

LDC #: 24530A6

VALIDATION FINDINGS CHECKLIST

Reviewer: MG
2nd Reviewer: ✓

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
Were detection limits < RL?	✓			
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target analytes were detected in the field duplicates.			✓	
X. Field blanks				
Field blanks were identified in this SDG.		✓		
Target analytes were detected in the field blanks.			✓	

LDC #: 24530A6

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Page: 1 of 1
Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Inorganics, Method 3545A

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$\%R = \frac{Found}{True} \times 100$ Where, Found = concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$RPD = \frac{|S-D|}{(S+D)/2} \times 100$ Where, S = Original sample concentration
D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	Found / S (units)	True / D (units)	Recalculated %R / RPD	Reported %R / RPD	Acceptable (Y/N)
LCS	Laboratory control sample	% Lipids	93.05 (%)	100 (%)	93	not reported	Y
—	Matrix spike sample	—	(SSR-SR) —	—	—	—	—
33	Duplicate sample	% Lipids	5.35 (%)	5.89 (%)	10	not reported	Y

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

TOTCLC.6

LDC #: 24530A6

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: MG
2nd reviewer: [illegible]

METHOD: Inorganics, Method 3545A

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
(Y) N N/A Have results been reported and calculated correctly?
(Y) N N/A Are results within the calibrated range of the instruments?
(Y) N N/A Are all detection limits below the CRQL?

Compound (analyte) results for #1, % Lipids reported with a positive detect were recalculated and verified using the following equation:

Concentration = Recalculation:

$$\frac{30.5883\,g - 30.2874\,g}{8\,g} \times 100 = 3.76\ \%$$

#	Sample ID	Analyte	Reported Concentration (%)	Calculated Concentration (%)	Acceptable (Y/N)
1	1	% Lipids	3.8	3.8	Y
2	11	% Lipids	1.8	1.8	↓
3	21	% Lipids	6.0	6.0	↓
4	31	% Lipids	0.81	0.81	↓

Note: