

**UTICA MINE CAMP CLEANUP REPORT  
2008 FIELD SEASON  
DEERING, ALASKA**

Prepared for

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1080-32  
December 2008

Travis/Peterson Environmental Consulting, Inc.

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## **1.0 INTRODUCTION**

The Utica Mine Camp is located 20 miles southwest of Deering, Alaska in the Northwest Arctic Borough, Latitude 66° 04' 32" N, Longitude 162° 43' 02" W. The former mine encompasses approximately seven miles along the Inmachuk River drainage (Figure 1).

NANA Regional Corporation (NANA) retained the services of Travis/Peterson Environmental Consulting Inc. (TPECI) to perform a site characterization at the Utica Mine camp in June 2007. The site characterization included a complete inspection of every building and each piece of equipment located at the mine camp and the dump sites located within and next to the south end of the camp. Soil sampling was also completed within the camp along transects that ran west to east toward the Inmachuck River.

The results of the 2007 Site Characterization were used to develop a Corrective Action Plan (CAP) to remediate the site in multiple phases. In September 2008, TPECI and NANA personnel spent six days at the Utica Mine Camp completing the first phase of cleanup and environmental sampling. The results of this cleanup effort are described in this report. The final phases of cleanup will be completed in 2009 under the ADEC approved CAP. TPECI does not anticipate that any changes to the CAP will be necessary.

## **2.0 SITE HISTORY**

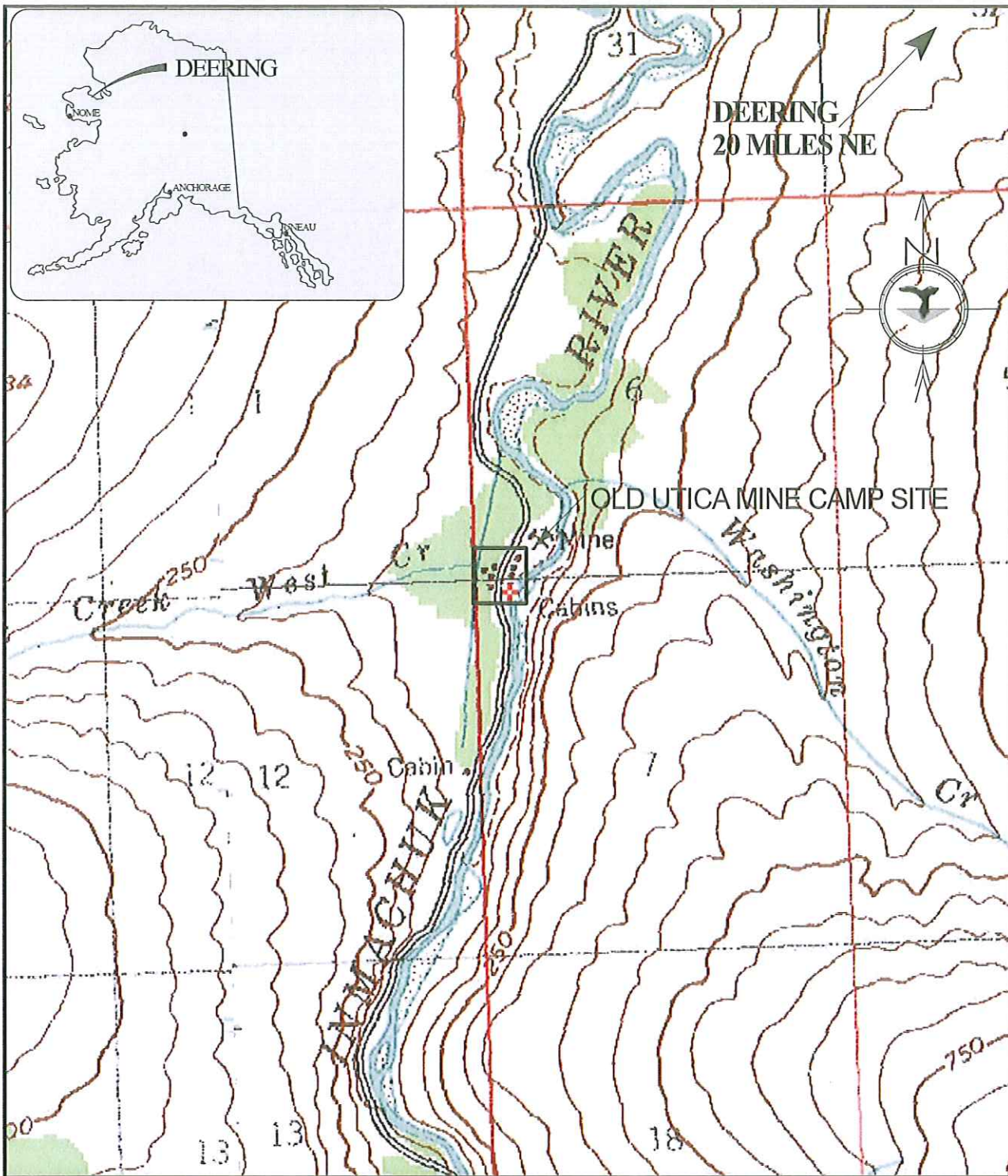
According to SLR International Corp. (SLR), placer mining was accomplished at the Utica Mine using hydraulic mining, shoveling, drifting, and dredging. Once the Fairhaven Ditch (a viaduct) was completed, Imuruk Lake provided hydraulic head to support placer mining operations. Placer mining operated along a seven mile stretch of the Inmachuk River drainage for over 40 years until World War II. After the war, placer mining was intermittent through the 1960s. GEM mined the area from the 1960s to about 1980 (SLR, 2005).

NANA is the current owner of the property, which it received from the United States pursuant to the Alaska Native Claims Settlement Act. The road to the site is considered an omnibus road that was deeded to the State of Alaska, Department of Transportation. The Deering IRA Council maintains portions of the road.

According to the Phase I Environmental Site Assessment performed by SLR, the entire seven mile stretch of the Inmachuk River drainage located within the Utica Mine was heavily mined for placer gold ore from 1900 until about 1980 (SLR, 2005). Limited surface soil sampling conducted by SLR personnel indicated elevated concentrations of heavy metals, including mercury, arsenic, lead, and petroleum, oil, and lubricants (POLs) in some parts of the Utica Mine camp and the dump sites.

## **3.0 SITE CHARACTERIZATION FINDINGS**

TPECI completed a Site Characterization Report, which summarized field sampling conducted by TPECI personnel at the subject property (TPECI, 2007). Soil sampling results determined that isolated areas of contaminated soil exist within the industrial area of the camp.



65° 56' 34"N, 162° 58' 25"W (NAD27)  
**USGS Bendeleben D-2 (AK) Quadrangle**  
 Projection is UTM Zone 3 NAD83 Datum

\* M  
 G  
 M=15.865  
 G=1.849

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 UTICA MINE CAMP

FIGURE 1  
 LOCATION & VICINITY

These areas include heavy metals (mercury, arsenic, and lead) and petroleum, oil, and lubricant (POL) related contamination. Lead contamination was detected in soil beneath and surrounding the gold house in concentrations above the Alaska Department of Environmental Conservation (ADEC) and Resource Conservation and Recovery Act (RCRA) standards. The CAP written by TPECI in 2007 discussed why this soil was exempt from RCRA.

Petroleum contamination appeared confined to the areas within and behind the machinist shop, within the former power generating shed, and in soils tested beneath the gold house. All concentrations were below the ADEC soil cleanup levels listed in Tables B1 and B2 for Method Two Soil Cleanup Levels for the Arctic Zone. Per the approved CAP, ADEC cleanup levels from Table B1, Method 2, for the Arctic Zone apply because the site is underlain by continuous permafrost.

The 2007 analytical results indicate that the bag of semi-fibrous asbestos containing material in the carpenter shop contained 5% chrysotile asbestos. U.S. Environmental Protection Agency (EPA) standards dictate that any asbestos containing material ACM with more than 1% asbestos, and when dry, can be crumbled or reduced to powder with minor pressure (hand pressure) is a Regulated Asbestos-Containing Material (RACM). TPECI obtained permission from the ADEC to bury the asbestos in the monofill on site during cleanup.

#### **4.0 PETROLEUM AND LEAD CONTAMINATION IN SOIL**

Petroleum-related soil contamination was detected at four locations in the mine camp industrial area. Impacted soil removal and sampling is described in the following sections.

##### **4.1 IMPACTED SOIL AREAS**

During the week of September 22-27, 2008, TPECI personnel oversaw the removal of petroleum-impacted soil from two of the four locations delineated during the 2007 Site Characterization. The first excavation was near the monofill at the south end of the camp at a site known as the tin POL shed location (Figure 2). The second excavation was in the footprint of the former power generating shed.

The third location containing petroleum-impacted soil is in the machinist shop. This contamination will be removed in 2009. The fourth location that petroleum-related contamination was detected was in the soil beneath the gold house. This area also contains lead above RCRA standards and will be excavated in 2009. Per ADEC approval, the contaminated soil beneath the gold house will be disposed in a lined cell within the monofill.

##### **4.1.1 Removal and Sampling of Petroleum Impacted Soil**

###### *POL SHED-SOIL REMOVAL*

The tin POL shed located near the monofill had several 5-gallon fuel cans stored inside the building. Petroleum staining was observed on the ground outside the entrance to the shed and underneath the wood floorboards. TPECI and NANA personnel visually inspected each 5-gallon can to ensure they were empty. Any cans containing liquids were taken to the machinist shop in the lower camp and stored there. All of the empty cans were disposed in the monofill.



AERIAL PHOTOGRAPH DATES TO 1978  
 DOES NOT REFLECT CURRENT CONDITIONS AT UTICA MINE CAMP

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FIGURE 2  
 SITE PLAN

PROJECT NO.: 1080-32

FILE: PROJECTS/1080/32/FIGURES/FIGURE 2.SKF

DATE: 08/03/2007

SCALE: AS SHOWN

The tin POL shed was demolished and disposed in the monofill. Approximately 10 cubic yards (cy) of contaminated soil were removed and stored on a 10-mil polyethylene liner in the lower camp area and is labeled Stockpile 1 (Figure 2 and Photo Log). The excavated area was approximately 15 feet by 15 feet and approximately 2 feet deep at the deepest point.

TPECI personnel collected four soil headspace samples from the excavation. Soil samples were collected using a stainless steel trowel and Ziploc® baggies. The trowel was decontaminated after each use to prevent cross contamination. The samples were warmed prior to screening. The Photo-Ionization Detector (PID) was field calibrated with fresh air to 0.0 ppm and 100 ppm isobutylene standard gas prior to use. PID values of 20 ppm or greater were used as a cutoff to determine whether soil was clean or contaminated. The highest PID value observed for each sample was recorded in a bound field notebook. Headspace sample readings were 37.5 ppm for sample #1, 9.4 ppm for sample #2, 3.9 ppm for sample #3, and 4.8 ppm for sample #4 (Photo Log).

One analytical sample (Tin Shack) was collected from headspace sample #1 to characterize the contamination. The sample was analyzed for gasoline range organic (GRO) compounds by Method AK101, volatile organic compounds (VOCs) by Method 8260, and diesel range organic (DRO) compounds by Method AK102, and residual range organic (RRO) compounds by Method AK103. Analytical results for all of the petroleum impacted soil samples are presented in Table 1, Appendix A.

In the sample labeled "Tin Shack," concentrations of GRO were detected at 6.69 mg/kg, which is below the ADEC soil cleanup level of 1,400 mg/kg for ingestion in the Arctic Zone (Table B2, Method 2). Concentrations of DRO were detected at 5,740 mg/kg which is below the soil cleanup level of 12,500 mg/kg. The RRO compounds were non-detect. The VOC compounds detected include 1,3,5-trimethylbenzene at 0.306 mg/kg, 4-isopropyl toluene at 0.171 mg/kg, methylene chloride at 0.296 mg/kg, 1,2,4-trimethylbenzene at 0.312 mg/kg, and 1,2,3-trichlorobenzene at 0.0905 mg/kg. The VOCs that were detected were below their respective soil cleanup levels or they had no established soil cleanup level. TPECI recommends removing additional soil from the sample #1 location in 2009 when site cleanup resumes to ensure all petroleum related contamination has been removed.

#### *POWER GENERATING SHED – SOIL REMOVAL*

Approximately 20 cy of petroleum impacted soil were excavated within the building footprint of the former power generating shed. Based on the 2007 Site Characterization, TPECI personnel expected contamination to be limited to the upper 24 inches of soil. However, the contamination was more extensive than originally anticipated. TPECI and NANA personnel removed as much contaminated soil as possible, given time and equipment constraints experienced during the week.

TPECI personnel collected characterization samples from the excavation and corresponding stockpile number 2 (Figure 2, Photo Log). The soil remaining in the excavation had a strong petroleum odor and was not screened with a PID prior to sampling. Two samples were collected from the excavation and four from the stockpile and analyzed for GRO, VOCs, DRO, and RRO.

Two crumpled drums were also removed with the soil. The drums appeared dry and no liquid wastes were observed. They were disposed in the monofill as inert waste.

Soil stockpile number 2 consists of the material excavated from beneath the former power shed. Four soil samples were collected directly from stockpile number 2. Samples were collected at a depth of 12 inches in the stockpile using a stainless steel trowel. The trowel was decontaminated after each use with Simple Green® and bottled water to prevent cross contamination. Due to time constraints and issues with wildlife, TPECI personnel did not have ample time to characterize the soil with the PID and headspace samples. Bear activity in close proximity to the project site precluded TPECI personnel from completing adequate stockpile characterization.

Stockpile contamination was limited to DRO and RRO with trace VOCs. Concentrations of DRO in the stockpiles ranged from non-detect to 770 mg/kg. Concentrations of RRO ranged from 42.7 mg/kg to 373 mg/kg. Benzene was detected in one sample at 0.016 mg/kg and GRO was non-detect.

Two soil samples were collected in the former power shed excavation. One of the samples was non-detect for all parameters and the other sample had DRO detected at 5,480 mg/kg, RRO at 782 mg/kg, and GRO at 31.5 mg/kg. No VOCs were detected in this sample. Complete analytical results are provided in Table 1, Appendix A.

All of the results from the former power shed excavation were below ADEC soil cleanup levels for ingestion in the Arctic Zone (Table B2 – Method 2). However, TPECI recommends that additional soil be removed from the second excavated area to meet ADEC limits. The soil stockpiles were covered with 6 mil polyethylene and weighted to prevent the covers from blowing away.

In 2009, TPECI personnel will revisit this excavation and continue contamination removal. During excavation, TPECI personnel will use a PID to screen the soil as it is removed. Headspace samples will also be collected and analyzed with a PID. One headspace sample per 10 cy of soil will be analyzed. All PID values will be recorded in a bound field notebook.

Once all of the contaminated soil has been removed from all three locations, TPECI personnel will complete confirmation sampling. All excavations and soil stockpiles will be sampled in accordance with the ADEC Guidance for Cleanup of Petroleum Contaminated Sites (ADEC, 2000). Once confirmation results have been received and a clean excavation is confirmed, clean fill material will be backfilled into the excavations. As per the approved CAP, the petroleum-impacted soil will be land spread within the camp roadway for natural attenuation remediation.

#### *POWER GENERATING SHED-ANALYSIS FOR PCBs*

Three of the soil samples collected from the former power generating shed area and its corresponding stockpile were analyzed for polychlorinated biphenyls (PCBs). All three samples were non-detect for the six Aroclors in the analytical suite. The possible presence of PCBs in soil at this location is not an issue. Analytical results are presented in Table 2, Appendix A.



#### **4.1.2 Cleanup of Lead Impacted Soil and Lead-Acid Batteries**

##### *LEAD-ACID BATTERY REMOVAL AND SOIL CLEANUP*

TPECI and NANA personnel collected all of the lead-acid batteries found on site and placed them in a plastic shipping tote. The batteries are still located at the mine camp and will be transported to a recycling facility in Kotzebue in 2009.

Thirteen locations were flagged where batteries were found on the ground. The soil at each flagged location was screened by TPECI personnel with a NITON soil analyzer to determine whether lead contamination was present. Lead concentrations varied at each location and ranged from 325 ppm to over 8,000 ppm. TPECI personnel used the EPA screening value of 1,200 ppm to determine whether soil was clean or contaminated above cleanup standards (TPECI, 2008).

TPECI personnel hand excavated soil from flagged locations with lead above the screening cutoff. TPECI personnel retested each excavation with the NITON instrument to confirm the lead was removed.

A total of 1/3 cy of lead contaminated soil was removed and placed on a 10-mil polyethylene liner (Photo Log). Samples were collected from five of the excavated areas and from two locations in the soil stockpile (Figure 2). The soil samples were analyzed for lead by Method 6020 and by the toxic characteristic leach procedure (TCLP) Method for RCRA hazardous waste. Complete analytical results are presented in Table 2, Appendix A.

##### *BATTERY LOCATION SAMPLE RESULTS*

Analytical results from the five excavated areas indicate that most of the lead contamination was removed. Lead concentrations from the 6020 analysis method range from 15.6 mg/kg to 347 mg/kg. All but one of the five samples was non-detect for lead under the RCRA TCLP analysis. Soil sample number 3 had 22.5 mg/kg lead which exceeds the maximum concentration allowed under the RCRA toxicity characteristic. In 2009, TPECI personnel will revisit sample location number 3 and screen it with the NITON analyzer. Any residual lead contamination will be removed by hand and placed on the existing soil stockpile. This location will be re-sampled to confirm all lead contamination has been removed.

##### *LEAD CONTAMINATED STOCKPILE*

TPECI personnel collected two confirmation samples and a duplicate from the lead contaminated soil stockpile. The samples were analyzed by both the 6020 Method and the TCLP Method. Analytical results indicate the stockpile is contaminated above RCRA toxicity characteristic levels. The lead concentrations in soils analyzed by the 6020 Method ranged from 4,510 mg/kg to 37,000 mg/kg. Lead concentrations in soils analyzed by the TCLP Method ranged from 10.8 to 207 mg/kg. Complete analytical results are provided in Table 2, Appendix A.

TPECI recommends that the lead contaminated soil stockpile be shipped to a permitted disposal facility in 2009 for treatment under the RCRA land disposal requirements. Prior to shipping the soil, TPECI personnel will file an application with the EPA to obtain a RCRA transport identification number for NANA. TPECI personnel will also coordinate with Emerald Services

in Anchorage to ship the material to a disposal facility. Prior approval for acceptance must be obtained from the disposal facility before the material can be shipped off site.

#### *GOLD HOUSE – LEAD CONTAMINATION*

The lead-contaminated soil beneath and behind the former gold house has not been removed. Demolition of the gold house will resume in 2009. Once demolition is complete, the contaminated soil will be removed and stockpiled on a 10-mil polyethylene liner. The excavation area will be field screened for lead contamination during the removal process with a NITON soil analyzer. As per the approved CAP, the excavation and stockpile will be sampled for lead by Method 6020 and by the TCLP method to confirm all contamination has been removed.

#### **4.2 REGULATED ASBESTOS CONTAINING MATERIALS (RACM)**

In 2008, TPECI personnel removed the RACM from the carpenter shop and packaged it into 10-mil polyethylene bags specifically made for asbestos removal. The RACM was thoroughly wetted, double-bagged, and then placed into a 65-gallon steel over-pack. The steel over-pack was sealed and labeled as specified by the Occupational Safety and Health Act standard at 29 C.F.R. § 1910.1001(j)(4) and will be buried in the monofill in 2009 when cleanup and demolition are completed.

#### **5.0 LIQUID WASTE CONSOLIDATION**

In September 2007, TPECI personnel and local Deering residents drained and contained all fluids from equipment and vehicles in the mine camp and a large Bucyrus-Erie crane parked along the road to the camp. TPECI used five 65-gallon steel over-pack drums to contain coolant, motor oil, and diesel fuel.

TPECI personnel did not sample any liquid wastes in 2008. All drums and fuel cans containing liquid wastes are currently located inside the south end of the machinist shop and will be sampled in 2009 for oil burn specification analysis. Any fluids that contain hazardous wastes such as PCBs or chlorinated solvents above the acceptance limits will be sent to a permitted facility for recycling. Oil that passes the burn specification requirements may be recycled in the City of Deering used oil burner. Coolant captured from equipment at the Utica Mine camp may be reconditioned and used in City equipment.

#### **6.0 BUILDINGS, EQUIPMENT, AND DEBRIS**

During the week of September 22-27, 2008, debris consisting of metal, empty drums, machine parts, and other general inert waste were placed into the permitted monofill. The power generating shed, tin POL shed, the carpenter shop, and the mobile home were all demolished and buried in the monofill (Photo Log and Figure 2). TPECI and NANA personnel removed debris by hand from three dump sites and the camp area throughout the week.

## 6.1 DUMP SITE CLEANUP

### *NORTH DUMP*

Approximately 20 cy of debris were removed from the north dump which was situated to the northwest of the mine camp on a hillside (Figure 2). The contents of the north dump consisted of deteriorated rubber hose, metal pipe, and other inert metal and wood debris. All of this material was disposed in the monofill and buried.

### *SOUTH DUMP*

The south dump consisted of a large area on the south end of the mine camp near the monofill (Figure 2). TPECI and NANA personnel removed much of the debris from this dump by hand and disposed the materials in the monofill. The contents of this dump consisted mainly of machine parts, tires, and empty drums. Each drum that was found was visually inspected to ensure no liquids were present other than water. All of the drums found at this location were disposed in the monofill. A large quantity of debris remains on the south hill slope of this dump area. Much of this material must be removed using a backhoe because it is too heavy to lift manually. Cleanup of the south dump will resume in 2009.

In the south dump, there are two Keystone Drills (Photo Log). TPECI recommends leaving the drills in place as historic features. The Keystone drills were manufactured in Beaver Falls, Pennsylvania circa 1902. The drills were steam powered and used for prospecting purposes throughout the Utica Mine. Detailed information on the history and function of the Keystone Drills is provided in Appendix B.

### *MACHINIST SHOP PARTS DUMP*

Approximately 15-20 cy of debris was removed by hand from this dump area. Much of the debris consisted of machine parts, pieces of steel, tires, glass, and other inert debris. There are more than 30 dredge buckets located in this dump. The dredge buckets will not be disposed. However, more than 20 cy of heavy debris remains in this dump and must be removed with a backhoe once cleanup resumes.

## 6.2 MONOFILL EXCAVATION AND DESIGN

A 100 ft by 40 ft by 8 ft deep area was excavated for a monofill next to the barn located in the south end of the mine camp. Approximately 300 cy of inert demolition debris, including wood, metal, and glass, was buried in the monofill during the week of September 22-27, 2008. Debris removal will be completed in 2009 at the south dump and the machinist shop dump.

TPECI personnel collected global positioning system (gps) coordinate data at each corner of the monofill. Once site cleanup is complete, the area will be backfilled with clean fill, graded, and seeded with a reclamation seed mix. GPS coordinate data will be collected at the exact disposal locations of the RACM and the lead contaminated soil in 2009.

## 7.0 CONCLUSIONS

Phase I of the site cleanup began during the week of September 22-27, 2008. NANA personnel excavated a 100 ft by 40 ft by 8 ft deep monofill in the southern portion of the mine camp next to the barn and the south dump. Approximately 300 cy of inert waste was buried and four structures were demolished.

Contaminated soil removal was completed at several locations where lead-acid batteries were found lying on the ground. Each battery location was screened for the presence of lead contamination using a NITON analyzer. Lead contaminated soil was hand excavated from contaminated locations, and confirmation samples were submitted for analysis. Based on analytical results, the soil removal was successful at all locations except one. TPECI personnel will revisit this location in 2009 to remove additional lead contamination.

TPECI personnel removed approximately 1/3 cy of lead-contaminated soil and contained the lead acid batteries. The soil is contaminated above RCRA hazardous waste standards. The lead contaminated soil will be shipped to a disposal facility in the lower 48. The batteries will be shipped to Kotzebue for recycling.

Two of the three areas identified in 2007 as having petroleum contaminated soil were excavated and sampled in 2008. Soil sample results in the "tin POL" shed location indicate minimal contamination was left in the excavation, which can be removed in 2009.

The former power generating shed was demolished and the petroleum-impacted soil beneath it was excavated to approximately three feet below ground surface. TPECI and NANA personnel noted a strong petroleum odor in the soil. Approximately 20 cy of soil were excavated and stockpiled on site on a 10-mil polyethylene liner. Both the excavation and the stockpile were sampled to characterize the contamination. Analytical results indicate DRO and RRO to be the primary contaminants found in the soil. Trace concentrations of VOCs and benzene were detected in some samples. This excavation will be completed in 2009 and final confirmation results collected from both the excavation and stockpile. TPECI recommends DRO/RRO analysis by Method AK102/103 only since the GRO and VOC compounds were either not detected or present in trace amounts.

The petroleum-impacted soil inside the machinist shop will be excavated in 2009. Confirmation samples will also be collected from this location in accordance with the ADEC Guidance for Cleanup of Petroleum Contaminated Sites (ADEC, 2000). The petroleum impacted soil beneath the gold house will be removed during the lead contamination cleanup. The lead contamination is the priority for cleanup at this location and will be buried in a lined cell in the monofill.

All drummed fluids will be sampled for oil burn specification to characterize the waste. Used oil that passes the burn specification analysis may be recycled in the Deering used oil burner. Coolants may be rehabilitated and used by the City of Deering in equipment and vehicles. All lead-acid batteries stored on site will be packed in a shipping tote and shipped to a recycling facility in Kotzebue.

The final phases of cleanup will be completed in 2009 under the ADEC approved CAP. A final report summarizing the results of the soil cleanup and documentation of the physical site cleanup will be prepared and submitted to the ADEC and NANA once cleanup at the site is complete.

## **8.0 REFERENCES**

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**APPENDIX A**  
**SOIL ANALYTICAL RESULTS TABLES**

**TABLE 1  
DRO, RRO, GRO, AND VOLATILE ORGANIC COMPOUNDS**

SAMPLE ID	DATE	DRO (mg/kg)	RRO (mg/kg)	GRO (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (tl) (mg/kg)	1,3,5- Trimethyl benzene	4- Isopropylt oluene	Methiyene Chloride	1,2,4- Trimethylb enzene	n- Butylbenze ne	1,2,3- Trichlorob enzene
ADEC SOIL CLEANUP LEVEL (mg/kg)*		12,500	13,700	1,400	200	27,400	13,700	274,000	6,840	–	1,500	6,840	--	1,400
TIN SHACK	9/27/2008	5,740	ND	6.69	ND	ND	ND	ND	0.306	0.171	0.296	0.312	ND	0.0905
STOCKPILE 1-1	9/27/2008	1,630	1,050	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
STOCKPILE 1-2	9/27/2008	4,570	3,600	5.55	ND	ND	ND	ND	0.0959	0.107	ND	ND	0.0725	ND
STOCKPILE 2-1	9/27/2008	ND	42.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
STOCKPILE 2-2	9/27/2008	770	243	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
STOCKPILE 2-3	9/27/2008	366	373	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
STOCKPILE 2-4	9/27/2008	33.5	112	ND	0.016	0.129	ND	0.11	0.0346	ND	ND	0.0663	ND	ND
POWER SHED	9/27/2008	5,480	782	31.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
POWER SHED-2	9/27/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

NOTES:

ADEC ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DRO DIESEL RANGE ORGANIC COMPOUNDS

-- No established cleanup level published for this compound in ADEC Table B1.

RRO RESIDUAL RANGE ORGANIC COMPOUNDS

GRO GASOLINE RANGE ORGANIC COMPOUNDS

mg/kg milligrams per kilogram

\* Cleanup levels used for this site are Table B1, Method Two, Arctic Zone, Ingestion. The site is underlain by continuous permafrost.

**TABLE 2**  
**SOIL ANALYTICAL RESULTS FOR LEAD AND POLYCHLORINATED BIPHENYL COMPOUNDS**

SAMPLE ID	DATE	Lead (6020)	Lead (TCLP)	Aroclor- 1016	Aroclor- 1221	Aroclor- 1232	Aroclor- 1242	Aroclor- 1248	Aroclor- 1260
ADEC SOIL CLEANUP LEVEL (mg/kg)		400	5.0	1.0	1.0	1.0	1.0	1.0	1.0
1	9/27/2008	15.6	ND	--	--	--	--	--	--
2	9/27/2008	23.6	ND	--	--	--	--	--	--
3	9/27/2008	212	22.5	--	--	--	--	--	--
4	9/27/2008	347	ND	--	--	--	--	--	--
5	9/27/2008	77.9	ND	--	--	--	--	--	--
Pb Stockpile 1	9/27/2008	4,510	10.8	--	--	--	--	--	--
Pb Stockpile 2	9/27/2008	37,000	48.5	--	--	--	--	--	--
Pb Stockpile 3*	9/27/2008	20,100	207.0	--	--	--	--	--	--
STOCKPILE 2-3	9/27/2008	--	--	ND	ND	ND	ND	ND	ND
STOCKPILE 2-4	9/27/2008	--	--	ND	ND	ND	ND	ND	ND
POWER SHED	9/27/2008	--	--	ND	ND	ND	ND	ND	ND
NOTES: ADEC ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION -- Analysis not performed TCLP toxic characteristic leach procedure Pb lead mg/kg milligrams per kilogram * Indicates a duplicate sample									



**APPENDIX B**

**PHOTOGRAPHIC LOG AND  
HISTORIC EQUIPMENT INFORMATION**

Travis/Peterson Environmental Consulting, Inc.

18531-0013/LEGAL15000210.1



1. Monofill preparation.



2. Monofill preparation.



3. Monofill preparation.



4. Monofill with trailer debris.



5. North dump area debris. This debris cleaned up and buried in monofill.



6. North dump area with Utica Mine camp in background.



7. The Carpenter/electrician shop prior to demolition.



8. Parts bins inside the south (left) side of the carpenter/electrician shop.



9. The north (right) side of the carpenter shop.



10. Inside the carpenter shop. Note the pile of white powdery substance.

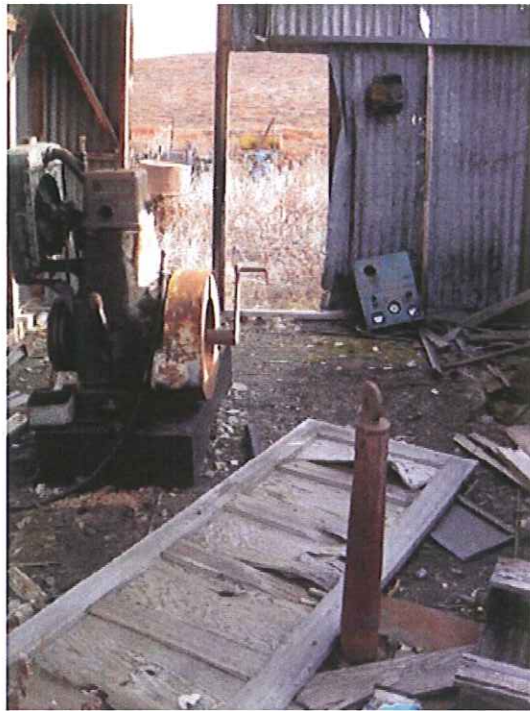
This is the asbestos containing material that was removed by TPECI personnel.



11. Carpenter shop being demolished.



12. Power shed prior to demolition.



13. Interior of power shed.



14. Interior of power shed.



15. Power shed during demolition.



16. Post demolition. Both the carpenter shop and power shed are gone in this photo. Gold house still exists on the left.



17. The gold house prior to demolition.





18. Inside view of the gold house. The Denver-Gardner Ball mill seen in this photo was removed from the building prior to any demolition work.



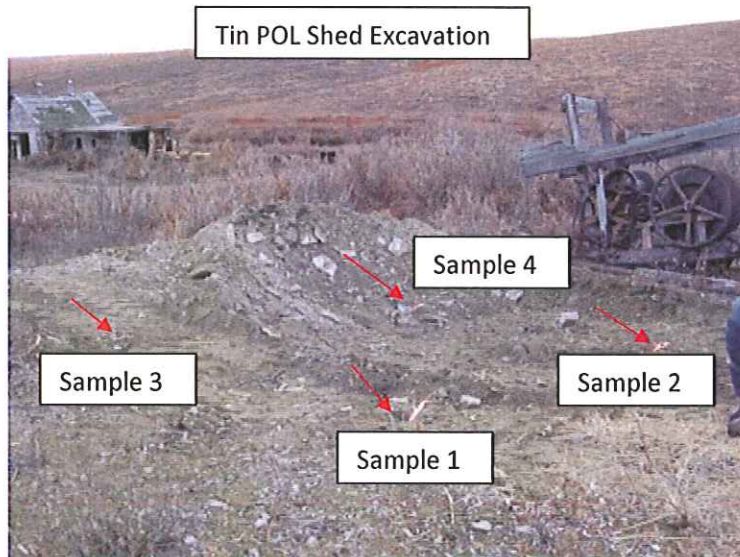
19. Inside of gold house. Additional mineral assay equipment.



20. Gold house, partially demolished. Demolition ceased due to equipment malfunction.



21. View to the northeast of tin POL shed excavation in foreground. Keystone drill in the background. The south dump is beyond the drill. TPECI personnel preparing to sample. Refer to **Section 4.1.1** for details.



22. View of entire excavation at former POL shed location. Note: pink flagging marks sample locations. Samples 1-4 were headspace samples. Sample number 1 was used for analysis and labeled Tin Shack. See Table 1.

Soil Stockpile Number 1



23. Soil stockpile number 1. Material generated from POL shed excavation. TPECI personnel preparing to sample. Arrows denote sample locations. Stockpile sampled on opposite sides.

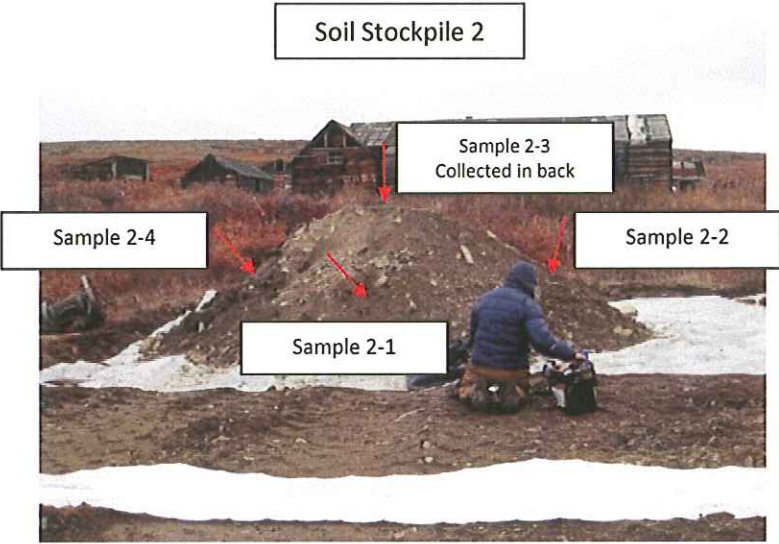


Power Shed Excavation Area



24. Power Shed excavation area. View is to the east. Pink flagging marks sample locations.



25. Power shed excavation area. View to the west. Note the dark blackish soil. Strong petroleum odor noticed in that area. Arrows denote stained soil.

<p style="text-align: center;">Soil Stockpile 2</p> 	<p>26. Soil Stockpile 2. Material generated from Power Shed excavation. View is to the west. Samples collected beginning on west side, continuing counter-clockwise. Refer to <b>Section 4.1.1</b> for details.</p>
	<p>27. View to the south with North Dump in foreground.</p>
	<p>28. TPECI personnel hand excavating lead contaminated soil from battery location in equipment yard.</p>



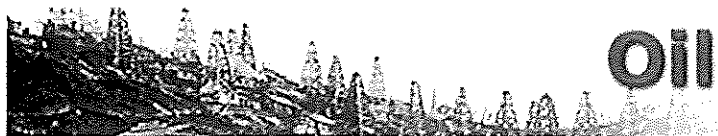
29. Battery removal location next to machinist shop. Lead contaminated soil removed from this location. Refer to Section 4.1.2 for details.



30. Excavation location in the dump behind Machinist Shop. Refer to Section 4.1.2 for details.



31. Battery removal and soil excavation location in the equipment yard to the north of the machinist shop.



# Oil History

By Samuel T. Pees

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<b>Portable Cable Tool Drilling Machines</b>
<b>Opening Remarks</b>
<b>Corbett Portable Drilling Rig</b>
<b>Parkersburg Rig</b>
<b>Keystone Driller</b>
<b>Star Drilling Machine</b>
<b>Cyclone Drill</b>
<b>National</b>
<b>Columbia Driller</b>
<b>Wolfe Rig</b>
<b>Crown</b>
<b>Leidecker</b>
<b>Fort Worth Spudder</b>
<b>The Ohio Cleaner</b>
<b>Bolles Rig</b>
<b>Yo-Yo Rig</b>
<b>Bucyrus -- Erie</b>
<b>Homemade</b>
<b>Combination Rig</b>
<b>Miscellaneous Rigs</b>
<b>Concluding Remarks</b>
<b>Bibliography</b>

## Keystone Driller

As previously mentioned in the chapter devoted to steam engines, in 1878 Robert M. Downie of Butler County, Pennsylvania, designed a wheel-mounted cable tool rig that held a vertical boiler, vertical steam engine and the operating or hoisting wheels. The engine operated a spring pole, the butt end of which was anchored to the ground a short distance behind the drill wagon. The fulcrum of the spring pole arrangement was on the rear of the wagon. A tripod served as derrick or mast and the base of the poles were stuck in the ground. This device is pictured in the aforementioned chapter.

R.M. Downie and his brother called this and subsequent rigs Keystone (a Downie trade name) and the first ones (described above) were built in Pittsburgh by the William Velts Company (Brantly, 1971). About a half-dozen were sold for the drilling of water wells. Later the Keystone Driller Company was established in Beaver Falls, Pennsylvania.

Downie was soon able to substitute a "stiff beam" on the wagon for the spring pole (1880). He also used a double working beam in the 1880's and went on to mount an A-frame folding-type ladder mast and braces on the wagon in 1892 or slightly before. Previously, in 1888, Downie had turned out a self-propelled machine using his earlier stiff beam wheel-mounted apparatus. This early traction machine ran on steam power which was already on the machine. The large steel wheels had lump cleats at first, but later traction models of 1906 (double beam, A-frame mast) had diagonal cleats on the pair of rear wheels. By 1920 Keystone was the first to put solid rubber tires on a portable rig, at least on the front wheels. Keystone was also among the first to put crawler tractor wheels on a portable rig (early 1920's). Of course, gasoline engines were already in general use.

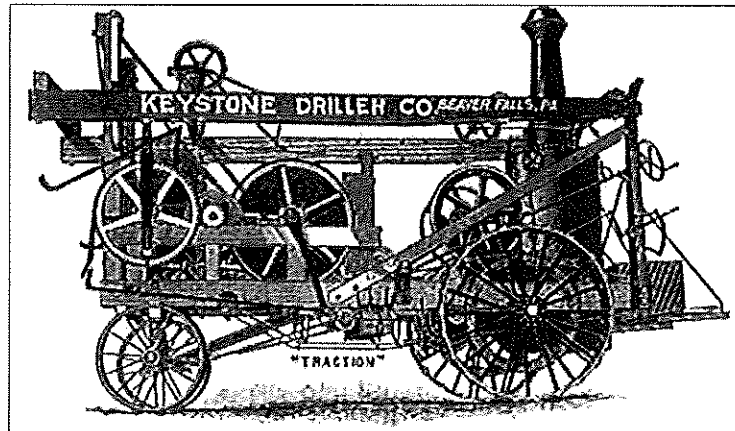
This sequence of Downie inventions and models from 1878 to 1892, only 14 years, was remarkable. Keystone, by the ingenuity of R.M. Downie, achieved a high rank among the competitive manufacturers of portable cable tool rigs.

Perhaps the most important concept that was put into use by Downie was the spudder drill rig of 1892 which enabled the tools to drill all the way to total depth without the need for a clamp and a temper screw. The screw limited the amount of hole drilled at a given time to the screw's length (usually about 4 to 6 ft.) except for interruptions needed for bailing out the cuttings.

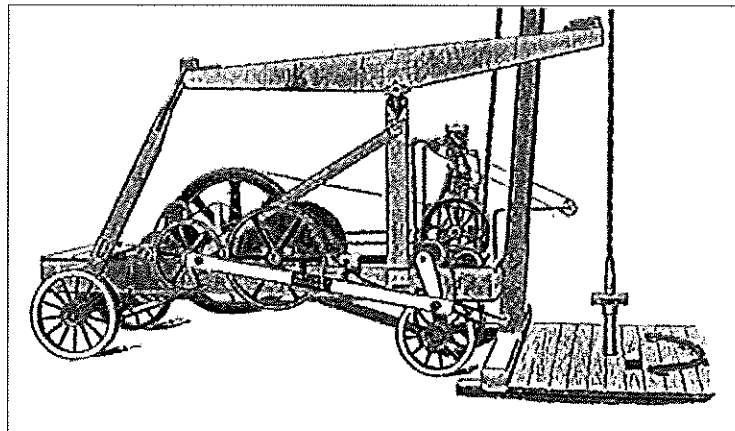
According to the API publication, History of Petroleum Engineering, 1961, the spudding manner of drilling was achieved as follows: "---the drilling line is carried over a pulley just above the main drilling reel and then in a horizontal plane to another pulley, called the "spudding pulley," which is attached to a beam that hinges at the back of the machine. The forward end of the beam holding the spudding sheave is attached to a pitman that raises and lowers the spudding sheave. The drilling line goes under the spudding sheave, then vertically to another sheave at the top of the mast, and from there into the hole being drilled. Drilling motion is obtained by the up-and-down travel of the spudding sheave on the drilling line."

Downie, as Keystone, also used the regular walking beam motion and temper screw on some of the early Keystone rigs. However, he commercially pioneered the spudder-type drilling practice. It finally went into general use in the 1920's - 30's.

The author has Keystone catalogs and company literature. A considerable number of portable rig models were put out by that company. Old abandoned Keystone drillers have been seen by the author in the oilfields.



This cut is from an ad in the April 1902 issue of the Petroleum Gazette. This Keystone model was a favored oil drilling machine of that time. At the same time Keystone was very active in making and selling prospecting machines for coal, zinc, lead and gold which were used all over the world.



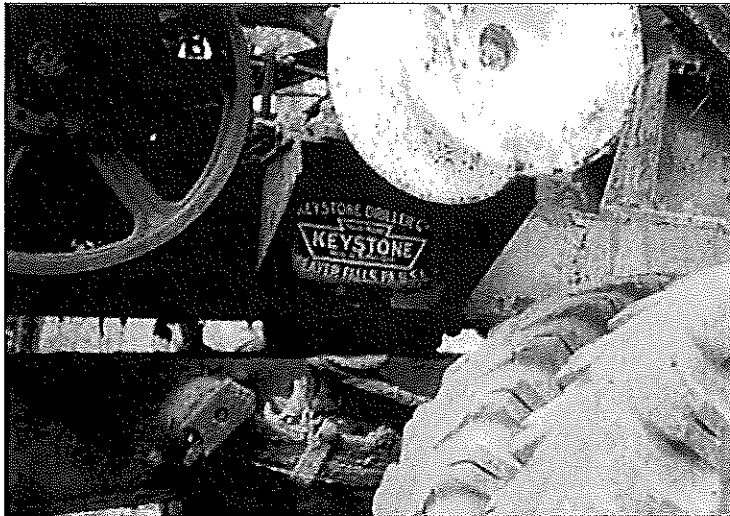
In 1906 Keystone was successfully selling this model which came in 1500, 2000, 2500 and 3000 feet (depth) sizes. They claimed that it was "the handiest and heaviest portable rig made". The boiler was transported and set up separately, but the steam engine is in the forward end of the drill frame. Illustration from a 1906 issue of the Petroleum Gazette.





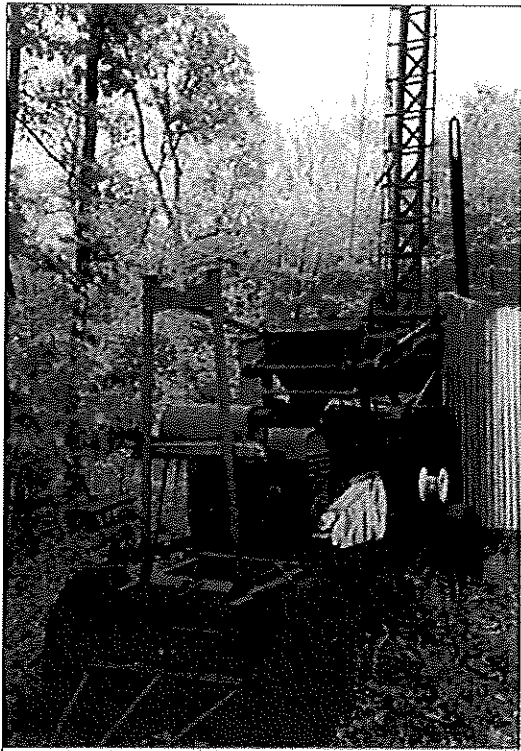
**photo by S.T. Pees, 1999**

This Keystone rig sat on a ridge overlooking Oil City, Pennsylvania. It was used to drill 1000 foot wells and for clean-out or workover purposes. It was run by a Waukesha four cylinder gasoline engine, seen at the back of the frame. The corrugated metal building was erected over the rig floor. This rig was moved in 2003.



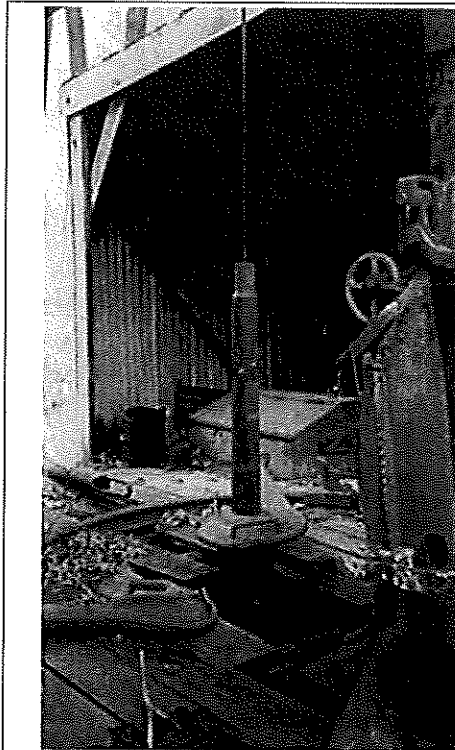
**photo by S.T. Pees, 1993**

The name plate of the Keystone drilling rig. The tires (lower right) are on the rear axle of the rig frame.



**photo by S.T. Pees, 1993**

View of Keystone portable spudder rig, Oil City, Pennsylvania (same rig as in preceding and following photographs).



**photo by S.T. Pees, 1993**

Remains of Keystone rig floor in the shed. Circle jack, wrenches, tool box, etc. The drilling tools are held up by a wrench. The well was never finished.

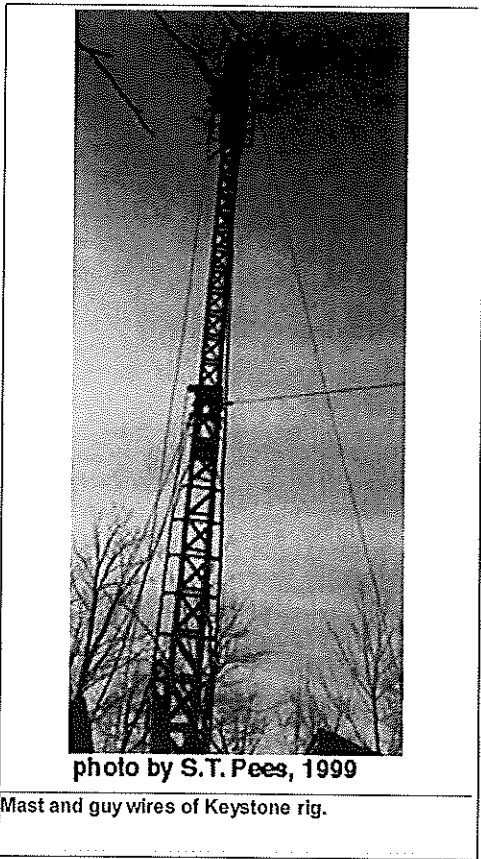


photo by S.T. Pees, 1999

Mast and guy wires of Keystone rig.

▲ Top



**APPENDIX C**

**SGS ENVIRONMENTAL SERVICES, INC.  
LABORATORY ANALYTICAL REPORT AND  
ADEC QUALITY ASSURANCE CHECKLIST**



**SGS Environmental Services  
Alaska Division  
Level II Laboratory Data Report**

Project: Utica Mine  
Client: Travis/Peterson  
SGS Work Order: 1085929

Released by:  Stephen C. Ede  
Alaska Division Technical Director  
2008.10.24  
09:55:53 -08'00'

**Contents:**

Cover Page  
Case Narrative  
Final Report Pages  
Quality Control Summary Forms  
Chain of Custody/Sample Receipt Forms

**Note:**

Unless otherwise noted, all quality assurance/quality control criteria is in compliance with the standards set forth by the proper regulatory authority, the SGS Quality Assurance Program Plan, and the National Environmental Accreditation Conference.

## Case Narrative

**Customer:** TRAVIS P  
**Project:** 1085929

**Travis/Peterson**  
**Utica Mine**

Refer to the sample receipt form for information on sample condition.

### 1085929009 PS

AK102 - 5a-Androstane (surrogate) recovery is outside QC goals (biased high) due to hydrocarbon interference.  
AK102 - The pattern is consistent with a weathered middle distillate.  
AK103 - The extract was diluted due to the high DRO content; therefore, the PQL was elevated.

### 1085929010 PS **Stockpile 1-1**

AK102 - The pattern is consistent with a highly weathered middle distillate.  
AK103 - Unknown hydrocarbon with several peaks is present.

### 1085929011 PS **Stockpile 1-2**

AK102/103 - 5a-Androstane and n-triacontane (surrogates) recoveries are outside of control limits due to sample matrix.  
AK102 - The pattern is consistent with a highly weathered middle distillate.  
AK103 - Unknown hydrocarbon with several peaks is present.

### 1085929012 PS **Stockpile 2-1**

AK103 - Unknown hydrocarbon with several peaks is present.

### 1085929013 PS **Stockpile 2-2**

AK102 - The pattern is consistent with a highly weathered middle distillate.  
AK103 - Residual range organics result is biased high due to lighter hydrocarbons contributing to the residual range.

### 1085929014 PS **Stockpile 2-3**

AK102 - The pattern is consistent with a highly weathered middle distillate.  
AK103 - Unknown hydrocarbon with several peaks is present.  
8260B - Sample was re-analyzed outside of holding time for trichlorofluoromethane only.

### 1085929015 PS **Stockpile 2-4**

AK102/103 - Unknown hydrocarbon with several peaks is present.

### 1085929016 PS **Power Shed**

AK101 - BFB (surrogate) recovery does not meet QC goals (biased high) due to hydrocarbon interference.  
AK102 - 5a-Androstane (surrogate) recovery is outside QC goals (biased high) due to hydrocarbon interference.  
AK102 - The pattern is consistent with a weathered middle distillate.  
AK103 - Unknown hydrocarbon with several peaks is present.

### 864920 MS **1085929014MS)**

8260B - MS recoveries for naphthalene and 4-methyl-2-pentanone do not meet QC criteria (biased high). These analytes were not detected in the associated samples.

### 864921 MSD **1085929014MSD)**

8260B - MSD recoveries for several analytes do not meet QC criteria (biased high). These analytes were not detected in the associated samples.

### 864927 MSD **864928MSD**

8260B - MSD recoveries for carbon disulfide and naphthalene do not meet QC criteria. See LCS for accuracy.

### 864027 LCS **VXX/18863]**

8260B - LCS recovery for several analytes do not meet QC criteria (biased high). These analytes were not detected in the associated samples.

## Case Narrative

**Customer: TRAVISP**

**Travis/Peterson**

**Project: 1085929**

**Utica Mine**

**864919 LCS**

**VXX/188931**

8260B - LCS recoveries for naphthalene and 4-methyl-2-pentanone do not meet QC criteria (biased high). These analytes were not detected in the associated samples.

**864095 CCV**

**VMS/10194**

8260B - CCV recoveries for several analytes do not meet QC criteria (biased high). These analytes were not detected in the associated samples.

8260B - CCV recovery for bromoform does not meet QC criteria. This analyte was reported for in house use only.

**864923 CCV**

**VMS/10208**

8260B - CCV recoveries for several analytes do not meet QC criteria (biased high). These analytes were not detected in the associated samples.

**866405 CCV**

**VMS/10227**

8260B - CCV recoveries for trichlorofluoromethane do not meet QC criteria (biased high). This analyte was not detected in the associated samples.




# Laboratory Analysis Report

200 W. Potter Drive  
Anchorage, AK 99518-1605  
Tel: (907) 562-2343  
Fax: (907) 561-5301  
Web: <http://www.us.sgs.com>

Melissa Shippey  
Travis/Peterson  
329 2nd Street  
Fairbanks, AK 99701

**Work Order:** 1085929  
Utica Mine  
**Client:** Travis/Peterson  
**Report Date:** October 24, 2008

**Released by:**  
 Stephen C. Ede  
2008.10.24  
09:56:14 -08'00'  
Alaska Division Technical Director

Enclosed are the analytical results associated with the above workorder.

As required by the state of Alaska and the USEPA, a formal Quality Assurance/Quality Control Program is maintained by SGS. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request.

The laboratory certification numbers are AK971-05 (DW), UST-005 (CS) and AK00971 (Micro) for ADEC and AK100001 for NELAP (RCRA methods: 1020A, 1311, 6010B, 7470A, 7471A, 9040B, 9045C, 9056, 9060, 9065, 8015B, 8021B, 8081A/8082, 8260B, 8270C).

Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP, the National Environmental Laboratory Accreditation Program and, when applicable, other regulatory authorities.

If you have any questions regarding this report or if we can be of any other assistance, please contact your SGS Project Manager at 907-562-2343.

The following descriptors may be found on your report which will serve to further qualify the data.

- PQL Practical Quantitation Limit (reporting limit).
- U Indicates the analyte was analyzed for but not detected.
- F Indicates value that is greater than or equal to the MDL.
- J The quantitation is an estimation.
- ND Indicates the analyte is not detected.
- B Indicates the analyte is found in a blank associated with the sample.
- \* The analyte has exceeded allowable regulatory or control limits.
- GT Greater Than
- D The analyte concentration is the result of a dilution.
- LT Less Than
- ! Surrogate out of control limits.
- Q QC parameter out of acceptance range.
- M A matrix effect was present.
- JL The analyte was positively identified, but the quantitation is a low estimation.
- E The analyte result is above the calibrated range.
- R Rejected

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content.





SGS Ref.# 1085929001  
Client Name Travis/Peterson  
Project Name/# Utica Mine  
Client Sample ID #1  
Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
Collected Date/Time 09/26/2008 13:23  
Received Date/Time 09/30/2008 9:05  
Technical Director Stephen C. Ede

Sample Remarks:

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b>Metals by ICP/MS</b>									
Lead	15.6	1.14	mg/Kg	SW6020	A		10/09/08	10/11/08	MH
<b>Solids</b>									
Total Solids	85.0		%	SM20 2540G	A			10/08/08	STB



SGS Ref.# 1085929002  
Client Name Travis/Peterson  
Project Name/# Utica Mine  
Client Sample ID #2  
Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
Collected Date/Time 09/26/2008 13:45  
Received Date/Time 09/30/2008 9:05  
Technical Director Stephen C. Ede

Sample Remarks:

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b>Metals by ICP/MS</b>									
Lead	23.6	1.04	mg/Kg	SW6020	A		10/09/08	10/11/08	MH
<b>Solids</b>									
Total Solids	93.8		%	SM20 2540G	A			10/08/08	STB



SGS Ref.# 1085929003  
Client Name Travis/Peterson  
Project Name/# Utica Mine  
Client Sample ID #3  
Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
Collected Date/Time 09/26/2008 13:55  
Received Date/Time 09/30/2008 9:05  
Technical Director Stephen C. Ede

Sample Remarks:

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b><u>Metals by ICP/MS</u></b>									
Lead	212	1.04	mg/Kg	SW6020	A		10/09/08	10/11/08	MH
<b><u>Solids</u></b>									
Total Solids	94.7		%	SM20 2540G	A			10/08/08	STB



SGS Ref.# 1085929004  
Client Name Travis/Peterson  
Project Name/# Utica Mine  
Client Sample ID #4  
Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
Collected Date/Time 09/26/2008 14:09  
Received Date/Time 09/30/2008 9:05  
Technical Director Stephen C. Ede

Sample Remarks:

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b><u>Metals by ICP/MS</u></b>									
Lead	347	1.03	mg/Kg	SW6020	A		10/09/08	10/11/08	MH
<b><u>Solids</u></b>									
Total Solids	93.9		%	SM20 2540G	A			10/08/08	STB



SGS Ref.# 1085929005  
Client Name Travis/Peterson  
Project Name/# Utica Mine  
Client Sample ID #5  
Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
Collected Date/Time 09/26/2008 14:20  
Received Date/Time 09/30/2008 9:05  
Technical Director Stephen C. Ede

Sample Remarks:

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b><u>Metals by ICP/MS</u></b>									
Lead	77.9	1.11	mg/Kg	SW6020	A		10/09/08	10/11/08	MH
<b><u>Solids</u></b>									
Total Solids	88.9		%	SM20 2540G	A			10/08/08	STB



SGS Ref.# 1085929006  
Client Name Travis/Peterson  
Project Name# Utica Mine  
Client Sample ID Pb Stockpile 1  
Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
Collected Date/Time 09/26/2008 14:40  
Received Date/Time 09/30/2008 9:05  
Technical Director Stephen C. Ede

Sample Remarks:

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b><u>Metals by ICP/MS</u></b>									
Lead	4510	21.5	mg/Kg	SW6020	A		10/09/08	10/14/08	MH
<b><u>Solids</u></b>									
Total Solids	89.4		%	SM20 2540G	A			10/08/08	STB



SGS Ref.# 1085929007  
Client Name Travis/Peterson  
Project Name/# Utica Mine  
Client Sample ID Pb Stockpile 2  
Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
Collected Date/Time 09/26/2008 14:42  
Received Date/Time 09/30/2008 9:05  
Technical Director Stephen C. Ede

Sample Remarks:

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b><u>Metals by ICP/MS</u></b>									
Lead	37000	21.3	mg/Kg	SW6020	A		10/09/08	10/14/08	MH
<b><u>Solids</u></b>									
Total Solids	90.5		%	SM20 2540G	A			10/08/08	STB



SGS Ref.# 1085929008  
Client Name Travis/Peterson  
Project Name/# Utica Mine  
Client Sample ID Pb Stockpile 3  
Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
Collected Date/Time 09/26/2008 14:42  
Received Date/Time 09/30/2008 9:05  
Technical Director Stephen C. Ede

Sample Remarks:

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b><u>Metals by ICP/MS</u></b>									
Lead	20100	21.2	mg/Kg	SW6020	A		10/09/08	10/14/08	MH
<b><u>Solids</u></b>									
Total Solids	92.9		%	SM20 2540G	A			10/08/08	STB





SGS Ref.# 1085929009  
 Client Name Travis/Peterson  
 Project Name/# Utica Mine  
 Client Sample ID Tin Shack  
 Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
 Collected Date/Time 09/27/2008 12:30  
 Received Date/Time 09/30/2008 9:05  
 Technical Director Stephen C. Ede

Sample Remarks:

AK102 - 5a-Androstane (surrogate) recovery is outside QC goals (biased high) due to hydrocarbon interference.  
 AK102 - The pattern is consistent with a weathered middle distillate.  
 AK103 - The extract was diluted due to the high DRO content; therefore, the PQL was elevated.

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b><u>Volatile Fuels Department</u></b>									
Gasoline Range Organics	6.69	4.06	mg/Kg	AK101	A		09/27/08	10/04/08	HM
<b>Surrogates</b>									
4-Bromofluorobenzene <surr>	101		%	AK101	A	50-150	09/27/08	10/04/08	HM
<b><u>Semivolatile Organic Fuels Department</u></b>									
Diesel Range Organics	5740	420	mg/Kg	AK102	B		10/10/08	10/13/08	HKG
Residual Range Organics	ND	420	mg/Kg	AK103	B		10/10/08	10/13/08	HKG
<b>Surrogates</b>									
5a Androstane <surr>	151	!	%	AK102	B	50-150	10/10/08	10/13/08	HKG
n-Triacontane-d62 <surr>	91.7		%	AK103	B	50-150	10/10/08	10/13/08	HKG
<b><u>Volatile Gas Chromatography/Mass Spectroscopy</u></b>									
Benzene	ND	24.3	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
Toluene	ND	81.1	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
Ethylbenzene	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
n-Butylbenzene	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
Carbon disulfide	ND	162	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
1,4-Dichlorobenzene	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
1,2-Dichloroethane	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
1,3,5-Trimethylbenzene	306	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
4-Chlorotoluene	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
Chlorobenzene	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
4-Methyl-2-pentanone (MIBK)	ND	406	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW



SGS Ref.# 1085929009  
 Client Name Travis/Peterson  
 Project Name/# Utica Mine  
 Client Sample ID Tin Shack  
 Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
 Collected Date/Time 09/27/2008 12:30  
 Received Date/Time 09/30/2008 9:05  
 Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b>Volatile Gas Chromatography/Mass Spectroscopy</b>									
cis-1,2-Dichloroethene	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
4-Isopropyltoluene	171	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
Methyl-t-butyl ether	ND	64.9	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
cis-1,3-Dichloropropene	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
n-Propylbenzene	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
Styrene	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
Dibromomethane	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
trans-1,3-Dichloropropene	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
1,2,4-Trichlorobenzene	ND	81.1	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
1,1,2,2-Tetrachloroethane	ND	81.1	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
1,2-Dibromo-3-chloropropane	ND	162	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
Tetrachloroethene	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
Dibromochloromethane	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
1,3-Dichloropropane	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
1,2-Dibromoethane	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
Carbon tetrachloride	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
1,1,1,2-Tetrachloroethane	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
Chloroform	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
Bromobenzene	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
Chloromethane	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
1,2,3-Trichloropropane	ND	81.1	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
Bromomethane	ND	325	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
Bromochloromethane	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
Vinyl chloride	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
Dichlorodifluoromethane	ND	81.1	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
Chloroethane	ND	325	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
sec-Butylbenzene	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
Bromodichloromethane	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
1,1-Dichloroethene	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
2-Butanone (MEK)	ND	406	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW



SGS Ref.# 1085929009  
 Client Name Travis/Peterson  
 Project Name/# Utica Mine  
 Client Sample ID Tin Shack  
 Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
 Collected Date/Time 09/27/2008 12:30  
 Received Date/Time 09/30/2008 9:05  
 Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b>Volatile Gas Chromatography/Mass Spectroscopy</b>									
Methylene chloride	296	162	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
Trichlorofluoromethane	ND	81.1	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
P & M -Xylene	ND	81.1	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
Naphthalene	ND	81.1	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
o-Xylene	ND	81.1	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
Bromoform	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
Xylenes (total)	ND	162	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
1,2,4-Trimethylbenzene	312	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
tert-Butylbenzene	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
1,1,1-Trichloroethane	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
1,1-Dichloroethane	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
2-Chlorotoluene	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
Trichloroethene	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
trans-1,2-Dichloroethene	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
1,2-Dichlorobenzene	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
2,2-Dichloropropane	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
Hexachlorobutadiene	ND	81.1	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
Isopropylbenzene (Cumene)	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
2-Hexanone	ND	406	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
1,2-Dichloropropane	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
1,1-Dichloropropene	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
1,1,2-Trichloroethane	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
1,3-Dichlorobenzene	ND	40.6	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
1,2,3-Trichlorobenzene	90.5	81.1	ug/Kg	SW8260B	A		09/27/08	10/09/08	KPW
<b>Surrogates</b>									
1,2-Dichloroethane-D4 <surr>	90.9		%	SW8260B	A	80-137	09/27/08	10/09/08	KPW
Toluene-d8 <surr>	111		%	SW8260B	A	80-122	09/27/08	10/09/08	KPW
4-Bromofluorobenzene <surr>	110		%	SW8260B	A	42-147	09/27/08	10/09/08	KPW



SGS Ref.# 1085929009  
Client Name Travis/Peterson  
Project Name/# Utica Mine  
Client Sample ID Tin Shack  
Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
Collected Date/Time 09/27/2008 12:30  
Received Date/Time 09/30/2008 9:05  
Technical Director Stephen C. Ede

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Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
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Solids

Total Solids	94.6		%	SM20 2540G	B			10/08/08	STB
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SGS Ref.# 1085929010  
 Client Name Travis/Peterson  
 Project Name/# Utica Mine  
 Client Sample ID Stockpile 1-1  
 Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
 Collected Date/Time 09/27/2008 12:41  
 Received Date/Time 09/30/2008 9:05  
 Technical Director Stephen C. Ede

Sample Remarks:

AK102 - The pattern is consistent with a highly weathered middle distillate.  
 AK103 - Unknown hydrocarbon with several peaks is present.

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b><u>Volatile Fuels Department</u></b>									
Gasoline Range Organics	ND	8500	ug/Kg	SW8015M	A		10/03/08	10/04/08	HM
<b>Surrogates</b>									
4-Bromofluorobenzene <surrogate>	89.1		%	SW8015M	A	50-150	10/03/08	10/04/08	HM
1,4-Difluorobenzene <surrogate>	92.2		%	SW8021B	A	80-120	10/03/08	10/04/08	HM
<b><u>Semivolatile Organic Fuels Department</u></b>									
Diesel Range Organics	1630	89.6	mg/Kg	AK102	B		10/10/08	10/13/08	HKG
Residual Range Organics	1050	89.6	mg/Kg	AK103	B		10/10/08	10/13/08	HKG
<b>Surrogates</b>									
n-Triacontane-d62 <surrogate>	126		%	AK103	B	50-150	10/10/08	10/13/08	HKG
5a Androstane <surrogate>	131		%	AK102	B	50-150	10/10/08	10/13/08	HKG
<b><u>Volatile Gas Chromatography/Mass Spectroscopy</u></b>									
Benzene	ND	51.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Toluene	ND	170	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Ethylbenzene	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
n-Butylbenzene	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Carbon disulfide	ND	340	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,4-Dichlorobenzene	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,2-Dichloroethane	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,3,5-Trimethylbenzene	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
4-Chlorotoluene	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Chlorobenzene	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
4-Methyl-2-pentanone (MIBK)	ND	850	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW



SGS Ref.# 1085929010  
 Client Name Travis/Peterson  
 Project Name/# Utica Mine  
 Client Sample ID Stockpile 1-1  
 Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
 Collected Date/Time 09/27/2008 12:41  
 Received Date/Time 09/30/2008 9:05  
 Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b>Volatile Gas Chromatography/Mass Spectroscopy</b>									
cis-1,2-Dichloroethene	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
4-Isopropyltoluene	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
cis-1,3-Dichloropropene	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
n-Propylbenzene	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Styrene	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Dibromomethane	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
trans-1,3-Dichloropropene	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,2,4-Trichlorobenzene	ND	170	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,1,2,2-Tetrachloroethane	ND	170	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,2-Dibromo-3-chloropropane	ND	340	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Methyl-t-butyl ether	ND	136	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Tetrachloroethene	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Dibromochloromethane	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,3-Dichloropropane	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,2-Dibromoethane	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Carbon tetrachloride	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,1,1,2-Tetrachloroethane	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Chloroform	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Bromobenzene	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,2,3-Trichloropropane	ND	170	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Chloromethane	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Bromomethane	ND	680	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Bromochloromethane	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Vinyl chloride	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Dichlorodifluoromethane	ND	170	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Chloroethane	ND	680	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
sec-Butylbenzene	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Bromodichloromethane	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,1-Dichloroethene	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
2-Butanone (MEK)	ND	850	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW



SGS Ref.# 1085929010  
 Client Name Travis/Peterson  
 Project Name/# Utica Mine  
 Client Sample ID Stockpile 1-1  
 Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
 Collected Date/Time 09/27/2008 12:41  
 Received Date/Time 09/30/2008 9:05  
 Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b>Volatile Gas Chromatography/Mass Spectroscopy</b>									
Methylene chloride	ND	340	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Trichlorofluoromethane	ND	170	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
P & M -Xylene	ND	170	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Naphthalene	ND	170	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
o-Xylene	ND	170	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Bromoform	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,2,4-Trimethylbenzene	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
tert-Butylbenzene	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,1,1-Trichloroethane	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,1-Dichloroethane	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
2-Chlorotoluene	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Trichloroethene	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
trans-1,2-Dichloroethene	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,2-Dichlorobenzene	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
2,2-Dichloropropane	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Hexachlorobutadiene	ND	170	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Isopropylbenzene (Cumene)	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
2-Hexanone	ND	850	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,2-Dichloropropane	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,1-Dichloropropene	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,1,2-Trichloroethane	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,3-Dichlorobenzene	ND	85.0	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,2,3-Trichlorobenzene	ND	170	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
<b>Surrogates</b>									
1,2-Dichloroethane-D4 <surr>	96.5		%	SW8260B	A	80-137	10/09/08	10/10/08	KPW
1,2-Dichloroethane-D4 <surr>	126		%	SW8260B	A	80-137	10/09/08	10/10/08	KPW
Toluene-d8 <surr>	117		%	SW8260B	A	80-122	10/09/08	10/10/08	KPW
Toluene-d8 <surr>	119		%	SW8260B	A	80-122	10/09/08	10/10/08	KPW
4-Bromofluorobenzene <surr>	137		%	SW8260B	A	42-147	10/09/08	10/10/08	KPW
4-Bromofluorobenzene <surr>	123		%	SW8260B	A	42-147	10/09/08	10/10/08	KPW



SGS Ref.# 1085929010  
Client Name Travis/Peterson  
Project Name/# Utica Mine  
Client Sample ID Stockpile 1-1  
Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
Collected Date/Time 09/27/2008 12:41  
Received Date/Time 09/30/2008 9:05  
Technical Director Stephen C. Ede

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Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
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Volatile Gas Chromatography/Mass Spectroscopy

Solids

Total Solids	89.1		%	SM20 2540G	B			10/08/08	STB
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SGS Ref.# 1085929011  
 Client Name Travis/Peterson  
 Project Name/# Utica Mine  
 Client Sample ID Stockpile 1-2  
 Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
 Collected Date/Time 09/27/2008 12:45  
 Received Date/Time 09/30/2008 9:05  
 Technical Director Stephen C. Ede

Sample Remarks:

AK102/103 - 5a-Androstane and n-triacontane (surrogates) recoveries are outside of control limits due to sample matrix.  
 AK102 - The pattern is consistent with a highly weathered middle distillate.  
 AK103 - Unknown hydrocarbon with several peaks is present.

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b><u>Volatile Fuels Department</u></b>									
Gasoline Range Organics	5.55	1.97	mg/Kg	AK101	A		09/27/08	10/04/08	HM
<b>Surrogates</b>									
4-Bromofluorobenzene <surr>	103		%	AK101	A	50-150	09/27/08	10/04/08	HM
<b><u>Semivolatile Organic Fuels Department</u></b>									
Diesel Range Organics	4570	214	mg/Kg	AK102	B		10/10/08	10/13/08	HKG
Residual Range Organics	3600	214	mg/Kg	AK103	B		10/10/08	10/13/08	HKG
<b>Surrogates</b>									
5a Androstane <surr>	187	!	%	AK102	B	50-150	10/10/08	10/13/08	HKG
n-Triacontane-d62 <surr>	191	!	%	AK103	B	50-150	10/10/08	10/13/08	HKG
<b><u>Volatile Gas Chromatography/Mass Spectroscopy</u></b>									
Benzene	ND	11.8	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
Toluene	ND	39.3	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
Ethylbenzene	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
n-Butylbenzene	72.5	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
Carbon disulfide	ND	78.6	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
1,4-Dichlorobenzene	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
1,2-Dichloroethane	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
1,3,5-Trimethylbenzene	95.9	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
4-Chlorotoluene	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
Chlorobenzene	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
4-Methyl-2-pentanone (MIBK)	ND	197	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW



SGS Ref.# 1085929011  
 Client Name Travis/Peterson  
 Project Name/# Utica Mine  
 Client Sample ID Stockpile 1-2  
 Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
 Collected Date/Time 09/27/2008 12:45  
 Received Date/Time 09/30/2008 9:05  
 Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b><u>Volatile Gas Chromatography/Mass Spectroscopy</u></b>									
cis-1,2-Dichloroethene	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
4-Isopropyltoluene	107	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
Methyl-t-butyl ether	ND	31.4	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
cis-1,3-Dichloropropene	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
n-Propylbenzene	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
Styrene	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
Dibromomethane	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
trans-1,3-Dichloropropene	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
1,2,4-Trichlorobenzene	ND	39.3	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
1,1,2,2-Tetrachloroethane	ND	39.3	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
1,2-Dibromo-3-chloropropane	ND	78.6	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
Tetrachloroethene	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
Dibromochloromethane	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
1,3-Dichloropropane	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
1,2-Dibromoethane	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
Carbon tetrachloride	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
1,1,1,2-Tetrachloroethane	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
Chloroform	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
Bromobenzene	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
Chloromethane	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
1,2,3-Trichloropropane	ND	39.3	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
Bromomethane	ND	157	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
Bromochloromethane	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
Vinyl chloride	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
Dichlorodifluoromethane	ND	39.3	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
Chloroethane	ND	157	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
sec-Butylbenzene	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
Bromodichloromethane	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
1,1-Dichloroethene	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
2-Butanone (MEK)	ND	197	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW



SGS Ref.# 1085929011  
 Client Name Travis/Peterson  
 Project Name/# Utica Mine  
 Client Sample ID Stockpile 1-2  
 Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
 Collected Date/Time 09/27/2008 12:45  
 Received Date/Time 09/30/2008 9:05  
 Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b>Volatile Gas Chromatography/Mass Spectroscopy</b>									
Methylene chloride	ND	78.6	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
Trichlorofluoromethane	ND	39.3	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
P & M -Xylene	ND	39.3	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
Naphthalene	ND	39.3	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
o-Xylene	ND	39.3	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
Bromoform	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
Xylenes (total)	ND	78.6	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
1,2,4-Trimethylbenzene	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
tert-Butylbenzene	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
1,1,1-Trichloroethane	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
1,1-Dichloroethane	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
2-Chlorotoluene	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
Trichloroethene	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
trans-1,2-Dichloroethene	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
1,2-Dichlorobenzene	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
2,2-Dichloropropane	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
Hexachlorobutadiene	ND	39.3	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
Isopropylbenzene (Cumene)	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
2-Hexanone	ND	197	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
1,2-Dichloropropane	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
1,1-Dichloropropene	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
1,1,2-Trichloroethane	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
1,3-Dichlorobenzene	ND	19.7	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
1,2,3-Trichlorobenzene	ND	39.3	ug/Kg	SW8260B	A		09/27/08	10/10/08	KPW
<b>Surrogates</b>									
1,2-Dichloroethane-D4 <surr>	87.4		%	SW8260B	A	80-137	09/27/08	10/10/08	KPW
Toluene-d8 <surr>	108		%	SW8260B	A	80-122	09/27/08	10/10/08	KPW
4-Bromofluorobenzene <surr>	102		%	SW8260B	A	42-147	09/27/08	10/10/08	KPW



SGS Ref.# 1085929011  
Client Name Travis/Peterson  
Project Name/# Utica Mine  
Client Sample ID Stockpile 1-2  
Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
Collected Date/Time 09/27/2008 12:45  
Received Date/Time 09/30/2008 9:05  
Technical Director Stephen C. Ede

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Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
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Solids

Total Solids	92.7		%	SM20 2540G	B			10/08/08	STB
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SGS Ref.# 1085929012  
 Client Name Travis/Peterson  
 Project Name/# Utica Mine  
 Client Sample ID Stockpile 2-1  
 Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
 Collected Date/Time 09/27/2008 13:00  
 Received Date/Time 09/30/2008 9:05  
 Technical Director Stephen C. Ede

Sample Remarks:

AK103 - Unknown hydrocarbon with several peaks is present.

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b><u>Volatile Fuels Department</u></b>									
Gasoline Range Organics	ND	5080	ug/Kg	SW8015M	A		10/03/08	10/04/08	HM
<b>Surrogates</b>									
4-Bromofluorobenzene <surr>	92.6		%	SW8015M	A	50-150	10/03/08	10/04/08	HM
1,4-Difluorobenzene <surr>	92.4		%	SW8021B	A	80-120	10/03/08	10/04/08	HM
<b><u>Semivolatile Organic Fuels Department</u></b>									
Diesel Range Organics	ND	21.0	mg/Kg	AK102	B		10/10/08	10/13/08	HKG
Residual Range Organics	42.7	21.0	mg/Kg	AK103	B		10/10/08	10/13/08	HKG
<b>Surrogates</b>									
n-Triacontane-d62 <surr>	83.2		%	AK103	B	50-150	10/10/08	10/13/08	HKG
5a Androstane <surr>	77.1		%	AK102	B	50-150	10/10/08	10/13/08	HKG
<b><u>Volatile Gas Chromatography/Mass Spectroscopy</u></b>									
Benzene	ND	30.5	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Toluene	ND	102	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Ethylbenzene	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
n-Butylbenzene	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Carbon disulfide	ND	203	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,4-Dichlorobenzene	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,2-Dichloroethane	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,3,5-Trimethylbenzene	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
4-Chlorotoluene	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Chlorobenzene	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
4-Methyl-2-pentanone (MIBK)	ND	508	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW



SGS Ref.# 1085929012  
 Client Name Travis/Peterson  
 Project Name/# Utica Mine  
 Client Sample ID Stockpile 2-1  
 Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
 Collected Date/Time 09/27/2008 13:00  
 Received Date/Time 09/30/2008 9:05  
 Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b>Volatile Gas Chromatography/Mass Spectroscopy</b>									
cis-1,2-Dichloroethene	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
4-Isopropyltoluene	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
cis-1,3-Dichloropropene	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
n-Propylbenzene	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Styrene	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Dibromomethane	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
trans-1,3-Dichloropropene	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,2,4-Trichlorobenzene	ND	102	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,1,2,2-Tetrachloroethane	ND	102	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,2-Dibromo-3-chloropropane	ND	203	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Methyl-t-butyl ether	ND	81.3	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Tetrachloroethene	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Dibromochloromethane	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,3-Dichloropropane	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,2-Dibromoethane	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Carbon tetrachloride	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,1,1,2-Tetrachloroethane	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Chloroform	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Bromobenzene	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,2,3-Trichloropropane	ND	102	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Chloromethane	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Bromomethane	ND	406	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Bromochloromethane	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Vinyl chloride	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Dichlorodifluoromethane	ND	102	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Chloroethane	ND	406	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
sec-Butylbenzene	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Bromodichloromethane	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,1-Dichloroethene	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
2-Butanone (MEK)	ND	508	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW



SGS Ref.# 1085929012  
 Client Name Travis/Peterson  
 Project Name/# Utica Mine  
 Client Sample ID Stockpile 2-1  
 Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
 Collected Date/Time 09/27/2008 13:00  
 Received Date/Time 09/30/2008 9:05  
 Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b>Volatile Gas Chromatography/Mass Spectroscopy</b>									
Methylene chloride	ND	203	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Trichlorofluoromethane	ND	102	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
P & M -Xylene	ND	102	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Naphthalene	ND	102	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
o-Xylene	ND	102	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Bromoform	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,2,4-Trimethylbenzene	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
tert-Butylbenzene	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,1,1-Trichloroethane	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,1-Dichloroethane	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
2-Chlorotoluene	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Trichloroethene	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
trans-1,2-Dichloroethene	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,2-Dichlorobenzene	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
2,2-Dichloropropane	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Hexachlorobutadiene	ND	102	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
Isopropylbenzene (Cumene)	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
2-Hexanone	ND	508	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,2-Dichloropropane	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,1-Dichloropropene	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,1,2-Trichloroethane	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,3-Dichlorobenzene	ND	50.8	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
1,2,3-Trichlorobenzene	ND	102	ug/Kg	SW8260B	A		10/09/08	10/10/08	KPW
<b>Surrogates</b>									
1,2-Dichloroethane-D4 <surr>	93.2		%	SW8260B	A	80-137	10/09/08	10/10/08	KPW
1,2-Dichloroethane-D4 <surr>	103		%	SW8260B	A	80-137	10/09/08	10/10/08	KPW
Toluene-d8 <surr>	111		%	SW8260B	A	80-122	10/09/08	10/10/08	KPW
Toluene-d8 <surr>	116		%	SW8260B	A	80-122	10/09/08	10/10/08	KPW
4-Bromofluorobenzene <surr>	128		%	SW8260B	A	42-147	10/09/08	10/10/08	KPW
4-Bromofluorobenzene <surr>	116		%	SW8260B	A	42-147	10/09/08	10/10/08	KPW



SGS Ref.# 1085929012  
Client Name Travis/Peterson  
Project Name/# Utica Mine  
Client Sample ID Stockpile 2-1  
Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
Collected Date/Time 09/27/2008 13:00  
Received Date/Time 09/30/2008 9:05  
Technical Director Stephen C. Ede

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Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
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Volatile Gas Chromatography/Mass Spectroscopy

Solids

Total Solids	95.4		%	SM20 2540G	B			10/08/08	STB
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SGS Ref# 1085929013  
 Client Name Travis/Peterson  
 Project Name# Utica Mine  
 Client Sample ID Stockpile 2-2  
 Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
 Collected Date/Time 09/27/2008 13:10  
 Received Date/Time 09/30/2008 9:05  
 Technical Director Stephen C. Ede

Sample Remarks:

AK102 - The pattern is consistent with a highly weathered middle distillate.  
 AK103 - Residual range organics result is biased high due to lighter hydrocarbons contributing to the residual range.

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b><u>Volatile Fuels Department</u></b>									
Gasoline Range Organics	ND	2.33	mg/Kg	AK101	A		09/27/08	10/04/08	HM
<b>Surrogates</b>									
4-Bromofluorobenzene <surr>	85.8		%	AK101	A	50-150	09/27/08	10/04/08	HM
<b><u>Semivolatile Organic Fuels Department</u></b>									
Diesel Range Organics	770	85.5	mg/Kg	AK102	B		10/10/08	10/13/08	HKG
Residual Range Organics	243	85.5	mg/Kg	AK103	B		10/10/08	10/13/08	HKG
<b>Surrogates</b>									
5a Androstane <surr>	97.8		%	AK102	B	50-150	10/10/08	10/13/08	HKG
n-Triacontane-d62 <surr>	85.9		%	AK103	B	50-150	10/10/08	10/13/08	HKG
<b><u>Volatile Gas Chromatography/Mass Spectroscopy</u></b>									
Benzene	ND	14.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Toluene	ND	46.5	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Ethylbenzene	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
n-Butylbenzene	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Carbon disulfide	ND	93.1	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,4-Dichlorobenzene	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2-Dichloroethane	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,3,5-Trimethylbenzene	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
4-Chlorotoluene	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Chlorobenzene	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
4-Methyl-2-pentanone (MIBK)	ND	233	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
cis-1,2-Dichloroethene	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW



SGS Ref.# 1085929013  
 Client Name Travis/Peterson  
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 Client Sample ID Stockpile 2-2  
 Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
 Collected Date/Time 09/27/2008 13:10  
 Received Date/Time 09/30/2008 9:05  
 Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b><u>Volatile Gas Chromatography/Mass Spectroscopy</u></b>									
4-Isopropyltoluene	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Methyl-t-butyl ether	ND	37.2	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
cis-1,3-Dichloropropene	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
n-Propylbenzene	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Styrene	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Dibromomethane	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
trans-1,3-Dichloropropene	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2,4-Trichlorobenzene	ND	46.5	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1,2,2-Tetrachloroethane	ND	46.5	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2-Dibromo-3-chloropropane	ND	93.1	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Tetrachloroethene	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Dibromochloromethane	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,3-Dichloropropane	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2-Dibromoethane	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Carbon tetrachloride	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1,1,2-Tetrachloroethane	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Chloroform	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Bromobenzene	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Chloromethane	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2,3-Trichloropropane	ND	46.5	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Bromomethane	ND	186	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Bromochloromethane	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Vinyl chloride	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Dichlorodifluoromethane	ND	46.5	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Chloroethane	ND	186	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
sec-Butylbenzene	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Bromodichloromethane	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1-Dichloroethene	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
2-Butanone (MEK)	ND	233	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Methylene chloride	ND	93.1	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW



SGS Ref.# 1085929013  
 Client Name Travis/Peterson  
 Project Name/# Utica Mine  
 Client Sample ID Stockpile 2-2  
 Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
 Collected Date/Time 09/27/2008 13:10  
 Received Date/Time 09/30/2008 9:05  
 Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b>Volatile Gas Chromatography/Mass Spectroscopy</b>									
Trichlorofluoromethane	ND	46.5	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
P & M -Xylene	ND	46.5	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Naphthalene	ND	46.5	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
o-Xylene	ND	46.5	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Bromoform	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Xylenes (total)	ND	93.1	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2,4-Trimethylbenzene	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
tert-Butylbenzene	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1,1-Trichloroethane	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1-Dichloroethane	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
2-Chlorotoluene	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Trichloroethene	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
trans-1,2-Dichloroethene	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2-Dichlorobenzene	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
2,2-Dichloropropane	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Hexachlorobutadiene	ND	46.5	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Isopropylbenzene (Cumene)	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
2-Hexanone	ND	233	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2-Dichloropropane	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1-Dichloropropene	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1,2-Trichloroethane	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,3-Dichlorobenzene	ND	23.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2,3-Trichlorobenzene	ND	46.5	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
<b>Surrogates</b>									
1,2-Dichloroethane-D4 <surr>	92.7		%	SW8260B	A	80-137	09/27/08	10/11/08	KPW
Toluene-d8 <surr>	109		%	SW8260B	A	80-122	09/27/08	10/11/08	KPW
4-Bromofluorobenzene <surr>	122		%	SW8260B	A	42-147	09/27/08	10/11/08	KPW

**Solids**



SGS Ref.# 1085929013  
Client Name Travis/Peterson  
Project Name# Utica Mine  
Client Sample ID Stockpile 2-2  
Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
Collected Date/Time 09/27/2008 13:10  
Received Date/Time 09/30/2008 9:05  
Technical Director Stephen C. Ede

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Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
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Solids

Total Solids	93.4		%	SM20 2540G	B			10/08/08	STB
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SGS Ref.# 1085929014  
 Client Name Travis/Peterson  
 Project Name/# Utica Mine  
 Client Sample ID Stockpile 2-3  
 Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
 Collected Date/Time 09/27/2008 13:20  
 Received Date/Time 09/30/2008 9:05  
 Technical Director Stephen C. Ede

Sample Remarks:

AK102 - The pattern is consistent with a highly weathered middle distillate.  
 AK103 - Unknown hydrocarbon with several peaks is present.  
 8260B - Sample was re-analyzed outside of holding time for trichlorofluoromethane only.

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b><u>Volatile Fuels Department</u></b>									
Gasoline Range Organics	ND	2.07	mg/Kg	AK101	A		09/27/08	10/04/08	HM
<b>Surrogates</b>									
4-Bromofluorobenzene <surr>	95.3		%	AK101	A	50-150	09/27/08	10/04/08	HM
<b><u>Semivolatile Organic Fuels Department</u></b>									
Diesel Range Organics	366	21.2	mg/Kg	AK102	B		10/10/08	10/13/08	HKG
Residual Range Organics	373	21.2	mg/Kg	AK103	B		10/10/08	10/13/08	HKG
<b>Surrogates</b>									
5a Androstane <surr>	85.5		%	AK102	B	50-150	10/10/08	10/13/08	HKG
n-Triacontane-d62 <surr>	82.4		%	AK103	B	50-150	10/10/08	10/13/08	HKG
<b><u>Polychlorinated Biphenyls</u></b>									
Aroclor-1016	ND	52.9	ug/Kg	SW8082A	B		10/13/08	10/14/08	SCL
Aroclor-1221	ND	52.9	ug/Kg	SW8082A	B		10/13/08	10/14/08	SCL
Aroclor-1232	ND	52.9	ug/Kg	SW8082A	B		10/13/08	10/14/08	SCL
Aroclor-1242	ND	52.9	ug/Kg	SW8082A	B		10/13/08	10/14/08	SCL
Aroclor-1248	ND	52.9	ug/Kg	SW8082A	B		10/13/08	10/14/08	SCL
Aroclor-1254	ND	52.9	ug/Kg	SW8082A	B		10/13/08	10/14/08	SCL
Aroclor-1260	ND	52.9	ug/Kg	SW8082A	B		10/13/08	10/14/08	SCL
<b>Surrogates</b>									
Decachlorobiphenyl <surr>	79.4		%	SW8082A	B	60-125	10/13/08	10/14/08	SCL



SGS Ref.# 1085929014  
 Client Name Travis/Peterson  
 Project Name/# Utica Mine  
 Client Sample ID Stockpile 2-3  
 Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
 Collected Date/Time 09/27/2008 13:20  
 Received Date/Time 09/30/2008 9:05  
 Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b><u>Volatile Gas Chromatography/Mass Spectroscopy</u></b>									
Benzene	ND	12.4	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Toluene	ND	41.5	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Ethylbenzene	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
n-Butylbenzene	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Carbon disulfide	ND	82.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,4-Dichlorobenzene	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2-Dichloroethane	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,3,5-Trimethylbenzene	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
4-Chlorotoluene	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Chlorobenzene	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
4-Methyl-2-pentanone (MIBK)	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
cis-1,2-Dichloroethene	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
4-Isopropyltoluene	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Methyl-t-butyl ether	ND	33.2	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
cis-1,3-Dichloropropene	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
n-Propylbenzene	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Styrene	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Dibromomethane	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
trans-1,3-Dichloropropene	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2,4-Trichlorobenzene	ND	41.5	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1,2,2-Tetrachloroethane	ND	41.5	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2-Dibromo-3-chloropropane	ND	82.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Tetrachloroethene	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Dibromochloromethane	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,3-Dichloropropane	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2-Dibromoethane	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Carbon tetrachloride	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1,1,2-Tetrachloroethane	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Chloroform	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Bromobenzene	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW



SGS Ref.# 1085929014  
 Client Name Travis/Peterson  
 Project Name/# Utica Mine  
 Client Sample ID Stockpile 2-3  
 Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
 Collected Date/Time 09/27/2008 13:20  
 Received Date/Time 09/30/2008 9:05  
 Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b><u>Volatile Gas Chromatography/Mass Spectroscopy</u></b>									
1,2,3-Trichloropropane	ND	41.5	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Chloromethane	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Bromomethane	ND	166	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Bromochloromethane	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Vinyl chloride	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Dichlorodifluoromethane	ND	41.5	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Chloroethane	ND	166	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
sec-Butylbenzene	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Bromodichloromethane	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1-Dichloroethene	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
2-Butanone (MEK)	ND	207	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Methylene chloride	ND	82.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Trichlorofluoromethane	ND	41.5	ug/Kg	SW8260B	A		09/27/08	10/17/08	KPW
P & M -Xylene	ND	41.5	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Naphthalene	ND	41.5	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
o-Xylene	ND	41.5	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Bromoform	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Xylenes (total)	ND	82.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2,4-Trimethylbenzene	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
tert-Butylbenzene	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1,1-Trichloroethane	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1-Dichloroethane	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
2-Chlorotoluene	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Trichloroethene	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
trans-1,2-Dichloroethene	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2-Dichlorobenzene	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
2,2-Dichloropropane	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Hexachlorobutadiene	ND	41.5	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Isopropylbenzene (Cumene)	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
2-Hexanone	ND	207	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW



SGS Ref.# 1085929014  
 Client Name Travis/Peterson  
 Project Name/# Utica Mine  
 Client Sample ID Stockpile 2-3  
 Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
 Collected Date/Time 09/27/2008 13:20  
 Received Date/Time 09/30/2008 9:05  
 Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b><u>Volatile Gas Chromatography/Mass Spectroscopy</u></b>									
1,2-Dichloropropane	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1-Dichloropropene	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1,2-Trichloroethane	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,3-Dichlorobenzene	ND	20.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2,3-Trichlorobenzene	ND	41.5	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
<b><u>Surrogates</u></b>									
1,2-Dichloroethane-D4 <surr>	89.2		%	SW8260B	A	80-137	09/27/08	10/11/08	KPW
Toluene-d8 <surr>	105		%	SW8260B	A	80-122	09/27/08	10/11/08	KPW
4-Bromofluorobenzene <surr>	114		%	SW8260B	A	42-147	09/27/08	10/11/08	KPW
<b><u>Solids</u></b>									
Total Solids	94.0		%	SM20 2540G	B			10/08/08	STB





SGS Ref.# 1085929015  
 Client Name Travis/Peterson  
 Project Name/# Utica Mine  
 Client Sample ID Stockpile 2-4  
 Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
 Collected Date/Time 09/27/2008 13:30  
 Received Date/Time 09/30/2008 9:05  
 Technical Director Stephen C. Ede

Sample Remarks:

AK102/103 - Unknown hydrocarbon with several peaks is present.

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b><u>Volatile Fuels Department</u></b>									
Gasoline Range Organics	ND	2.19	mg/Kg	AK101	A		09/27/08	10/03/08	HM
<b>Surrogates</b>									
4-Bromofluorobenzene <surr>	121		%	AK101	A	50-150	09/27/08	10/03/08	HM
<b><u>Semivolatile Organic Fuels Department</u></b>									
Diesel Range Organics	33.5	21.5	mg/Kg	AK102	B		10/10/08	10/13/08	HKG
Residual Range Organics	112	21.5	mg/Kg	AK103	B		10/10/08	10/13/08	HKG
<b>Surrogates</b>									
5a Androstane <surr>	83.3		%	AK102	B	50-150	10/10/08	10/13/08	HKG
n-Triacontane-d62 <surr>	93.9		%	AK103	B	50-150	10/10/08	10/13/08	HKG
<b><u>Polychlorinated Biphenyls</u></b>									
Aroclor-1016	ND	54.0	ug/Kg	SW8082A	B		10/13/08	10/14/08	SCL
Aroclor-1221	ND	54.0	ug/Kg	SW8082A	B		10/13/08	10/14/08	SCL
Aroclor-1232	ND	54.0	ug/Kg	SW8082A	B		10/13/08	10/14/08	SCL
Aroclor-1242	ND	54.0	ug/Kg	SW8082A	B		10/13/08	10/14/08	SCL
Aroclor-1248	ND	54.0	ug/Kg	SW8082A	B		10/13/08	10/14/08	SCL
Aroclor-1254	ND	54.0	ug/Kg	SW8082A	B		10/13/08	10/14/08	SCL
Aroclor-1260	ND	54.0	ug/Kg	SW8082A	B		10/13/08	10/14/08	SCL
<b>Surrogates</b>									
Decachlorobiphenyl <surr>	83.2		%	SW8082A	B	60-125	10/13/08	10/14/08	SCL

**Volatile Gas Chromatography/Mass Spectroscopy**



SGS Ref.# 1085929015  
 Client Name Travis/Peterson  
 Project Name/# Utica Mine  
 Client Sample ID Stockpile 2-4  
 Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
 Collected Date/Time 09/27/2008 13:30  
 Received Date/Time 09/30/2008 9:05  
 Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b><u>Volatile Gas Chromatography/Mass Spectroscopy</u></b>									
Benzene	16.0	13.1	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Toluene	129	43.8	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Ethylbenzene	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
n-Butylbenzene	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Carbon disulfide	ND	87.5	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,4-Dichlorobenzene	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2-Dichloroethane	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,3,5-Trimethylbenzene	34.6	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
4-Chlorotoluene	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Chlorobenzene	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
4-Methyl-2-pentanone (MIBK)	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
cis-1,2-Dichloroethene	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
4-Isopropyltoluene	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Methyl-t-butyl ether	ND	35.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
cis-1,3-Dichloropropene	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
n-Propylbenzene	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Styrene	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Dibromomethane	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
trans-1,3-Dichloropropene	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2,4-Trichlorobenzene	ND	43.8	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1,2,2-Tetrachloroethane	ND	43.8	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2-Dibromo-3-chloropropane	ND	87.5	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Tetrachloroethene	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Dibromochloromethane	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,3-Dichloropropane	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2-Dibromoethane	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Carbon tetrachloride	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1,1,2-Tetrachloroethane	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Chloroform	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Bromobenzene	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW



SGS Ref.# 1085929015  
 Client Name Travis/Peterson  
 Project Name/# Utica Mine  
 Client Sample ID Stockpile 2-4  
 Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
 Collected Date/Time 09/27/2008 13:30  
 Received Date/Time 09/30/2008 9:05  
 Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b><u>Volatile Gas Chromatography/Mass Spectroscopy</u></b>									
Chloromethane	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2,3-Trichloropropane	ND	43.8	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Bromomethane	ND	175	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Bromochloromethane	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Vinyl chloride	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Dichlorodifluoromethane	ND	43.8	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Chloroethane	ND	175	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
sec-Butylbenzene	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Bromodichloromethane	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1-Dichloroethene	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
2-Butanone (MEK)	ND	219	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Methylene chloride	ND	87.5	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Trichlorofluoromethane	ND	43.8	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
P & M -Xylene	81.4	43.8	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Naphthalene	ND	43.8	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
o-Xylene	ND	43.8	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Bromoform	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Xylenes (total)	110	87.5	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2,4-Trimethylbenzene	66.3	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
tert-Butylbenzene	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1,1-Trichloroethane	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1-Dichloroethane	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
2-Chlorotoluene	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Trichloroethene	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
trans-1,2-Dichloroethene	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2-Dichlorobenzene	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
2,2-Dichloropropane	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Hexachlorobutadiene	ND	43.8	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Isopropylbenzene (Cumene)	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
2-Hexanone	ND	219	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW



SGS Ref.# 1085929015  
 Client Name Travis/Peterson  
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 Client Sample ID Stockpile 2-4  
 Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
 Collected Date/Time 09/27/2008 13:30  
 Received Date/Time 09/30/2008 9:05  
 Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b><u>Volatile Gas Chromatography/Mass Spectroscopy</u></b>									
1,2-Dichloropropane	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1-Dichloropropene	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1,2-Trichloroethane	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,3-Dichlorobenzene	ND	21.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2,3-Trichlorobenzene	ND	43.8	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
<b><u>Surrogates</u></b>									
1,2-Dichloroethane-D4 <surr>	93.2		%	SW8260B	A	80-137	09/27/08	10/11/08	KPW
Toluene-d8 <surr>	107		%	SW8260B	A	80-122	09/27/08	10/11/08	KPW
4-Bromofluorobenzene <surr>	110		%	SW8260B	A	42-147	09/27/08	10/11/08	KPW
<b><u>Solids</u></b>									
Total Solids	92.4		%	SM20 2540G	B			10/08/08	STB



SGS Ref.# 1085929016  
 Client Name Travis/Peterson  
 Project Name/# Utica Mine  
 Client Sample ID Power Shed  
 Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
 Collected Date/Time 09/27/2008 13:35  
 Received Date/Time 09/30/2008 9:05  
 Technical Director Stephen C. Ede

Sample Remarks:

AK101 - BFB (surrogate) recovery does not meet QC goals (biased high) due to hydrocarbon interference.  
 AK102 - 5a-Androstane (surrogate) recovery is outside QC goals (biased high) due to hydrocarbon interference.  
 AK102 - The pattern is consistent with a weathered middle distillate.  
 AK103 - Unknown hydrocarbon with several peaks is present.

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b><u>Volatile Fuels Department</u></b>									
Gasoline Range Organics	31.5	1.83	mg/Kg	AK101	A		09/27/08	10/03/08	HM
<b>Surrogates</b>									
4-Bromofluorobenzene <surr>	261	!	%	AK101	A	50-150	09/27/08	10/03/08	HM
<b><u>Semivolatile Organic Fuels Department</u></b>									
Diesel Range Organics	5480	425	mg/Kg	AK102	B		10/10/08	10/13/08	HKG
Residual Range Organics	782	425	mg/Kg	AK103	B		10/10/08	10/13/08	HKG
<b>Surrogates</b>									
5a Androstane <surr>	204	!	%	AK102	B	50-150	10/10/08	10/13/08	HKG
n-Triacontane-d62 <surr>	104		%	AK103	B	50-150	10/10/08	10/13/08	HKG
<b><u>Polychlorinated Biphenyls</u></b>									
Aroclor-1016	ND	52.6	ug/Kg	SW8082A	B		10/13/08	10/15/08	SCL
Aroclor-1221	ND	52.6	ug/Kg	SW8082A	B		10/13/08	10/15/08	SCL
Aroclor-1232	ND	52.6	ug/Kg	SW8082A	B		10/13/08	10/15/08	SCL
Aroclor-1242	ND	52.6	ug/Kg	SW8082A	B		10/13/08	10/15/08	SCL
Aroclor-1248	ND	52.6	ug/Kg	SW8082A	B		10/13/08	10/15/08	SCL
Aroclor-1254	ND	52.6	ug/Kg	SW8082A	B		10/13/08	10/15/08	SCL
Aroclor-1260	ND	52.6	ug/Kg	SW8082A	B		10/13/08	10/15/08	SCL
<b>Surrogates</b>									
Decachlorobiphenyl <surr>	86.8		%	SW8082A	B	60-125	10/13/08	10/15/08	SCL



SGS Ref.# 1085929016  
 Client Name Travis/Peterson  
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 Received Date/Time 09/30/2008 9:05  
 Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
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Polychlorinated Biphenyls

Volatile Gas Chromatography/Mass Spectroscopy

Benzene	ND	11.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Toluene	ND	36.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Ethylbenzene	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
n-Butylbenzene	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Carbon disulfide	ND	73.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,4-Dichlorobenzene	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2-Dichloroethane	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,3,5-Trimethylbenzene	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
4-Chlorotoluene	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Chlorobenzene	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
4-Methyl-2-pentanone (MIBK)	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
cis-1,2-Dichloroethene	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
4-Isopropyltoluene	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Methyl-t-butyl ether	ND	29.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
cis-1,3-Dichloropropene	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
n-Propylbenzene	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Styrene	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Dibromomethane	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
trans-1,3-Dichloropropene	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2,4-Trichlorobenzene	ND	36.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1,2,2-Tetrachloroethane	ND	36.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2-Dibromo-3-chloropropane	ND	73.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Tetrachloroethene	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Dibromochloromethane	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,3-Dichloropropane	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2-Dibromoethane	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Carbon tetrachloride	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1,1,2-Tetrachloroethane	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW



SGS Ref.# 1085929016  
Client Name Travis/Peterson  
Project Name/# Utica Mine  
Client Sample ID Power Shed  
Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
Collected Date/Time 09/27/2008 13:35  
Received Date/Time 09/30/2008 9:05  
Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b><u>Volatile Gas Chromatography/Mass Spectroscopy</u></b>									
Chloroform	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Bromobenzene	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2,3-Trichloropropane	ND	36.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Chloromethane	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Bromomethane	ND	147	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Bromochloromethane	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Vinyl chloride	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Dichlorodifluoromethane	ND	36.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Chloroethane	ND	147	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
sec-Butylbenzene	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Bromodichloromethane	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1-Dichloroethene	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
2-Butanone (MEK)	ND	183	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Methylene chloride	ND	73.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Trichlorofluoromethane	ND	36.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
P & M -Xylene	ND	36.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Naphthalene	ND	36.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
o-Xylene	ND	36.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Bromoform	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Xylenes (total)	ND	73.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2,4-Trimethylbenzene	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
tert-Butylbenzene	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1,1-Trichloroethane	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1-Dichloroethane	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
2-Chlorotoluene	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Trichloroethene	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
trans-1,2-Dichloroethene	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2-Dichlorobenzene	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
2,2-Dichloropropane	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Hexachlorobutadiene	ND	36.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW



SGS Ref.# 1085929016  
 Client Name Travis/Peterson  
 Project Name/# Utica Mine  
 Client Sample ID Power Shed  
 Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
 Collected Date/Time 09/27/2008 13:35  
 Received Date/Time 09/30/2008 9:05  
 Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b><u>Volatile Gas Chromatography/Mass Spectroscopy</u></b>									
Isopropylbenzene (Cumene)	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
2-Hexanone	ND	183	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2-Dichloropropane	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1-Dichloropropene	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1,2-Trichloroethane	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,3-Dichlorobenzene	ND	18.3	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2,3-Trichlorobenzene	ND	36.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
<b><u>Surrogates</u></b>									
1,2-Dichloroethane-D4 <surr>	85.3		%	SW8260B	A	80-137	09/27/08	10/11/08	KPW
Toluene-d8 <surr>	104		%	SW8260B	A	80-122	09/27/08	10/11/08	KPW
4-Bromofluorobenzene <surr>	106		%	SW8260B	A	42-147	09/27/08	10/11/08	KPW
<b><u>Solids</u></b>									
Total Solids	94.1		%	SM20 2540G	B			10/08/08	STB





SGS Ref.# 1085929017  
 Client Name Travis/Peterson  
 Project Name/# Utica Mine  
 Client Sample ID Power Shed-2  
 Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
 Collected Date/Time 09/27/2008 13:40  
 Received Date/Time 09/30/2008 9:05  
 Technical Director Stephen C. Ede

Sample Remarks:

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b><u>Volatile Fuels Department</u></b>									
Gasoline Range Organics	ND	2.50	mg/Kg	AK101	A		09/27/08	10/03/08	HM
<b>Surrogates</b>									
4-Bromofluorobenzene <surr>	90.2		%	AK101	A	50-150	09/27/08	10/03/08	HM
<b><u>Semivolatile Organic Fuels Department</u></b>									
Diesel Range Organics	ND	20.9	mg/Kg	AK102	B		10/10/08	10/13/08	HKG
Residual Range Organics	ND	20.9	mg/Kg	AK103	B		10/10/08	10/13/08	HKG
<b>Surrogates</b>									
5a Androstane <surr>	87.6		%	AK102	B	50-150	10/10/08	10/13/08	HKG
n-Triacontane-d62 <surr>	89.7		%	AK103	B	50-150	10/10/08	10/13/08	HKG
<b><u>Volatile Gas Chromatography/Mass Spectroscopy</u></b>									
Benzene	ND	15.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Toluene	ND	49.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Ethylbenzene	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
n-Butylbenzene	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Carbon disulfide	ND	99.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,4-Dichlorobenzene	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2-Dichloroethane	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,3,5-Trimethylbenzene	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
4-Chlorotoluene	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Chlorobenzene	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
4-Methyl-2-pentanone (MIBK)	ND	250	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
cis-1,2-Dichloroethene	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW



SGS Ref.# 1085929017  
 Client Name Travis/Peterson  
 Project Name/# Utica Mine  
 Client Sample ID Power Shed-2  
 Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
 Collected Date/Time 09/27/2008 13:40  
 Received Date/Time 09/30/2008 9:05  
 Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b><u>Volatile Gas Chromatography/Mass Spectroscopy</u></b>									
4-Isopropyltoluene	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Methyl-t-butyl ether	ND	39.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
cis-1,3-Dichloropropene	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
n-Propylbenzene	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Styrene	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Dibromomethane	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
trans-1,3-Dichloropropene	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2,4-Trichlorobenzene	ND	49.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1,2,2-Tetrachloroethane	ND	49.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2-Dibromo-3-chloropropane	ND	99.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Tetrachloroethene	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Dibromochloromethane	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,3-Dichloropropane	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2-Dibromoethane	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Carbon tetrachloride	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1,1,2-Tetrachloroethane	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Chloroform	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Bromobenzene	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2,3-Trichloropropane	ND	49.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Chloromethane	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Bromomethane	ND	200	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Bromochloromethane	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Vinyl chloride	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Dichlorodifluoromethane	ND	49.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Chloroethane	ND	200	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
sec-Butylbenzene	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Bromodichloromethane	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1-Dichloroethene	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
2-Butanone (MEK)	ND	250	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Methylene chloride	ND	99.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW



SGS Ref.# 1085929017  
 Client Name Travis/Peterson  
 Project Name/# Utica Mine  
 Client Sample ID Power Shed-2  
 Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
 Collected Date/Time 09/27/2008 13:40  
 Received Date/Time 09/30/2008 9:05  
 Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b>Volatile Gas Chromatography/Mass Spectroscopy</b>									
Trichlorofluoromethane	ND	49.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
P & M -Xylene	ND	49.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Naphthalene	ND	49.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
o-Xylene	ND	49.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Bromoform	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Xylenes (total)	ND	99.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2,4-Trimethylbenzene	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
tert-Butylbenzene	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1,1-Trichloroethane	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1-Dichloroethane	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
2-Chlorotoluene	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Trichloroethene	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
trans-1,2-Dichloroethene	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2-Dichlorobenzene	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
2,2-Dichloropropane	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Hexachlorobutadiene	ND	49.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Isopropylbenzene (Cumene)	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
2-Hexanone	ND	250	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2-Dichloropropane	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1-Dichloropropene	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1,2-Trichloroethane	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,3-Dichlorobenzene	ND	25.0	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2,3-Trichlorobenzene	ND	49.9	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
<b>Surrogates</b>									
1,2-Dichloroethane-D4 <surr>	83.3		%	SW8260B	A	80-137	09/27/08	10/11/08	KPW
Toluene-d8 <surr>	105		%	SW8260B	A	80-122	09/27/08	10/11/08	KPW
4-Bromofluorobenzene <surr>	117		%	SW8260B	A	42-147	09/27/08	10/11/08	KPW

**Solids**



SGS Ref.# 1085929017  
Client Name Travis/Peterson  
Project Name/# Utica Mine  
Client Sample ID Power Shed-2  
Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
Collected Date/Time 09/27/2008 13:40  
Received Date/Time 09/30/2008 9:05  
Technical Director Stephen C. Ede

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Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
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Solids

Total Solids	94.9		%	SM20 2540G	B			10/08/08	STB
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SGS Ref.# 1085929018  
Client Name Travis/Peterson  
Project Name/# Utica Mine  
Client Sample ID #1  
Matrix Solid/Soil (Wet Weight)

Printed Date/Time 10/24/2008 9:10  
Collected Date/Time 09/26/2008 13:23  
Received Date/Time 09/30/2008 9:05  
Technical Director Stephen C. Ede

Sample Remarks:

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
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Characterization

Aqueous Phase, Total	0.0		%	TCLP	A			09/30/08	BJS
Oil Phase, Total	0.0		%	TCLP	A			09/30/08	BJS
Solid Phase, Total	100		%	TCLP	A			09/30/08	BJS

TCLP Constituents Metals

Lead	ND	0.500	mg/L	SW6010B TCLP	A	(<5)	10/15/08	10/17/08	KAR
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SGS Ref.# 1085929019  
Client Name Travis/Peterson  
Project Name/# Utica Mine  
Client Sample ID #2  
Matrix Solid/Soil (Wet Weight)

Printed Date/Time 10/24/2008 9:10  
Collected Date/Time 09/26/2008 13:45  
Received Date/Time 09/30/2008 9:05  
Technical Director Stephen C. Ede

Sample Remarks:

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b><u>Characterization</u></b>									
Aqueous Phase, Total	0.0		%	TCLP	A			09/30/08	BJS
Oil Phase, Total	0.0		%	TCLP	A			09/30/08	BJS
Solid Phase, Total	100		%	TCLP	A			09/30/08	BJS
<b><u>TCLP Constituents Metals</u></b>									
Lead	ND	0.500	mg/L	SW6010B TCLP	A	(<5)	10/15/08	10/17/08	KAR



SGS Ref.# 1085929020  
 Client Name Travis/Peterson  
 Project Name/# Utica Mine  
 Client Sample ID #3  
 Matrix Solid/Soil (Wet Weight)

Printed Date/Time 10/24/2008 9:10  
 Collected Date/Time 09/26/2008 13:55  
 Received Date/Time 09/30/2008 9:05  
 Technical Director Stephen C. Ede

Sample Remarks:

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b>Characterization</b>									
Aqueous Phase, Total	0.0		%	TCLP	A			09/30/08	BJS
Oil Phase, Total	0.0		%	TCLP	A			09/30/08	BJS
Solid Phase, Total	100		%	TCLP	A			09/30/08	BJS

**TCLP Constituents Metals**

Lead	22.5	* 0.500	mg/L	SW6010B TCLP	A	(<5)	10/15/08	10/17/08	KAR
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**SGS Ref.#** 1085929021  
**Client Name** Travis/Peterson  
**Project Name/#** Utica Mine  
**Client Sample ID** #4  
**Matrix** Solid/Soil (Wet Weight)

**Printed Date/Time** 10/24/2008 9:10  
**Collected Date/Time** 09/26/2008 14:09  
**Received Date/Time** 09/30/2008 9:05  
**Technical Director** Stephen C. Ede

Sample Remarks:

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
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**Characterization**

Aqueous Phase, Total	0.0		%	TCLP	A			09/30/08	BJS
Oil Phase, Total	0.0		%	TCLP	A			09/30/08	BJS
Solid Phase, Total	100		%	TCLP	A			09/30/08	BJS

**TCLP Constituents Metals**

Lead	ND	0.500	mg/L	SW6010B TCLP	A	(<5)	10/15/08	10/17/08	KAR
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SGS Ref.# 1085929022  
Client Name Travis/Peterson  
Project Name/# Utica Mine  
Client Sample ID #5  
Matrix Solid/Soil (Wet Weight)

Printed Date/Time 10/24/2008 9:10  
Collected Date/Time 09/26/2008 14:20  
Received Date/Time 09/30/2008 9:05  
Technical Director Stephen C. Ede

Sample Remarks:

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
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Characterization

Aqueous Phase, Total	0.0		%	TCLP	A			09/30/08	BJS
Oil Phase, Total	0.0		%	TCLP	A			09/30/08	BJS
Solid Phase, Total	100		%	TCLP	A			09/30/08	BJS

TCLP Constituents Metals

Lead	ND	0.500	mg/L	SW6010B TCLP	A	(<5)	10/15/08	10/17/08	KAR
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SGS Ref.# 1085929023  
Client Name Travis/Peterson  
Project Name/# Utica Mine  
Client Sample ID Pb Stockpile 1  
Matrix Solid/Soil (Wet Weight)

Printed Date/Time 10/24/2008 9:10  
Collected Date/Time 09/26/2008 14:40  
Received Date/Time 09/30/2008 9:05  
Technical Director Stephen C. Ede

Sample Remarks:

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
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Characterization

Aqueous Phase, Total	0.0		%	TCLP	A			09/30/08	BJS
Oil Phase, Total	0.0		%	TCLP	A			09/30/08	BJS
Solid Phase, Total	100		%	TCLP	A			09/30/08	BJS

TCLP Constituents Metals

Lead	10.8	* 0.500	mg/L	SW6010B TCLP	A	(<5)	10/15/08	10/17/08	KAR
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**SGS Ref.#** 1085929024  
**Client Name** Travis/Peterson  
**Project Name/#** Utica Mine  
**Client Sample ID** Pb Stockpile 2  
**Matrix** Solid/Soil (Wet Weight)

**Printed Date/Time** 10/24/2008 9:10  
**Collected Date/Time** 09/26/2008 14:42  
**Received Date/Time** 09/30/2008 9:05  
**Technical Director** Stephen C. Ede

Sample Remarks:

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b>Characterization</b>									
Aqueous Phase, Total	0.0		%	TCLP	A			09/30/08	BJS
Oil Phase, Total	0.0		%	TCLP	A			09/30/08	BJS
Solid Phase, Total	100		%	TCLP	A			09/30/08	BJS
<b>TCLP Constituents Metals</b>									
Lead	48.5	* 0.500	mg/L	SW6010B TCLP	A	(<5)	10/15/08	10/17/08	KAR



SGS Ref.# 1085929025  
Client Name Travis/Peterson  
Project Name/# Utica Mine  
Client Sample ID Pb Stockpile 3  
Matrix Solid/Soil (Wet Weight)

Printed Date/Time 10/24/2008 9:10  
Collected Date/Time 09/26/2008 14:42  
Received Date/Time 09/30/2008 9:05  
Technical Director Stephen C. Ede

Sample Remarks:

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b>Characterization</b>									
Aqueous Phase, Total	0.0		%	TCLP	A			09/30/08	BJS
Oil Phase, Total	0.0		%	TCLP	A			09/30/08	BJS
Solid Phase, Total	100		%	TCLP	A			09/30/08	BJS
<b>TCLP Constituents Metals</b>									
Lead	207	* 0.500	mg/L	SW6010B TCLP	A	(<5)	10/15/08	10/17/08	KAR



SGS Ref.# 1085929026  
 Client Name Travis/Peterson  
 Project Name/# Utica Mine  
 Client Sample ID Trip Blank  
 Matrix Solid/Soil (Wet Weight)

Printed Date/Time 10/24/2008 9:10  
 Collected Date/Time 09/27/2008 13:45  
 Received Date/Time 09/30/2008 9:05  
 Technical Director Stephen C. Ede

Sample Remarks:

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b><u>Volatile Fuels Department</u></b>									
Gasoline Range Organics	ND	2.57	mg/Kg	AK101	A		09/27/08	10/03/08	HM
<b><u>Surrogates</u></b>									
4-Bromofluorobenzene <surr>	87.1		%	AK101	A	50-150	09/27/08	10/03/08	HM
<b><u>Volatile Gas Chromatography/Mass Spectroscopy</u></b>									
Benzene	ND	15.4	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Toluene	ND	51.5	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Ethylbenzene	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
n-Butylbenzene	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Carbon disulfide	ND	103	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,4-Dichlorobenzene	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2-Dichloroethane	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,3,5-Trimethylbenzene	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
4-Chlorotoluene	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Chlorobenzene	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
4-Methyl-2-pentanone (MIBK)	ND	257	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
cis-1,2-Dichloroethene	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
4-Isopropyltoluene	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Methyl-t-butyl ether	ND	41.2	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
cis-1,3-Dichloropropene	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
n-Propylbenzene	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Styrene	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Dibromomethane	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
trans-1,3-Dichloropropene	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2,4-Trichlorobenzene	ND	51.5	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1,2,2-Tetrachloroethane	ND	51.5	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW



SGS Ref.# 1085929026  
 Client Name Travis/Peterson  
 Project Name/# Utica Mine  
 Client Sample ID Trip Blank  
 Matrix Solid/Soil (Wet Weight)

Printed Date/Time 10/24/2008 9:10  
 Collected Date/Time 09/27/2008 13:45  
 Received Date/Time 09/30/2008 9:05  
 Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b>Volatile Gas Chromatography/Mass Spectroscopy</b>									
1,2-Dibromo-3-chloropropane	ND	103	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Tetrachloroethene	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Dibromochloromethane	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,3-Dichloropropane	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2-Dibromoethane	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Carbon tetrachloride	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1,1,2-Tetrachloroethane	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Chloroform	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Bromobenzene	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2,3-Trichloropropane	ND	51.5	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Chloromethane	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Bromomethane	ND	206	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Bromochloromethane	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Vinyl chloride	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Dichlorodifluoromethane	ND	51.5	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Chloroethane	ND	206	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
sec-Butylbenzene	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Bromodichloromethane	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1-Dichloroethene	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
2-Butanone (MEK)	ND	257	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Methylene chloride	ND	103	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Trichlorofluoromethane	ND	51.5	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
P & M -Xylene	ND	51.5	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Naphthalene	ND	51.5	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
o-Xylene	ND	51.5	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Bromoform	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Xylenes (total)	ND	103	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2,4-Trimethylbenzene	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
tert-Butylbenzene	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1,1-Trichloroethane	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW



SGS Ref.# 1085929026  
 Client Name Travis/Peterson  
 Project Name/# Utica Mine  
 Client Sample ID Trip Blank  
 Matrix Solid/Soil (Wet Weight)

Printed Date/Time 10/24/2008 9:10  
 Collected Date/Time 09/27/2008 13:45  
 Received Date/Time 09/30/2008 9:05  
 Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<b><u>Volatile Gas Chromatography/Mass Spectroscopy</u></b>									
1,1-Dichloroethane	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
2-Chlorotoluene	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Trichloroethene	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
trans-1,2-Dichloroethene	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2-Dichlorobenzene	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
2,2-Dichloropropane	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Hexachlorobutadiene	ND	51.5	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
Isopropylbenzene (Cumene)	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
2-Hexanone	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2-Dichloropropane	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1-Dichloropropene	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,1,2-Trichloroethane	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,3-Dichlorobenzene	ND	25.7	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
1,2,3-Trichlorobenzene	ND	51.5	ug/Kg	SW8260B	A		09/27/08	10/11/08	KPW
<b>Surrogates</b>									
1,2-Dichloroethane-D4 <surr>	94.7		%	SW8260B	A	80-137	09/27/08	10/11/08	KPW
Toluene-d8 <surr>	110		%	SW8260B	A	80-122	09/27/08	10/11/08	KPW
4-Bromofluorobenzene <surr>	130		%	SW8260B	A	42-147	09/27/08	10/11/08	KPW



SGS Ref.# 862369 Method Blank  
Client Name Travis/Peterson  
Project Name// Utica Mine  
Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
Prep Batch VXX18830  
Method SW5035A  
Date 10/03/2008

QC results affect the following production samples:  
1085929015, 1085929016, 1085929017, 1085929026

Parameter	Results	Reporting/Control Limit	MDL	Units	Analysis Date
<b><u>Volatile Fuels Department</u></b>					
Gasoline Range Organics	ND	2.50	0.500	mg/Kg	10/03/08
<b>Surrogates</b>					
4-Bromofluorobenzene <surr>	114	50-150		%	10/03/08
1,4-Difluorobenzene <surr>	87.6	80-120		%	10/03/08
Batch	VFC9194				
Method	AK101				
Instrument	HP 5890 Series II PID+HECD VBA				





SGS Ref.#	862585	Method Blank	Printed Date/Time	10/24/2008 9:10	
Client Name	Travis/Peterson		Prep	Batch	VXX18835
Project Name/#	Utica Mine			Method	SW5035A
Matrix	Soil/Solid (dry weight)			Date	10/01/2008

QC results affect the following production samples:  
1085929009, 1085929011, 1085929013, 1085929014

Parameter	Results	Reporting/Control Limit	MDL	Units	Analysis Date
<b><u>Volatile Fuels Department</u></b>					
Gasoline Range Organics	ND	2.50	0.500	mg/Kg	10/04/08
<b>Surrogates</b>					
4-Bromofluorobenzene <surr>	92.4	50-150		%	10/04/08
1,4-Difluorobenzene <surr>	92.2	80-120		%	10/04/08
Batch	VFC9195				
Method	AK101				
Instrument	HP 5890 Series II PID+HECD VBA				



SGS Ref.# 863179 Method Blank Printed Date/Time 10/24/2008 9:10  
Client Name Travis/Peterson Prep Batch  
Project Name/# Utica Mine Method  
Matrix Soil/Solid (dry weight) Date

QC results affect the following production samples:

1085929001, 1085929002, 1085929003, 1085929004, 1085929005, 1085929006, 1085929007, 1085929008, 1085929009,  
1085929010, 1085929011, 1085929012, 1085929013, 1085929014, 1085929015, 1085929016, 1085929017

Parameter	Results	Reporting/Control Limit	MDL	Units	Analysis Date
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Solids

Total Solids		100		%	10/08/08
Batch	SPT7832				
Method	SM20 2540G				
Instrument					



SGS Ref.#	863603	Method Blank	Printed Date/Time	10/24/2008 9:10	
Client Name	Travis/Peterson		Prep	Batch	MXX20919
Project Name/#	Utica Mine			Method	SW3050B
Matrix	Soil/Solid (dry weight)			Date	10/09/2008

QC results affect the following production samples:

1085929001, 1085929002, 1085929003, 1085929004, 1085929005, 1085929006, 1085929007, 1085929008

Parameter	Results	Reporting/Control Limit	MDL	Units	Analysis Date
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Metals by ICP/MS

Lead		ND	0.200	0.0620	mg/Kg	10/10/08
Batch	MMS5660					
Method	SW6020					
Instrument	Perkin Elmer Sciex ICP-MS P3					



SGS Ref.# 863776 Method Blank  
 Client Name Travis/Peterson  
 Project Name/# Utica Mine  
 Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
 Prep Batch XXX20182  
 Method SW3550C  
 Date 10/10/2008

QC results affect the following production samples:

1085929009, 1085929010, 1085929011, 1085929012, 1085929013, 1085929014, 1085929015, 1085929016, 1085929017

Parameter	Results	Reporting/Control Limit	MDL	Units	Analysis Date
<b>Semivolatile Organic Fuels Department</b>					
Diesel Range Organics	ND	20.0	2.00	mg/Kg	10/13/08
<b>Surrogates</b>					
5a Androstane <surrogate>	88.6	60-120		%	10/13/08
Batch	XFC8260				
Method	AK102				
Instrument	HP 5890 Series II FID SV D F				
Residual Range Organics	5.27 J	20.0	2.00	mg/Kg	10/13/08
<b>Surrogates</b>					
n-Triacontane-d62 <surrogate>	101	60-120		%	10/13/08
Batch	XFC8260				
Method	AK103				
Instrument	HP 5890 Series II FID SV D F				



SGS Ref.# 864022 Method Blank  
Client Name Travis/Peterson  
Project Name/# Utica Mine  
Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
Prep Batch XXX20191  
Method SW3550C  
Date 10/13/2008

QC results affect the following production samples:  
1085929014, 1085929015, 1085929016

Parameter	Results	Reporting/Control Limit	MDL	Units	Analysis Date
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Polychlorinated Biphenyls

Aroclor-1016	ND	50.0	15.0	ug/Kg	10/14/08
Aroclor-1221	ND	50.0	15.0	ug/Kg	10/14/08
Aroclor-1232	ND	50.0	15.0	ug/Kg	10/14/08
Aroclor-1242	ND	50.0	15.0	ug/Kg	10/14/08
Aroclor-1248	ND	50.0	15.0	ug/Kg	10/14/08
Aroclor-1254	ND	50.0	15.0	ug/Kg	10/14/08
Aroclor-1260	ND	50.0	15.0	ug/Kg	10/14/08

Surrogates

Decachlorobiphenyl <surr>	95.7	60-125		%	10/14/08
Batch	XGC6404				
Method	SW8082A				
Instrument	HP 5890 Series II ECD SV I F				



SGS Ref.# 864026 Method Blank  
Client Name Travis/Peterson  
Project Name/# Utica Mine  
Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
Prep Batch VXX18863  
Method SW5035A  
Date 10/09/2008

QC results affect the following production samples:  
1085929009, 1085929010, 1085929011, 1085929012

Parameter	Results	Reporting/Control Limit	MDL	Units	Analysis Date
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Volatile Gas Chromatography/Mass Spectroscopy



SGS Ref.#	864026	Method Blank	Printed Date/Time	10/24/2008 9:10	
Client Name	Travis/Peterson		Prep	Batch	VXX18863
Project Name/#	Utica Mine		Method	SW5035A	
Matrix	Soil/Solid (dry weight)		Date	10/09/2008	

Parameter	Results	Reporting/Control Limit	MDL	Units	Analysis Date
<b>Volatile Gas Chromatography/Mass Spectroscopy</b>					
Benzene	ND	15.0	5.00	ug/Kg	10/09/08
Toluene	ND	50.0	15.0	ug/Kg	10/09/08
Ethylbenzene	ND	25.0	7.80	ug/Kg	10/09/08
n-Butylbenzene	ND	25.0	7.80	ug/Kg	10/09/08
Carbon disulfide	ND	100	31.0	ug/Kg	10/09/08
1,4-Dichlorobenzene	ND	25.0	7.80	ug/Kg	10/09/08
1,2-Dichloroethane	ND	25.0	7.80	ug/Kg	10/09/08
1,3,5-Trimethylbenzene	ND	25.0	7.80	ug/Kg	10/09/08
Chlorobenzene	ND	25.0	7.80	ug/Kg	10/09/08
4-Methyl-2-pentanone (MIBK)	ND	250	78.0	ug/Kg	10/09/08
cis-1,2-Dichloroethene	ND	25.0	7.80	ug/Kg	10/09/08
4-Isopropyltoluene	ND	25.0	7.80	ug/Kg	10/09/08
Methyl-t-butyl ether	ND	40.0	12.0	ug/Kg	10/09/08
cis-1,3-Dichloropropene	ND	25.0	7.80	ug/Kg	10/09/08
n-Propylbenzene	ND	25.0	7.80	ug/Kg	10/09/08
Styrene	ND	25.0	7.80	ug/Kg	10/09/08
Dibromomethane	ND	25.0	7.80	ug/Kg	10/09/08
trans-1,3-Dichloropropene	ND	25.0	7.80	ug/Kg	10/09/08
1,2,4-Trichlorobenzene	ND	50.0	15.0	ug/Kg	10/09/08
1,1,2,2-Tetrachloroethane	ND	50.0	15.0	ug/Kg	10/09/08
1,2-Dibromo-3-chloropropane	ND	100	31.0	ug/Kg	10/09/08
Tetrachloroethene	ND	25.0	7.80	ug/Kg	10/09/08
Dibromochloromethane	ND	25.0	7.80	ug/Kg	10/09/08
1,3-Dichloropropane	ND	25.0	7.80	ug/Kg	10/09/08
1,2-Dibromoethane	ND	25.0	7.80	ug/Kg	10/09/08
Carbon tetrachloride	ND	25.0	7.80	ug/Kg	10/09/08
1,1,1,2-Tetrachloroethane	ND	25.0	7.80	ug/Kg	10/09/08
Chloroform	ND	25.0	7.80	ug/Kg	10/09/08
Bromobenzene	ND	25.0	7.80	ug/Kg	10/09/08
Chloromethane	ND	25.0	7.80	ug/Kg	10/09/08
1,2,3-Trichloropropane	ND	50.0	15.0	ug/Kg	10/09/08
Bromomethane	ND	200	62.0	ug/Kg	10/09/08
Bromochloromethane	ND	25.0	7.80	ug/Kg	10/09/08
Vinyl chloride	ND	25.0	12.0	ug/Kg	10/09/08
Dichlorodifluoromethane	ND	50.0	15.0	ug/Kg	10/09/08
Chloroethane	ND	200	62.0	ug/Kg	10/09/08
sec-Butylbenzene	ND	25.0	7.80	ug/Kg	10/09/08
Bromodichloromethane	ND	25.0	7.80	ug/Kg	10/09/08
1,1-Dichloroethene	ND	25.0	7.80	ug/Kg	10/09/08



SGS Ref.#	864026	Method Blank	Printed Date/Time	10/24/2008 9:10
Client Name	Travis/Peterson		Prep	Batch
Project Name/#	Utica Mine		Method	VXX18863
Matrix	Soil/Solid (dry weight)		Date	SW5035A
				10/09/2008

Parameter	Results	Reporting/Control Limit	MDL	Units	Analysis Date
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Volatile Gas Chromatography/Mass Spectroscopy

2-Butanone (MEK)	ND	250	78.0	ug/Kg	10/09/08
Methylene chloride	ND	100	31.0	ug/Kg	10/09/08
Trichlorofluoromethane	ND	50.0	15.0	ug/Kg	10/09/08
P & M -Xylene	ND	50.0	15.0	ug/Kg	10/09/08
Naphthalene	ND	50.0	15.0	ug/Kg	10/09/08
o-Xylene	ND	50.0	15.0	ug/Kg	10/09/08
1,2,4-Trimethylbenzene	ND	25.0	7.80	ug/Kg	10/09/08
tert-Butylbenzene	ND	25.0	7.80	ug/Kg	10/09/08
1,1,1-Trichloroethane	ND	25.0	7.80	ug/Kg	10/09/08
1,1-Dichloroethane	ND	25.0	7.80	ug/Kg	10/09/08
2-Chlorotoluene	ND	25.0	7.80	ug/Kg	10/09/08
Trichloroethene	ND	25.0	7.80	ug/Kg	10/09/08
trans-1,2-Dichloroethene	ND	25.0	7.80	ug/Kg	10/09/08
1,2-Dichlorobenzene	ND	25.0	7.80	ug/Kg	10/09/08
2,2-Dichloropropane	ND	25.0	7.80	ug/Kg	10/09/08
Hexachlorobutadiene	ND	50.0	15.0	ug/Kg	10/09/08
Isopropylbenzene (Cumene)	ND	25.0	7.80	ug/Kg	10/09/08
2-Hexanone	ND	250	78.0	ug/Kg	10/09/08
1,2-Dichloropropane	ND	25.0	7.80	ug/Kg	10/09/08
1,1-Dichloropropene	ND	25.0	7.80	ug/Kg	10/09/08
1,1,2-Trichloroethane	ND	25.0	7.80	ug/Kg	10/09/08
1,3-Dichlorobenzene	ND	25.0	7.80	ug/Kg	10/09/08
1,2,3-Trichlorobenzene	ND	50.0	15.0	ug/Kg	10/09/08

Surrogates

1,2-Dichloroethane-D4 <surr>	108	80-137		%	10/09/08
Toluene-d8 <surr>	101	80-122		%	10/09/08
4-Bromofluorobenzene <surr>	115	42-147		%	10/09/08

Batch VMS10194  
 Method SW8260B  
 Instrument HP 5890 Series II MS1 VMA





SGS Ref.#	864430	Method Blank	Printed Date/Time	10/24/2008 9:10	
Client Name	Travis/Peterson		Prep	Batch	VXX18874
Project Name/#	Utica Mine			Method	SW5035A
Matrix	Soil/Solid (dry weight)			Date	10/09/2008

QC results affect the following production samples:

1085929009, 1085929010, 1085929011, 1085929012

Parameter	Results	Reporting/Control Limit	MDL	Units	Analysis Date
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Volatile Gas Chromatography/Mass Spectroscopy

Bromoform	ND	25.0	7.80	ug/Kg	10/10/08
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Surrogates

1,2-Dichloroethane-D4 <surr>	124	80-137		%	10/10/08
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Toluene-d8 <surr>	109	80-122		%	10/10/08
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4-Bromofluorobenzene <surr>	113	42-147		%	10/10/08
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Batch	VMS10201
Method	SW8260B
Instrument	HP 5890 Series II MS1 VJA



SGS Ref.#	864918	Method Blank	Printed Date/Time	10/24/2008 9:10	
Client Name	Travis/Peterson		Prep	Batch	VXX18893
Project Name/#	Utica Mine			Method	SW5035A
Matrix	Soil/Solid (dry weight)			Date	10/10/2008

QC results affect the following production samples:

1085929013, 1085929014, 1085929015, 1085929016, 1085929017, 1085929026

Parameter	Results	Reporting/Control Limit	MDL	Units	Analysis Date
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Volatile Gas Chromatography/Mass Spectroscopy



SGS Ref.#	864918	Method Blank	Printed Date/Time	10/24/2008 9:10
Client Name	Travis/Peterson		Prep	Batch
Project Name/#	Utica Mine		Method	VXX18893
Matrix	Soil/Solid (dry weight)		Date	SW5035A
				10/10/2008

Parameter	Results	Reporting/Control Limit	MDL	Units	Analysis Date
<u>Volatile Gas Chromatography/Mass Spectroscopy</u>					
Benzene	ND	15.0	5.00	ug/Kg	10/10/08
Toluene	ND	50.0	15.0	ug/Kg	10/10/08
Ethylbenzene	ND	25.0	7.80	ug/Kg	10/10/08
n-Butylbenzene	ND	25.0	7.80	ug/Kg	10/10/08
Carbon disulfide	ND	100	31.0	ug/Kg	10/10/08
1,4-Dichlorobenzene	ND	25.0	7.80	ug/Kg	10/10/08
1,2-Dichloroethane	ND	25.0	7.80	ug/Kg	10/10/08
1,3,5-Trimethylbenzene	ND	25.0	7.80	ug/Kg	10/10/08
Chlorobenzene	ND	25.0	7.80	ug/Kg	10/10/08
4-Methyl-2-pentanone (MIBK)	ND	250	78.0	ug/Kg	10/10/08
cis-1,2-Dichloroethene	ND	25.0	7.80	ug/Kg	10/10/08
4-Isopropyltoluene	ND	25.0	7.80	ug/Kg	10/10/08
Methyl-t-butyl ether	ND	40.0	12.0	ug/Kg	10/10/08
cis-1,3-Dichloropropene	ND	25.0	7.80	ug/Kg	10/10/08
n-Propylbenzene	ND	25.0	7.80	ug/Kg	10/10/08
Styrene	ND	25.0	7.80	ug/Kg	10/10/08
Dibromomethane	ND	25.0	7.80	ug/Kg	10/10/08
trans-1,3-Dichloropropene	ND	25.0	7.80	ug/Kg	10/10/08
1,2,4-Trichlorobenzene	ND	50.0	15.0	ug/Kg	10/10/08
1,1,2,2-Tetrachloroethane	ND	50.0	15.0	ug/Kg	10/10/08
1,2-Dibromo-3-chloropropane	ND	100	31.0	ug/Kg	10/10/08
Tetrachloroethene	ND	25.0	7.80	ug/Kg	10/10/08
Dibromochloromethane	ND	25.0	7.80	ug/Kg	10/10/08
1,3-Dichloropropane	ND	25.0	7.80	ug/Kg	10/10/08
1,2-Dibromoethane	ND	25.0	7.80	ug/Kg	10/10/08
Carbon tetrachloride	ND	25.0	7.80	ug/Kg	10/10/08
1,1,1,2-Tetrachloroethane	ND	25.0	7.80	ug/Kg	10/10/08
Chloroform	ND	25.0	7.80	ug/Kg	10/10/08
Bromobenzene	ND	25.0	7.80	ug/Kg	10/10/08
Chloromethane	ND	25.0	7.80	ug/Kg	10/10/08
1,2,3-Trichloropropane	ND	50.0	15.0	ug/Kg	10/10/08
Bromomethane	ND	200	62.0	ug/Kg	10/10/08
Bromochloromethane	ND	25.0	7.80	ug/Kg	10/10/08
Vinyl chloride	ND	25.0	12.0	ug/Kg	10/10/08
Dichlorodifluoromethane	ND	50.0	15.0	ug/Kg	10/10/08
Chloroethane	ND	200	62.0	ug/Kg	10/10/08
sec-Butylbenzene	ND	25.0	7.80	ug/Kg	10/10/08
Bromodichloromethane	ND	25.0	7.80	ug/Kg	10/10/08
1,1-Dichloroethene	ND	25.0	7.80	ug/Kg	10/10/08



SGS Ref.#	864918	Method Blank	Printed Date/Time	10/24/2008 9:10
Client Name	Travis/Peterson		Prep	Batch
Project Name/#	Utica Mine		Method	VXX18893
Matrix	Soil/Solid (dry weight)		Date	SW5035A
				10/10/2008

Parameter	Results	Reporting/Control Limit	MDL	Units	Analysis Date
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Volatile Gas Chromatography/Mass Spectroscopy

2-Butanone (MEK)	ND	250	78.0	ug/Kg	10/10/08
Methylene chloride	ND	100	31.0	ug/Kg	10/10/08
P & M -Xylene	ND	50.0	15.0	ug/Kg	10/10/08
Naphthalene	ND	50.0	15.0	ug/Kg	10/10/08
o-Xylene	ND	50.0	15.0	ug/Kg	10/10/08
Bromoform	ND	25.0	7.80	ug/Kg	10/10/08
1,2,4-Trimethylbenzene	ND	25.0	7.80	ug/Kg	10/10/08
tert-Butylbenzene	ND	25.0	7.80	ug/Kg	10/10/08
1,1,1-Trichloroethane	ND	25.0	7.80	ug/Kg	10/10/08
1,1-Dichloroethane	ND	25.0	7.80	ug/Kg	10/10/08
2-Chlorotoluene	ND	25.0	7.80	ug/Kg	10/10/08
Trichloroethene	ND	25.0	7.80	ug/Kg	10/10/08
trans-1,2-Dichloroethene	ND	25.0	7.80	ug/Kg	10/10/08
1,2-Dichlorobenzene	ND	25.0	7.80	ug/Kg	10/10/08
2,2-Dichloropropane	ND	25.0	7.80	ug/Kg	10/10/08
Hexachlorobutadiene	ND	50.0	15.0	ug/Kg	10/10/08
Isopropylbenzene (Cumene)	ND	25.0	7.80	ug/Kg	10/10/08
2-Hexanone	ND	250	78.0	ug/Kg	10/10/08
1,2-Dichloropropane	ND	25.0	7.80	ug/Kg	10/10/08
1,1-Dichloropropene	ND	25.0	7.80	ug/Kg	10/10/08
1,1,2-Trichloroethane	ND	25.0	7.80	ug/Kg	10/10/08
1,3-Dichlorobenzene	ND	25.0	7.80	ug/Kg	10/10/08
1,2,3-Trichlorobenzene	ND	50.0	15.0	ug/Kg	10/10/08

Surrogates

1,2-Dichloroethane-D4 <surr>	89.7	80-137		%	10/10/08
Toluene-d8 <surr>	95.9	80-122		%	10/10/08
4-Bromofluorobenzene <surr>	104	42-147		%	10/10/08

Batch VMS10208  
 Method SW8260B  
 Instrument HP 5890 Series II MS1 VJA



SGS Ref.# 864924 Method Blank  
Client Name Travis/Peterson  
Project Name/# Utica Mine  
Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
Prep Batch VXX18894  
Method SW5035A  
Date 10/11/2008

QC results affect the following production samples:  
1085929013, 1085929015, 1085929016, 1085929017, 1085929026

Parameter	Results	Reporting/Control Limit	MDL	Units	Analysis Date
<b><u>Volatile Gas Chromatography/Mass Spectroscopy</u></b>					
Trichlorofluoromethane	ND	50.0	15.0	ug/Kg	10/11/08
Naphthalene	ND	50.0	15.0	ug/Kg	10/11/08
<b>Surrogates</b>					
1,2-Dichloroethane-D4 <surr>	84	80-137		%	10/11/08
Toluene-d8 <surr>	109	80-122		%	10/11/08
4-Bromofluorobenzene <surr>	111	42-147		%	10/11/08
Batch	VMS10209				
Method	SW8260B				
Instrument	HP 5890 Series II MS1 VMA				



SGS Ref.# 865064 Method Blank Printed Date/Time 10/24/2008 9:10  
Client Name Travis/Peterson Prep Batch MXT4171  
Project Name/# Utica Mine Method SW3010A  
Matrix Water (Surface, Eff., Ground) Date 10/15/2008

QC results affect the following production samples:

1085929018, 1085929019, 1085929020, 1085929021, 1085929022, 1085929023, 1085929024, 1085929025

Parameter	Results	Reporting/Control Limit	MDL	Units	Analysis Date
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TCLP Constituents Metals

Lead	ND	0.0500	0.0250	mg/L	10/17/08
Batch	MIP5609				
Method	SW6010B TCLP				
Instrument	TJA Enviro II ICP P2				



SGS Ref.#	866399	Method Blank	Printed Date/Time	10/24/2008 9:10	
Client Name	Travis/Peterson		Prep	Batch	VXX18925
Project Name/#	Utica Mine			Method	SW5035A
Matrix	Soil/Solid (dry weight)			Date	10/16/2008

QC results affect the following production samples:  
1085929014

Parameter	Results	Reporting/Control Limit	MDL	Units	Analysis Date
<u>Volatile Gas Chromatography/Mass Spectroscopy</u>					
Trichlorofluoromethane	ND	50.0	15.0	ug/Kg	10/16/08
<u>Surrogates</u>					
1,2-Dichloroethane-D4 <surr>	103	80-137		%	10/16/08
Toluene-d8 <surr>	98.9	80-122		%	10/16/08
4-Bromofluorobenzene <surr>	99.8	42-147		%	10/16/08
Batch	VMS10227				
Method	SW8260B				
Instrument	HP 5890 Series II MS5 VLA				



SGS Ref.# 863180 Duplicate Printed Date/Time 10/24/2008 9:10  
Client Name Travis/Peterson Prep Batch  
Project Name/# Utica Mine Method  
Original 1085962002 Date  
Matrix Soil/Solid (dry weight)

QC results affect the following production samples:

1085929001, 1085929002, 1085929003, 1085929004, 1085929005, 1085929006, 1085929007, 1085929008, 1085929009, 1085929010,  
1085929011, 1085929012, 1085929013, 1085929014, 1085929015, 1085929016, 1085929017

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
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**Solids**

Total Solids	89.9	89.7	%	0	(< 15)	10/08/2008
Batch	SPT7832					
Method	SM20 2540G					
Instrument						





SGS Ref.# 862370 Lab Control Sample Printed Date/Time 10/24/2008 9:10  
862371 Lab Control Sample Duplicate Prep Batch VXX18830  
Client Name Travis/Peterson Method SW5035A  
Project Name/# Utica Mine Date 10/03/2008  
Matrix Soil/Solid (dry weight)

QC results affect the following production samples:  
1085929015, 1085929016, 1085929017, 1085929026

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
<b>Volatile Fuels Department</b>							
Gasoline Range Organics	LCS	10.7	( 60-120 )	1	(< 20 )	11.3 mg/Kg	10/03/2008
	LCSD	10.7				95	11.3 mg/Kg
<b>Surrogates</b>							
4-Bromofluorobenzene <surr>	LCS		( 50-150 )	1			10/03/2008
	LCSD				118		

Batch VFC9194  
Method AK101  
Instrument HP 5890 Series II PID+HECD VBA



SGS Ref.#	862588	Lab Control Sample	Printed Date/Time	10/24/2008	9:10
	862589	Lab Control Sample Duplicate	Prep	Batch	VXX18835
Client Name	Travis/Peterson		Method	SW5035A	
Project Name/#	Utica Mine		Date	10/01/2008	
Matrix	Soil/Solid (dry weight)				

QC results affect the following production samples:

1085929009, 1085929011, 1085929013, 1085929014

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
<b><u>Volatile Fuels Department</u></b>							
Gasoline Range Organics	LCS	10.7	( 60-120 )	2	(< 20 )	11.3 mg/Kg	10/04/2008
	LCSD	10.5				94	11.3 mg/Kg
<b>Surrogates</b>							
4-Bromofluorobenzene <surr>	LCS	92	( 50-150 )	1			10/04/2008
	LCSD	91					10/04/2008

Batch VFC9195  
 Method AK101  
 Instrument HP 5890 Series II PID+HECD VBA



SGS Ref.# 863604 Lab Control Sample

Printed Date/Time 10/24/2008 9:10

Client Name Travis/Peterson

Prep Batch MXX20919

Project Name/# Utica Mine

Method SW3050B

Matrix Soil/Solid (dry weight)

Date 10/09/2008

QC results affect the following production samples:

1085929001, 1085929002, 1085929003, 1085929004, 1085929005, 1085929006, 1085929007, 1085929008

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
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Metals by ICP/MS

Lead	LCS	54.5	109	( 80-120 )		50 mg/Kg	10/10/2008
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Batch MMS5660

Method SW6020

Instrument Perkin Elmer Sciex ICP-MS P3



SGS Ref.#	863777	Lab Control Sample	Printed Date/Time	10/24/2008	9:10
	863778	Lab Control Sample Duplicate	Prep	Batch	XXX20182
Client Name	Travis/Peterson		Method	SW3550C	
Project Name/#	Utica Mine		Date	10/10/2008	
Matrix	Soil/Solid (dry weight)				

QC results affect the following production samples:

1085929009, 1085929010, 1085929011, 1085929012, 1085929013, 1085929014, 1085929015, 1085929016, 1085929017

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
<b>Semivolatile Organic Fuels Department</b>							
Diesel Range Organics	LCS	170	( 75-125 )	3	(< 20 )	167 mg/Kg	10/13/2008
	LCSD	165					
<b>Surrogates</b>							
5a Androstane <surr>	LCS		( 60-120 )	3			10/13/2008
	LCSD						99
Batch XFC8260 Method AK102 Instrument HP 5890 Series II FID SV D F							
Residual Range Organics	LCS	160	( 60-120 )	4	(< 20 )	167 mg/Kg	10/13/2008
	LCSD	167					96
<b>Surrogates</b>							
n-Triacontane-d62 <surr>	LCS		( 60-120 )	0			10/13/2008
	LCSD						96
Batch XFC8260 Method AK103 Instrument HP 5890 Series II FID SV D F							



SGS Ref.# 864023 Lab Control Sample

Printed Date/Time 10/24/2008 9:10

Client Name Travis/Peterson

Prep Batch XXX20191

Project Name/# Utica Mine

Method SW3550C

Matrix Soil/Solid (dry weight)

Date 10/13/2008

QC results affect the following production samples:

1085929014, 1085929015, 1085929016

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
<b>Polychlorinated Biphenyls</b>							
Aroclor-1016	LCS 191	86	( 47-120 )			222 ug/Kg	10/14/2008
Aroclor-1260	LCS 182	82	( 60-130 )			222 ug/Kg	10/14/2008
<b>Surrogates</b>							
Decachlorobiphenyl <surr>	LCS	95	( 60-125 )				10/14/2008

Batch XGC6404

Method SW8082A

Instrument HP 5890 Series II ECD SV I F



SGS Ref.# 864027 Lab Control Sample

Printed Date/Time 10/24/2008 9:10

Client Name Travis/Peterson

Prep Batch VXX18863

Project Name/# Utica Mine

Method SW5035A

Matrix Soil/Solid (dry weight)

Date 10/09/2008

QC results affect the following production samples:

1085929009, 1085929010, 1085929011, 1085929012

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
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Volatile Gas Chromatography/Mass Spectroscopy



SGS Ref.# 864027 Lab Control Sample  
 Client Name Travis/Peterson  
 Project Name# Utica Mine  
 Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
 Prep Batch VXX18863  
 Method SW5035A  
 Date 10/09/2008

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
<b><u>Volatile Gas Chromatography/Mass Spectroscopy</u></b>							
Benzene	LCS 822	110	( 80-125 )			750 ug/Kg	10/09/2008
Toluene	LCS 737	98	( 80-120 )			750 ug/Kg	10/09/2008
Ethylbenzene	LCS 795	106	( 80-120 )			750 ug/Kg	10/09/2008
n-Butylbenzene	LCS 888	118	( 80-123 )			750 ug/Kg	10/09/2008
Carbon disulfide	LCS 1160	103	( 61-135 )			1130 ug/Kg	10/09/2008
1,4-Dichlorobenzene	LCS 770	103	( 80-120 )			750 ug/Kg	10/09/2008
1,2-Dichloroethane	LCS 898	120	( 80-133 )			750 ug/Kg	10/09/2008
1,3,5-Trimethylbenzene	LCS 879	117	( 80-120 )			750 ug/Kg	10/09/2008
Chlorobenzene	LCS 711	95	( 80-122 )			750 ug/Kg	10/09/2008
4-Methyl-2-pentanone (MIBK)	LCS 2130	95	( 76-120 )			2250 ug/Kg	10/09/2008
cis-1,2-Dichloroethene	LCS 785	105	( 80-124 )			750 ug/Kg	10/09/2008
4-Isopropyltoluene	LCS 883	118	( 80-120 )			750 ug/Kg	10/09/2008
Methyl-t-butyl ether	LCS 1130	100	( 78-123 )			1130 ug/Kg	10/09/2008
cis-1,3-Dichloropropene	LCS 862	115	( 80-120 )			750 ug/Kg	10/09/2008
n-Propylbenzene	LCS 895	119	( 80-122 )			750 ug/Kg	10/09/2008
Styrene	LCS 775	103	( 80-120 )			750 ug/Kg	10/09/2008
Dibromomethane	LCS 746	99	( 79-126 )			750 ug/Kg	10/09/2008
trans-1,3-Dichloropropene	LCS 772	103	( 80-120 )			750 ug/Kg	10/09/2008
1,2,4-Trichlorobenzene	LCS 724	97	( 80-122 )			750 ug/Kg	10/09/2008
1,1,2,2-Tetrachloroethane	LCS 785	105	( 79-120 )			750 ug/Kg	10/09/2008
1,2-Dibromo-3-chloropropane	LCS 789	105	( 64-128 )			750 ug/Kg	10/09/2008



SGS Ref.# 864027 Lab Control Sample  
 Client Name Travis/Peterson  
 Project Name/# Utica Mine  
 Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
 Prep Batch VXX18863  
 Method SW5035A  
 Date 10/09/2008

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
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Volatile Gas Chromatography/Mass Spectroscopy

Tetrachloroethene	LCS	671	89	( 78-124 )		750 ug/Kg	10/09/2008
Dibromochloromethane	LCS	677	90	( 80-122 )		750 ug/Kg	10/09/2008
1,3-Dichloropropane	LCS	743	99	( 80-120 )		750 ug/Kg	10/09/2008
1,2-Dibromoethane	LCS	703	94	( 80-121 )		750 ug/Kg	10/09/2008
Carbon tetrachloride	LCS	797	106	( 73-133 )		750 ug/Kg	10/09/2008
1,1,1,2-Tetrachloroethane	LCS	715	95	( 78-125 )		750 ug/Kg	10/09/2008
Chloroform	LCS	856	114	( 80-124 )		750 ug/Kg	10/09/2008
Bromobenzene	LCS	747	100	( 80-120 )		750 ug/Kg	10/09/2008
Chloromethane	LCS	1040	139 *	( 68-129 )		750 ug/Kg	10/09/2008
1,2,3-Trichloropropane	LCS	727	97	( 75-121 )		750 ug/Kg	10/09/2008
Bromomethane	LCS	1040	139	( 52-140 )		750 ug/Kg	10/09/2008
Bromochloromethane	LCS	702	94	( 78-125 )		750 ug/Kg	10/09/2008
Vinyl chloride	LCS	1010	135 *	( 78-125 )		750 ug/Kg	10/09/2008
Dichlorodifluoromethane	LCS	1060	142 *	( 67-135 )		750 ug/Kg	10/09/2008
Chloroethane	LCS	1250	167 *	( 53-141 )		750 ug/Kg	10/09/2008
sec-Butylbenzene	LCS	883	118	( 80-120 )		750 ug/Kg	10/09/2008
Bromodichloromethane	LCS	855	114	( 80-126 )		750 ug/Kg	10/09/2008
1,1-Dichloroethene	LCS	897	120	( 73-126 )		750 ug/Kg	10/09/2008
2-Butanone (MEK)	LCS	2200	98	( 70-124 )		2250 ug/Kg	10/09/2008
Methylene chloride	LCS	824	110	( 76-124 )		750 ug/Kg	10/09/2008





SGS Ref.# 864027 Lab Control Sample

Printed Date/Time 10/24/2008 9:10

Client Name Travis/Peterson  
 Project Name/# Utica Mine  
 Matrix Soil/Solid (dry weight)

Prep Batch VXX18863  
 Method SW5035A  
 Date 10/09/2008

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
<b><u>Volatile Gas Chromatography/Mass Spectroscopy</u></b>							
Trichlorofluoromethane	LCS 1060	141	( 58-172 )			750 ug/Kg	10/09/2008
P & M -Xylene	LCS 1510	101	( 80-120 )			1500 ug/Kg	10/09/2008
Naphthalene	LCS 694	93	( 71-121 )			750 ug/Kg	10/09/2008
o-Xylene	LCS 802	107	( 80-120 )			750 ug/Kg	10/09/2008
1,2,4-Trimethylbenzene	LCS 872	116	( 80-120 )			750 ug/Kg	10/09/2008
tert-Butylbenzene	LCS 890	119	( 80-120 )			750 ug/Kg	10/09/2008
1,1,1-Trichloroethane	LCS 811	108	( 77-130 )			750 ug/Kg	10/09/2008
1,1-Dichloroethane	LCS 800	107	( 80-120 )			750 ug/Kg	10/09/2008
2-Chlorotoluene	LCS 896	119	( 80-123 )			750 ug/Kg	10/09/2008
Trichloroethene	LCS 780	104	( 80-122 )			750 ug/Kg	10/09/2008
trans-1,2-Dichloroethene	LCS 780	104	( 80-126 )			750 ug/Kg	10/09/2008
1,2-Dichlorobenzene	LCS 715	95	( 80-120 )			750 ug/Kg	10/09/2008
2,2-Dichloropropane	LCS 875	117	( 80-134 )			750 ug/Kg	10/09/2008
Hexachlorobutadiene	LCS 747	100	( 78-133 )			750 ug/Kg	10/09/2008
Isopropylbenzene (Cumene)	LCS 815	109	( 80-120 )			750 ug/Kg	10/09/2008
2-Hexanone	LCS 2060	91	( 63-125 )			2250 ug/Kg	10/09/2008
1,2-Dichloropropane	LCS 773	103	( 80-120 )			750 ug/Kg	10/09/2008
1,1-Dichloropropene	LCS 893	119	( 80-124 )			750 ug/Kg	10/09/2008
1,1,2-Trichloroethane	LCS 737	98	( 82-120 )			750 ug/Kg	10/09/2008
1,3-Dichlorobenzene	LCS 810	108	( 80-120 )			750 ug/Kg	10/09/2008
1,2,3-Trichlorobenzene	LCS 699	93	( 77-126 )			750 ug/Kg	10/09/2008



SGS Ref.# 864027 Lab Control Sample

Printed Date/Time 10/24/2008 9:10

Client Name Travis/Peterson

Prep Batch VXX18863

Project Name/# Utica Mine

Method SW5035A

Matrix Soil/Solid (dry weight)

Date 10/09/2008

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
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Volatile Gas Chromatography/Mass Spectroscopy

Surrogates

1,2-Dichloroethane-D4 <surr>	LCS	112	( 80-137 )				10/09/2008
Toluene-d8 <surr>	LCS	105	( 80-122 )				10/09/2008
4-Bromofluorobenzene <surr>	LCS	115	( 42-147 )				10/09/2008

Batch VMS10194  
Method SW8260B  
Instrument HP 5890 Series II MS1 VMA



SGS Ref.# 864431 Lab Control Sample

Printed Date/Time 10/24/2008 9:10

Client Name Travis/Peterson

Prep Batch VXX18874

Project Name/# Utica Mine

Method SW5035A

Matrix Soil/Solid (dry weight)

Date 10/09/2008

QC results affect the following production samples:

1085929009, 1085929010, 1085929011, 1085929012

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
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Volatile Gas Chromatography/Mass Spectroscopy

Bromoform	LCS	795	106	( 74-129 )		750 ug/Kg	10/10/2008
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Surrogates

1,2-Dichloroethane-D4 <surr>	LCS		114	( 80-137 )			10/10/2008
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Toluene-d8 <surr>	LCS		102	( 80-122 )			10/10/2008
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4-Bromofluorobenzene <surr>	LCS		97	( 42-147 )			10/10/2008
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Batch VMS10201  
Method SW8260B  
Instrument HP 5890 Series II MS1 VJA



SGS Ref.# 864919 Lab Control Sample

Printed Date/Time 10/24/2008 9:10

Client Name Travis/Peterson

Prep Batch VXX18893

Project Name/# Utica Mine

Method SW5035A

Matrix Soil/Solid (dry weight)

Date 10/10/2008

QC results affect the following production samples:

1085929013, 1085929014, 1085929015, 1085929016, 1085929017, 1085929026

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
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Volatile Gas Chromatography/Mass Spectroscopy



SGS Ref.# 864919 Lab Control Sample  
 Client Name Travis/Peterson  
 Project Name// Utica Mine  
 Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
 Prep Batch VXX18893  
 Method SW5035A  
 Date 10/10/2008

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
<u>Volatile Gas Chromatography/Mass Spectroscopy</u>							
Benzene	LCS 677	90	(80-125)			750 ug/Kg	10/10/2008
Toluene	LCS 785	105	(80-120)			750 ug/Kg	10/10/2008
Ethylbenzene	LCS 760	101	(80-120)			750 ug/Kg	10/10/2008
n-Butylbenzene	LCS 798	106	(80-123)			750 ug/Kg	10/10/2008
Carbon disulfide	LCS 966	86	(61-135)			1130 ug/Kg	10/10/2008
1,4-Dichlorobenzene	LCS 763	102	(80-120)			750 ug/Kg	10/10/2008
1,2-Dichloroethane	LCS 656	87	(80-133)			750 ug/Kg	10/10/2008
1,3,5-Trimethylbenzene	LCS 790	105	(80-120)			750 ug/Kg	10/10/2008
Chlorobenzene	LCS 768	102	(80-122)			750 ug/Kg	10/10/2008
4-Methyl-2-pentanone (MIBK)	LCS 2840	126 *	(76-120)			2250 ug/Kg	10/10/2008
cis-1,2-Dichloroethene	LCS 745	99	(80-124)			750 ug/Kg	10/10/2008
4-Isopropyltoluene	LCS 785	105	(80-120)			750 ug/Kg	10/10/2008
Methyl-t-butyl ether	LCS 1120	99	(78-123)			1130 ug/Kg	10/10/2008
cis-1,3-Dichloropropene	LCS 712	95	(80-120)			750 ug/Kg	10/10/2008
n-Propylbenzene	LCS 769	103	(80-122)			750 ug/Kg	10/10/2008
Styrene	LCS 778	104	(80-120)			750 ug/Kg	10/10/2008
Dibromomethane	LCS 800	107	(79-126)			750 ug/Kg	10/10/2008
trans-1,3-Dichloropropene	LCS 679	91	(80-120)			750 ug/Kg	10/10/2008
1,2,4-Trichlorobenzene	LCS 833	111	(80-122)			750 ug/Kg	10/10/2008
1,1,2,2-Tetrachloroethane	LCS 780	104	(79-120)			750 ug/Kg	10/10/2008
1,2-Dibromo-3-chloropropane	LCS 653	87	(64-128)			750 ug/Kg	10/10/2008



SGS Ref.# 864919 Lab Control Sample  
 Client Name Travis/Peterson  
 Project Name// Utica Mine  
 Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
 Prep Batch VXX18893  
 Method SW5035A  
 Date 10/10/2008

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
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Volatile Gas Chromatography/Mass Spectroscopy

Tetrachloroethene	LCS	767	102	( 78-124 )		750 ug/Kg	10/10/2008
Dibromochloromethane	LCS	649	87	( 80-122 )		750 ug/Kg	10/10/2008
1,3-Dichloropropane	LCS	750	100	( 80-120 )		750 ug/Kg	10/10/2008
1,2-Dibromoethane	LCS	775	103	( 80-121 )		750 ug/Kg	10/10/2008
Carbon tetrachloride	LCS	615	82	( 73-133 )		750 ug/Kg	10/10/2008
1,1,1,2-Tetrachloroethane	LCS	650	87	( 78-125 )		750 ug/Kg	10/10/2008
Chloroform	LCS	643	86	( 80-124 )		750 ug/Kg	10/10/2008
Bromobenzene	LCS	776	103	( 80-120 )		750 ug/Kg	10/10/2008
Chloromethane	LCS	852	114	( 68-129 )		750 ug/Kg	10/10/2008
1,2,3-Trichloropropane	LCS	785	105	( 75-121 )		750 ug/Kg	10/10/2008
Bromomethane	LCS	774	103	( 52-140 )		750 ug/Kg	10/10/2008
Bromochloromethane	LCS	723	96	( 78-125 )		750 ug/Kg	10/10/2008
Vinyl chloride	LCS	868	116	( 78-125 )		750 ug/Kg	10/10/2008
Dichlorodifluoromethane	LCS	758	101	( 67-135 )		750 ug/Kg	10/10/2008
Chloroethane	LCS	651	87	( 53-141 )		750 ug/Kg	10/10/2008
sec-Butylbenzene	LCS	791	105	( 80-120 )		750 ug/Kg	10/10/2008
Bromodichloromethane	LCS	705	94	( 80-126 )		750 ug/Kg	10/10/2008
1,1-Dichloroethene	LCS	671	89	( 73-126 )		750 ug/Kg	10/10/2008
2-Butanone (MEK)	LCS	2500	111	( 70-124 )		2250 ug/Kg	10/10/2008
Methylene chloride	LCS	685	91	( 76-124 )		750 ug/Kg	10/10/2008



SGS Ref.# 864919 Lab Control Sample  
 Client Name Travis/Peterson  
 Project Name/# Utica Mine  
 Matrix Soil/Solid (dry weight)

Printed Date/Time 10/24/2008 9:10  
 Prep Batch VXX18893  
 Method SW5035A  
 Date 10/10/2008

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
<b><u>Volatile Gas Chromatography/Mass Spectroscopy</u></b>							
P & M -Xylene	LCS 1550	104	( 80-120 )			1500 ug/Kg	10/10/2008
Naphthalene	LCS 958	128 *	( 71-121 )			750 ug/Kg	10/10/2008
o-Xylene	LCS 800	107	( 80-120 )			750 ug/Kg	10/10/2008
Bromoform	LCS 643	86	( 74-129 )			750 ug/Kg	10/10/2008
1,2,4-Trimethylbenzene	LCS 800	107	( 80-120 )			750 ug/Kg	10/10/2008
tert-Butylbenzene	LCS 805	107	( 80-120 )			750 ug/Kg	10/10/2008
1,1,1-Trichloroethane	LCS 684	91	( 77-130 )			750 ug/Kg	10/10/2008
1,1-Dichloroethane	LCS 686	91	( 80-120 )			750 ug/Kg	10/10/2008
2-Chlorotoluene	LCS 762	102	( 80-123 )			750 ug/Kg	10/10/2008
Trichloroethene	LCS 813	108	( 80-122 )			750 ug/Kg	10/10/2008
trans-1,2-Dichloroethene	LCS 770	103	( 80-126 )			750 ug/Kg	10/10/2008
1,2-Dichlorobenzene	LCS 743	99	( 80-120 )			750 ug/Kg	10/10/2008
2,2-Dichloropropane	LCS 660	88	( 80-134 )			750 ug/Kg	10/10/2008
Hexachlorobutadiene	LCS 725	97	( 78-133 )			750 ug/Kg	10/10/2008
Isopropylbenzene (Cumene)	LCS 777	104	( 80-120 )			750 ug/Kg	10/10/2008
2-Hexanone	LCS 2570	114	( 63-125 )			2250 ug/Kg	10/10/2008
1,2-Dichloropropane	LCS 820	109	( 80-120 )			750 ug/Kg	10/10/2008
1,1-Dichloropropene	LCS 701	93	( 80-124 )			750 ug/Kg	10/10/2008
1,1,2-Trichloroethane	LCS 744	99	( 82-120 )			750 ug/Kg	10/10/2008
1,3-Dichlorobenzene	LCS 734	98	( 80-120 )			750 ug/Kg	10/10/2008
1,2,3-Trichlorobenzene	LCS 834	111	( 77-126 )			750 ug/Kg	10/10/2008



SGS Ref.# 864919 Lab Control Sample

Printed Date/Time 10/24/2008 9:10

Client Name Travis/Peterson

Prep Batch VXX18893

Project Name/# Utica Mine

Method SW5035A

Matrix Soil/Solid (dry weight)

Date 10/10/2008

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
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Volatile Gas Chromatography/Mass Spectroscopy

Surrogates

1,2-Dichloroethane-D4 <surr>	LCS	89	( 80-137 )				10/10/2008
Toluene-d8 <surr>	LCS	100	( 80-122 )				10/10/2008
4-Bromofluorobenzene <surr>	LCS	104	( 42-147 )				10/10/2008

Batch VMS10208  
Method SW8260B  
Instrument HP 5890 Series II MS1 VJA





SGS Ref.# 864925 Lab Control Sample

Printed Date/Time 10/24/2008 9:10

Client Name Travis/Peterson

Prep Batch VXX18894

Project Name/# Utica Mine

Method SW5035A

Matrix Soil/Solid (dry weight)

Date 10/11/2008

QC results affect the following production samples:

1085929013, 1085929015, 1085929016, 1085929017, 1085929026

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
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Volatile Gas Chromatography/Mass Spectroscopy

Trichlorofluoromethane	LCS	741	99	( 58-172 )		750 ug/Kg	10/11/2008
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Naphthalene	LCS	807	108	( 71-121 )		750 ug/Kg	10/11/2008
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Surrogates

1,2-Dichloroethane-D4 <surr>	LCS		91	( 80-137 )			10/11/2008
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Toluene-d8 <surr>	LCS		106	( 80-122 )			10/11/2008
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4-Bromofluorobenzene <surr>	LCS		102	( 42-147 )			10/11/2008
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Batch VMS10209  
Method SW8260B  
Instrument HP 5890 Series II MS1 VMA



SGS Ref.# 865065 Lab Control Sample

Printed Date/Time 10/24/2008 9:10

Client Name Travis/Peterson

Prep Batch MXT4171

Project Name/# Utica Mine

Method SW3010A

Matrix Water (Surface, Eff., Ground)

Date 10/15/2008

QC results affect the following production samples:

1085929018, 1085929019, 1085929020, 1085929021, 1085929022, 1085929023, 1085929024, 1085929025

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
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TCLP Constituents Metals

Lead	LCS	1.16	116	(80-120)		1 mg/L	10/17/2008
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Batch MIP5609  
Method SW6010B TCLP  
Instrument TJA Enviro II ICP P2



SGS Ref.# 866400 Lab Control Sample

Printed Date/Time 10/24/2008 9:10

Client Name Travis/Peterson

Prep Batch VXX18925

Project Name/# Utica Mine

Method SW5035A

Matrix Soil/Solid (dry weight)

Date 10/16/2008

QC results affect the following production samples:

1085929014

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
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Volatile Gas Chromatography/Mass Spectroscopy

Trichlorofluoromethane	LCS	923	123	( 58-172 )		750 ug/Kg	10/16/2008
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Surrogates

1,2-Dichloroethane-D4 <surr>	LCS		100	( 80-137 )			10/16/2008
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Toluene-d8 <surr>	LCS		97	( 80-122 )			10/16/2008
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4-Bromofluorobenzene <surr>	LCS		93	( 42-147 )			10/16/2008
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Batch VMS10227

Method SW8260B

Instrument HP 5890 Series II MS5 VLA



SGS Ref.# 862373 Matrix Spike  
 862374 Matrix Spike Duplicate

Printed Date/Time 10/24/2008 9:10  
 Prep Batch VXX18830  
 Method AK101 Extraction (S)  
 Date 10/03/2008

Original 862372  
 Matrix Soil/Solid (dry weight)

QC results affect the following production samples:  
 1085929015, 1085929016, 1085929017, 1085929026

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
<b><u>Volatile Fuels Department</u></b>									
Gasoline Range Organics	MS	ND	12.7	98	(60-120)			12.9 mg/Kg	10/03/2008
	MSD		12.7	98		0 (<20)		12.9 mg/Kg	10/03/2008
<b>Surrogates</b>									
4-Bromofluorobenzene <surr>	MS		1.15	92	(50-150)				10/03/2008
	MSD		1.15	92		0			10/03/2008
Batch	VFC9194								
Method	AK101								
Instrument	HP 5890 Series II PID+HECD VBA								



SGS Ref.# 863605 Matrix Spike Printed Date/Time 10/24/2008 9:10  
863606 Matrix Spike Duplicate Prep Batch MXX20919  
Method Soils/Solids Digest for Metals b  
Date 10/09/2008

Original 1085945003  
Matrix Soil/Solid (dry weight)

QC results affect the following production samples:

1085929001, 1085929002, 1085929003, 1085929004, 1085929005, 1085929006, 1085929007, 1085929008

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
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Metals by ICP/MS

Lead	MS	4.89	61.7	103	( 80-120 )			54.6 mg/Kg	10/11/2008
	MSD		58.2	97		6	(< 20)	54.4 mg/Kg	10/11/2008

Batch MMS5660  
Method SW6020  
Instrument Perkin Elmer Sciex ICP-MS P3



SGS Ref.# 863607 Bench Spike DIGESTED Printed Date/Time 10/24/2008 9:10  
Prep Batch MXX20919  
Method Soils/Solids Digest for Metals b  
Date 10/09/2008  
Original 1085945003  
Matrix Soil/Solid (dry weight)

QC results affect the following production samples:

1085929001, 1085929002, 1085929003, 1085929004, 1085929005, 1085929006, 1085929007, 1085929008

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
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Metals by ICP/MS

Lead	BND	4.89	655	95	(75-125)			681 mg/Kg	10/11/2008
Batch	MMS5660								
Method	SW6020								
Instrument	Perkin Elmer Sciex ICP-MS P3								



SGS Ref.# 863783 Matrix Spike Printed Date/Time 10/24/2008 9:10  
 863784 Matrix Spike Duplicate Prep Batch XXX20182  
 Method Sonication Extraction Soil AK1  
 Date 10/10/2008  
 Original 1085926008  
 Matrix Soil/Solid (dry weight)

QC results affect the following production samples:

1085929009, 1085929010, 1085929011, 1085929012, 1085929013, 1085929014, 1085929015, 1085929016, 1085929017

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
<b>Semivolatile Organic Fuels Department</b>									
Diesel Range Organics	MS	ND	151	89	(60-140)			170 mg/Kg	10/13/2008
	MSD		155	91		3	(< 50)	170 mg/Kg	10/13/2008
Surrogates									
5a Androstane <surr>	MS		2.87	85	(50-150)				10/13/2008
	MSD		3.05	90		6			10/13/2008
Batch	XFC8260								
Method	AK102								
Instrument	HP 5890 Series II FID SV D F								
Residual Range Organics	MS	3.45 J	151	89	(60-140)			170 mg/Kg	10/13/2008
	MSD		155	91		2	(< 50)	170 mg/Kg	10/13/2008
Surrogates									
n-Triacontane-d62 <surr>	MS		3.05	90	(50-150)				10/13/2008
	MSD		3.05	90		0			10/13/2008
Batch	XFC8260								
Method	AK103								
Instrument	HP 5890 Series II FID SV D F								



SGS Ref.# 864024 Matrix Spike Printed Date/Time 10/24/2008 9:10  
 864025 Matrix Spike Duplicate Prep Batch XXX20191  
 Method Sonication Extraction Soil SW8  
 Date 10/13/2008  
 Original 1085929015  
 Matrix Soil/Solid (dry weight)

QC results affect the following production samples:  
 1085929014, 1085929015, 1085929016

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
<b>Polychlorinated Biphenyls</b>									
Aroclor-1016	MS	ND	206	86	(47-120)			240 ug/Kg	10/14/2008
	MSD		203	85		1	(< 30)	240 ug/Kg	10/14/2008
Aroclor-1260	MS	ND	179	74	(60-130)			240 ug/Kg	10/14/2008
	MSD		180	75		1	(< 30)	240 ug/Kg	10/14/2008
<b>Surrogates</b>									
Decachlorobiphenyl <surr>	MS		208	87	(60-125)				10/14/2008
	MSD		207	86		0			10/14/2008
Batch	XGC6404								
Method	SW8082A								
Instrument	HP 5890 Series II ECD SV I F								





SGS Ref.#	864029	Matrix Spike	Printed Date/Time	10/24/2008 9:10	
	864030	Matrix Spike Duplicate	Prep	Batch	VXX18863
				Method	Vol. Extraction SW8260 Field I
				Date	10/09/2008
Original	864028				
Matrix	Solid/Soil (Wet Weight)				

QC results affect the following production samples:

1085929009, 1085929010, 1085929011, 1085929012

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
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Volatile Gas Chromatography/Mass Spectroscopy



SGS Ref.# 864029 Matrix Spike Printed Date/Time 10/24/2008 9:10  
 864030 Matrix Spike Duplicate Prep Batch VXX18863  
 Method Vol. Extraction SW8260 Field I  
 Date 10/09/2008  
 Original 864028  
 Matrix Solid/Soil (Wet Weight)

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
<b>Volatile Gas Chromatography/Mass Spectroscopy</b>									
Benzene	MS	ND	811	111	(80-125)			729 ug/Kg	10/09/2008
	MSD		806	111		1	(< 20)	729 ug/Kg	10/09/2008
Toluene	MS	ND	750	103	(80-120)			729 ug/Kg	10/09/2008
	MSD		746	102		1	(< 20)	729 ug/Kg	10/09/2008
Ethylbenzene	MS	ND	765	105	(80-120)			729 ug/Kg	10/09/2008
	MSD		768	105		0	(< 20)	729 ug/Kg	10/09/2008
n-Butylbenzene	MS	ND	873	120	(80-123)			729 ug/Kg	10/09/2008
	MSD		894	123		2	(< 20)	729 ug/Kg	10/09/2008
Carbon disulfide	MS	ND	1150	105	(61-135)			1090 ug/Kg	10/09/2008
	MSD		1160	106		1	(< 20)	1090 ug/Kg	10/09/2008
1,4-Dichlorobenzene	MS	ND	744	102	(80-120)			729 ug/Kg	10/09/2008
	MSD		763	105		2	(< 20)	729 ug/Kg	10/09/2008
1,2-Dichloroethane	MS	ND	855	117	(80-133)			729 ug/Kg	10/09/2008
	MSD		859	118		0	(< 20)	729 ug/Kg	10/09/2008
1,3,5-Trimethylbenzene	MS	ND	881	121*	(80-120)			729 ug/Kg	10/09/2008
	MSD		886	122*		1	(< 20)	729 ug/Kg	10/09/2008
Chlorobenzene	MS	ND	691	95	(80-122)			729 ug/Kg	10/09/2008
	MSD		706	97		2	(< 20)	729 ug/Kg	10/09/2008
4-Methyl-2-pentanone (MIBK)	MS	ND	2100	96	(76-120)			2190 ug/Kg	10/09/2008
	MSD		2100	96		0	(< 20)	2190 ug/Kg	10/09/2008
cis-1,2-Dichloroethene	MS	ND	773	106	(80-124)			729 ug/Kg	10/09/2008
	MSD		792	109		2	(< 20)	729 ug/Kg	10/09/2008
4-Isopropyltoluene	MS	ND	883	121*	(80-120)			729 ug/Kg	10/09/2008
	MSD		878	121*		1	(< 20)	729 ug/Kg	10/09/2008
Methyl-t-butyl ether	MS	ND	1110	102	(78-123)			1090 ug/Kg	10/09/2008
	MSD		1110	102		0	(< 20)	1090 ug/Kg	10/09/2008
cis-1,3-Dichloropropene	MS	ND	855	117	(80-120)			729 ug/Kg	10/09/2008
	MSD		846	116		1	(< 20)	729 ug/Kg	10/09/2008
n-Propylbenzene	MS	ND	888	122	(80-122)			729 ug/Kg	10/09/2008
	MSD		894	123*		1	(< 20)	729 ug/Kg	10/09/2008
Styrene	MS	ND	754	104	(80-120)			729 ug/Kg	10/09/2008
	MSD		755	104		0	(< 20)	729 ug/Kg	10/09/2008
Dibromomethane	MS	ND	729	100	(79-126)			729 ug/Kg	10/09/2008
	MSD		735	101		1	(< 20)	729 ug/Kg	10/09/2008
trans-1,3-Dichloropropene	MS	ND	772	106	(80-120)			729 ug/Kg	10/09/2008
	MSD		768	105		1	(< 20)	729 ug/Kg	10/09/2008
1,2,4-Trichlorobenzene	MS	ND	711	98	(80-122)			729 ug/Kg	10/09/2008
	MSD		724	99		2	(< 20)	729 ug/Kg	10/09/2008
1,1,2,2-Tetrachloroethane	MS	ND	802	110	(79-120)			729 ug/Kg	10/09/2008
	MSD		831	114		4	(< 20)	729 ug/Kg	10/09/2008



SGS Ref.# 864029 Matrix Spike Printed Date/Time 10/24/2008 9:10  
 864030 Matrix Spike Duplicate Prep Batch VXX18863  
 Method Vol. Extraction SW8260 Field I  
 Date 10/09/2008  
 Original 864028  
 Matrix Solid/Soil (Wet Weight)

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
<b>Volatile Gas Chromatography/Mass Spectroscopy</b>									
1,2-Dibromo-3-chloropropane	MS	ND	816	112	( 64-128 )			729 ug/Kg	10/09/2008
	MSD		768	105		6	(< 20)	729 ug/Kg	10/09/2008
Tetrachloroethene	MS	ND	668	92	( 78-124 )			729 ug/Kg	10/09/2008
	MSD		671	92		0	(< 20)	729 ug/Kg	10/09/2008
Dibromochloromethane	MS	ND	653	90	( 80-122 )			729 ug/Kg	10/09/2008
	MSD		672	92		3	(< 20)	729 ug/Kg	10/09/2008
1,3-Dichloropropane	MS	ND	724	99	( 80-120 )			729 ug/Kg	10/09/2008
	MSD		730	100		1	(< 20)	729 ug/Kg	10/09/2008
1,2-Dibromoethane	MS	ND	668	92	( 80-121 )			729 ug/Kg	10/09/2008
	MSD		696	96		4	(< 20)	729 ug/Kg	10/09/2008
Carbon tetrachloride	MS	ND	779	107	( 73-133 )			729 ug/Kg	10/09/2008
	MSD		780	107		0	(< 20)	729 ug/Kg	10/09/2008
1,1,1,2-Tetrachloroethane	MS	ND	677	93	( 78-125 )			729 ug/Kg	10/09/2008
	MSD		670	92		1	(< 20)	729 ug/Kg	10/09/2008
Chloroform	MS	ND	833	114	( 80-124 )			729 ug/Kg	10/09/2008
	MSD		840	115		1	(< 20)	729 ug/Kg	10/09/2008
Bromobenzene	MS	ND	740	102	( 80-120 )			729 ug/Kg	10/09/2008
	MSD		726	100		2	(< 20)	729 ug/Kg	10/09/2008
Chloromethane	MS	ND	1040	143*	( 68-129 )			729 ug/Kg	10/09/2008
	MSD		1020	140*		2	(< 20)	729 ug/Kg	10/09/2008
1,2,3-Trichloropropane	MS	ND	738	101	( 75-121 )			729 ug/Kg	10/09/2008
	MSD		747	103		1	(< 20)	729 ug/Kg	10/09/2008
Bromomethane	MS	ND	1030	142*	( 52-140 )			729 ug/Kg	10/09/2008
	MSD		1090	149*		5	(< 20)	729 ug/Kg	10/09/2008
Bromochloromethane	MS	ND	682	94	( 78-125 )			729 ug/Kg	10/09/2008
	MSD		703	97		3	(< 20)	729 ug/Kg	10/09/2008
Vinyl chloride	MS	ND	1050	144*	( 78-125 )			729 ug/Kg	10/09/2008
	MSD		995	137*		6	(< 20)	729 ug/Kg	10/09/2008
Dichlorodifluoromethane	MS	ND	1030	142*	( 67-135 )			729 ug/Kg	10/09/2008
	MSD		1040	142*		0	(< 20)	729 ug/Kg	10/09/2008
Chloroethane	MS	ND	1070	147*	( 53-141 )			729 ug/Kg	10/09/2008
	MSD		1040	143*		3	(< 20)	729 ug/Kg	10/09/2008
sec-Butylbenzene	MS	ND	879	121*	( 80-120 )			729 ug/Kg	10/09/2008
	MSD		898	123*		2	(< 20)	729 ug/Kg	10/09/2008
Bromodichloromethane	MS	ND	819	112	( 80-126 )			729 ug/Kg	10/09/2008
	MSD		834	114		2	(< 20)	729 ug/Kg	10/09/2008
1,1-Dichloroethene	MS	ND	905	124	( 73-126 )			729 ug/Kg	10/09/2008
	MSD		922	127*		2	(< 20)	729 ug/Kg	10/09/2008
2-Butanone (MEK)	MS	ND	2060	94	( 70-124 )			2190 ug/Kg	10/09/2008
	MSD		2120	97		3	(< 20)	900 ug/Kg	10/09/2008



SGS Ref.# 864029 Matrix Spike Printed Date/Time 10/24/2008 9:10  
 864030 Matrix Spike Duplicate Prep Batch VXX18863  
 Method Vol. Extraction SW8260 Field I  
 Date 10/09/2008  
 Original 864028  
 Matrix Solid/Soil (Wet Weight)

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
<u>Volatile Gas Chromatography/Mass Spectroscopy</u>									
Methylene chloride	MS ND	826	813	113	(76-124)			729 ug/Kg	10/09/2008
	MSD	841	816	116		2	(< 20)	729 ug/Kg	10/09/2008
Trichlorofluoromethane	MS ND	1020	1020	140	(58-172)			729 ug/Kg	10/09/2008
	MSD	1020	139	139		0	(< 20)	729 ug/Kg	10/09/2008
P & M -Xylene	MS ND	1480	1480	102	(80-120)			1460 ug/Kg	10/09/2008
	MSD	1480	101	101		0	(< 20)	1460 ug/Kg	10/09/2008
Naphthalene	MS ND	703	703	96	(71-121)			729 ug/Kg	10/09/2008
	MSD	718	99	99		2	(< 20)	729 ug/Kg	10/09/2008
o-Xylene	MS ND	774	774	106	(80-120)			729 ug/Kg	10/09/2008
	MSD	773	106	106		0	(< 20)	729 ug/Kg	10/09/2008
1,2,4-Trimethylbenzene	MS ND	857	857	118	(80-120)			729 ug/Kg	10/09/2008
	MSD	882	121*	121*		3	(< 20)	729 ug/Kg	10/09/2008
tert-Butylbenzene	MS ND	891	891	122*	(80-120)			729 ug/Kg	10/09/2008
	MSD	903	124*	124*		1	(< 20)	729 ug/Kg	10/09/2008
1,1,1-Trichloroethane	MS ND	785	785	108	(77-130)			729 ug/Kg	10/09/2008
	MSD	807	111	111		3	(< 20)	729 ug/Kg	10/09/2008
1,1-Dichloroethane	MS ND	776	776	107	(80-120)			729 ug/Kg	10/09/2008
	MSD	789	108	108		2	(< 20)	729 ug/Kg	10/09/2008
2-Chlorotoluene	MS ND	892	892	122	(80-123)			729 ug/Kg	10/09/2008
	MSD	903	124*	124*		1	(< 20)	729 ug/Kg	10/09/2008
Trichloroethene	MS ND	769	769	106	(80-122)			729 ug/Kg	10/09/2008
	MSD	773	106	106		1	(< 20)	729 ug/Kg	10/09/2008
trans-1,2-Dichloroethene	MS ND	764	764	105	(80-126)			729 ug/Kg	10/09/2008
	MSD	772	106	106		1	(< 20)	729 ug/Kg	10/09/2008
1,2-Dichlorobenzene	MS ND	717	717	98	(80-120)			729 ug/Kg	10/09/2008
	MSD	719	99	99		0	(< 20)	729 ug/Kg	10/09/2008
2,2-Dichloropropane	MS ND	824	824	113	(80-134)			729 ug/Kg	10/09/2008
	MSD	850	117	117		3	(< 20)	729 ug/Kg	10/09/2008
Hexachlorobutadiene	MS ND	707	707	97	(78-133)			729 ug/Kg	10/09/2008
	MSD	731	100	100		3	(< 20)	729 ug/Kg	10/09/2008
Isopropylbenzene (Cumene)	MS ND	787	787	108	(80-120)			729 ug/Kg	10/09/2008
	MSD	793	109	109		1	(< 20)	729 ug/Kg	10/09/2008
2-Hexanone	MS ND	2060	2060	94	(63-125)			2190 ug/Kg	10/09/2008
	MSD	2060	94	94		0	(< 20)	2190 ug/Kg	10/09/2008
1,2-Dichloropropane	MS ND	781	781	107	(80-120)			729 ug/Kg	10/09/2008
	MSD	772	106	106		1	(< 20)	729 ug/Kg	10/09/2008
1,1-Dichloropropene	MS ND	877	877	120	(80-124)			729 ug/Kg	10/09/2008
	MSD	861	118	118		2	(< 20)	729 ug/Kg	10/09/2008
1,1,2-Trichloroethane	MS ND	710	710	97	(82-120)			729 ug/Kg	10/09/2008
	MSD	715	98	98		1	(< 20)	729 ug/Kg	10/09/2008



SGS Ref.# 864029 Matrix Spike Printed Date/Time 10/24/2008 9:10  
 864030 Matrix Spike Duplicate Prep Batch VXX18863  
 Method Vol. Extraction SW8260 Field I  
 Date 10/09/2008  
 Original 864028  
 Matrix Solid/Soil (Wet Weight)

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
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Volatile Gas Chromatography/Mass Spectroscopy

1,3-Dichlorobenzene	MS	ND	803	110	( 80-120 )			729	ug/Kg 10/09/2008
	MSD		819	112		2	(< 20 )	729	ug/Kg 10/09/2008
1,2,3-Trichlorobenzene	MS	ND	694	95	( 77-126 )			729	ug/Kg 10/09/2008
	MSD		710	98		2	(< 20 )	729	ug/Kg 10/09/2008
<b>Surrogates</b>									
1,2-Dichloroethane-D4 <surr>	MS		791	109	( 80-137 )				10/09/2008
	MSD		816	112		3			10/09/2008
Toluene-d8 <surr>	MS		771	106	( 80-122 )				10/09/2008
	MSD		769	106		0			10/09/2008
4-Bromofluorobenzene <surr>	MS		2260	116	( 42-147 )				10/09/2008
	MSD		2250	116		1			10/09/2008

Batch VMS10194  
 Method SW8260B  
 Instrument HP 5890 Series II MS1 VMA



SGS Ref.# 864570 Matrix Spike Printed Date/Time 10/24/2008 9:10  
 864571 Matrix Spike Duplicate Prep Batch VXX18874  
 Method Vol. Extraction SW8260 Field I  
 Date 10/09/2008  
 Original 864569  
 Matrix Solid/Soil (Wet Weight)

QC results affect the following production samples:  
 1085929009, 1085929010, 1085929011, 1085929012

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
<b><u>Volatile Gas Chromatography/Mass Spectroscopy</u></b>									
Bromoform	MS	ND	783	107	( 74-129 )			729 ug/Kg	10/10/2008
	MSD		733	101		7	(< 20 )	729 ug/Kg	10/10/2008
<b>Surrogates</b>									
1,2-Dichloroethane-D4 <surr>	MS		734	101	( 80-137 )				10/10/2008
	MSD		767	105		4			10/10/2008
Toluene-d8 <surr>	MS		756	104	( 80-122 )				10/10/2008
	MSD		716	98		6			10/10/2008
4-Bromofluorobenzene <surr>	MS		1970	101	( 42-147 )				10/10/2008
	MSD		2020	104		2			10/10/2008
Batch	VMS10201								
Method	SW8260B								
Instrument	HP 5890 Series II MS1 VJA								



SGS Ref.#	864920	Matrix Spike	Printed Date/Time	10/24/2008 9:10	
	864921	Matrix Spike Duplicate	Prep	Batch	VXX18893
				Method	Vol. Extraction SW8260 Field I
				Date	10/10/2008
Original	1085929014				
Matrix	Soil/Solid (dry weight)				

QC results affect the following production samples:

1085929013, 1085929014, 1085929015, 1085929016, 1085929017, 1085929026

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
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Volatile Gas Chromatography/Mass Spectroscopy



SGS Ref.# 864920 Matrix Spike Printed Date/Time 10/24/2008 9:10  
 864921 Matrix Spike Duplicate Prep Batch VXX18893  
 Method Vol. Extraction SW8260 Field I  
 Date 10/10/2008  
 Original 1085929014  
 Matrix Soil/Solid (dry weight)

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
<b><u>Volatile Gas Chromatography/Mass Spectroscopy</u></b>									
Benzene	MS	ND	523	84	(80-125)			623 ug/Kg	10/10/2008
	MSD		559	89		6	(< 20)	623 ug/Kg	10/10/2008
Toluene	MS	ND	653	105	(80-120)			623 ug/Kg	10/10/2008
	MSD		678	109		4	(< 20)	623 ug/Kg	10/10/2008
Ethylbenzene	MS	ND	612	98	(80-120)			623 ug/Kg	10/10/2008
	MSD		637	102		4	(< 20)	623 ug/Kg	10/10/2008
n-Butylbenzene	MS	ND	704	113	(80-123)			623 ug/Kg	10/10/2008
	MSD		706	113		0	(< 20)	623 ug/Kg	10/10/2008
Carbon disulfide	MS	ND	796	85	(61-135)			936 ug/Kg	10/10/2008
	MSD		861	92		8	(< 20)	936 ug/Kg	10/10/2008
1,4-Dichlorobenzene	MS	ND	623	100	(80-120)			623 ug/Kg	10/10/2008
	MSD		637	102		2	(< 20)	623 ug/Kg	10/10/2008
1,2-Dichloroethane	MS	ND	514	82	(80-133)			623 ug/Kg	10/10/2008
	MSD		520	83		1	(< 20)	623 ug/Kg	10/10/2008
1,3,5-Trimethylbenzene	MS	ND	648	104	(80-120)			623 ug/Kg	10/10/2008
	MSD		656	105		1	(< 20)	623 ug/Kg	10/10/2008
Chlorobenzene	MS	ND	627	100	(80-122)			623 ug/Kg	10/10/2008
	MSD		639	102		2	(< 20)	623 ug/Kg	10/10/2008
4-Methyl-2-pentanone (MIBK)	MS	ND	2340	125*	(76-120)			1872 ug/Kg	10/10/2008
	MSD		2479	132*		6	(< 20)	1872 ug/Kg	10/10/2008
cis-1,2-Dichloroethene	MS	ND	568	91	(80-124)			623 ug/Kg	10/10/2008
	MSD		599	96		5	(< 20)	623 ug/Kg	10/10/2008
4-Isopropyltoluene	MS	ND	662	106	(80-120)			623 ug/Kg	10/10/2008
	MSD		672	108		2	(< 20)	623 ug/Kg	10/10/2008
Methyl-t-butyl ether	MS	ND	881	94	(78-123)			936 ug/Kg	10/10/2008
	MSD		900	96		2	(< 20)	936 ug/Kg	10/10/2008
cis-1,3-Dichloropropene	MS	ND	582	93	(80-120)			623 ug/Kg	10/10/2008
	MSD		606	97		4	(< 20)	623 ug/Kg	10/10/2008
n-Propylbenzene	MS	ND	620	100	(80-122)			623 ug/Kg	10/10/2008
	MSD		638	102		3	(< 20)	623 ug/Kg	10/10/2008
Styrene	MS	ND	644	103	(80-120)			623 ug/Kg	10/10/2008
	MSD		660	106		2	(< 20)	623 ug/Kg	10/10/2008
Dibromomethane	MS	ND	651	104	(79-126)			623 ug/Kg	10/10/2008
	MSD		676	108		4	(< 20)	623 ug/Kg	10/10/2008
trans-1,3-Dichloropropene	MS	ND	557	89	(80-120)			623 ug/Kg	10/10/2008
	MSD		547	88		2	(< 20)	623 ug/Kg	10/10/2008
1,2,4-Trichlorobenzene	MS	ND	761	122	(80-122)			623 ug/Kg	10/10/2008
	MSD		754	121		1	(< 20)	623 ug/Kg	10/10/2008
1,1,2,2-Tetrachloroethane	MS	ND	649	104	(79-120)			623 ug/Kg	10/10/2008
	MSD		647	104		0	(< 20)	623 ug/Kg	10/10/2008





SGS Ref.# 864920 Matrix Spike Printed Date/Time 10/24/2008 9:10  
 864921 Matrix Spike Duplicate Prep Batch VXX18893  
 Method Vol. Extraction SW8260 Field I  
 Date 10/10/2008  
 Original 1085929014  
 Matrix Soil/Solid (dry weight)

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
<b>Volatile Gas Chromatography/Mass Spectroscopy</b>									
1,2-Dibromo-3-chloropropane	MS	ND	560	90	(64-128)			623 ug/Kg	10/10/2008
	MSD		565	91		1	(< 20)	623 ug/Kg	10/10/2008
Tetrachloroethene	MS	ND	629	101	(78-124)			623 ug/Kg	10/10/2008
	MSD		654	105		4	(< 20)	623 ug/Kg	10/10/2008
Dibromochloromethane	MS	ND	545	87	(80-122)			623 ug/Kg	10/10/2008
	MSD		541	87		1	(< 20)	623 ug/Kg	10/10/2008
1,3-Dichloropropane	MS	ND	618	99	(80-120)			623 ug/Kg	10/10/2008
	MSD		617	99		0	(< 20)	623 ug/Kg	10/10/2008
1,2-Dibromoethane	MS	ND	648	104	(80-121)			623 ug/Kg	10/10/2008
	MSD		656	105		1	(< 20)	623 ug/Kg	10/10/2008
Carbon tetrachloride	MS	ND	467	75	(73-133)			623 ug/Kg	10/10/2008
	MSD		497	80		6	(< 20)	623 ug/Kg	10/10/2008
1,1,1,2-Tetrachloroethane	MS	ND	532	85	(78-125)			623 ug/Kg	10/10/2008
	MSD		532	85		0	(< 20)	623 ug/Kg	10/10/2008
Chloroform	MS	ND	497	80*	(80-124)			623 ug/Kg	10/10/2008
	MSD		515	83		3	(< 20)	623 ug/Kg	10/10/2008
Bromobenzene	MS	ND	635	102	(80-120)			623 ug/Kg	10/10/2008
	MSD		649	104		2	(< 20)	623 ug/Kg	10/10/2008
Chloromethane	MS	ND	794	127	(68-129)			623 ug/Kg	10/10/2008
	MSD		790	127		0	(< 20)	623 ug/Kg	10/10/2008
1,2,3-Trichloropropane	MS	ND	660	106	(75-121)			623 ug/Kg	10/10/2008
	MSD		641	103		3	(< 20)	623 ug/Kg	10/10/2008
Bromomethane	MS	ND	835	134	(52-140)			623 ug/Kg	10/10/2008
	MSD		937	150*		12	(< 20)	623 ug/Kg	10/10/2008
Bromochloromethane	MS	ND	554	89	(78-125)			623 ug/Kg	10/10/2008
	MSD		615	99		11	(< 20)	623 ug/Kg	10/10/2008
Vinyl chloride	MS	ND	774	124	(78-125)			623 ug/Kg	10/10/2008
	MSD		795	127*		3	(< 20)	623 ug/Kg	10/10/2008
Dichlorodifluoromethane	MS	ND	667	107	(67-135)			623 ug/Kg	10/10/2008
	MSD		664	106		0	(< 20)	623 ug/Kg	10/10/2008
Chloroethane	MS	ND	591	95	(53-141)			623 ug/Kg	10/10/2008
	MSD		563	90		5	(< 20)	623 ug/Kg	10/10/2008
sec-Butylbenzene	MS	ND	655	105	(80-120)			623 ug/Kg	10/10/2008
	MSD		664	106		1	(< 20)	623 ug/Kg	10/10/2008
Bromodichloromethane	MS	ND	568	91	(80-126)			623 ug/Kg	10/10/2008
	MSD		596	96		5	(< 20)	623 ug/Kg	10/10/2008
1,1-Dichloroethene	MS	ND	552	89	(73-126)			623 ug/Kg	10/10/2008
	MSD		577	93		4	(< 20)	623 ug/Kg	10/10/2008
2-Butanone (MEK)	MS	ND	2053	110	(70-124)			1872 ug/Kg	10/10/2008
	MSD		2106	112		2	(< 20)	1872 ug/Kg	10/10/2008



SGS Ref.# 864920 Matrix Spike Printed Date/Time 10/24/2008 9:10  
 864921 Matrix Spike Duplicate Prep Batch VXX18893  
 Method Vol. Extraction SW8260 Field I  
 Date 10/10/2008  
 Original 1085929014  
 Matrix Soil/Solid (dry weight)

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
<u>Volatile Gas Chromatography/Mass Spectroscopy</u>									
Methylene chloride	MS	ND	601	96	(76-124)			623	ug/Kg 10/10/2008
	MSD		629	101		4	(< 20)	623	ug/Kg 10/10/2008
P & M -Xylene	MS	ND	1287	103	(80-120)			1245	ug/Kg 10/10/2008
	MSD		1309	105		2	(< 20)	1245	ug/Kg 10/10/2008
Naphthalene	MS	ND	959	154*	(71-121)			623	ug/Kg 10/10/2008
	MSD		937	150*		2	(< 20)	623	ug/Kg 10/10/2008
o-Xylene	MS	ND	656	105	(80-120)			623	ug/Kg 10/10/2008
	MSD		668	107		2	(< 20)	623	ug/Kg 10/10/2008
Bromoform	MS	ND	552	89	(74-129)			623	ug/Kg 10/10/2008
	MSD		536	86		3	(< 20)	623	ug/Kg 10/10/2008
1,2,4-Trimethylbenzene	MS	ND	659	106	(80-120)			623	ug/Kg 10/10/2008
	MSD		674	108		2	(< 20)	623	ug/Kg 10/10/2008
tert-Butylbenzene	MS	ND	664	106	(80-120)			623	ug/Kg 10/10/2008
	MSD		683	109		3	(< 20)	623	ug/Kg 10/10/2008
1,1,1-Trichloroethane	MS	ND	518	83	(77-130)			623	ug/Kg 10/10/2008
	MSD		552	88		6	(< 20)	623	ug/Kg 10/10/2008
1,1-Dichloroethane	MS	ND	533	86	(80-120)			623	ug/Kg 10/10/2008
	MSD		548	88		3	(< 20)	623	ug/Kg 10/10/2008
2-Chlorotoluene	MS	ND	616	99	(80-123)			623	ug/Kg 10/10/2008
	MSD		629	101		2	(< 20)	623	ug/Kg 10/10/2008
Trichloroethene	MS	ND	636	102	(80-122)			623	ug/Kg 10/10/2008
	MSD		686	110		8	(< 20)	623	ug/Kg 10/10/2008
trans-1,2-Dichloroethene	MS	ND	580	93	(80-126)			623	ug/Kg 10/10/2008
	MSD		621	100		7	(< 20)	623	ug/Kg 10/10/2008
1,2-Dichlorobenzene	MS	ND	617	99	(80-120)			623	ug/Kg 10/10/2008
	MSD		624	100		1	(< 20)	623	ug/Kg 10/10/2008
2,2-Dichloropropane	MS	ND	504	81	(80-134)			623	ug/Kg 10/10/2008
	MSD		524	84		4	(< 20)	623	ug/Kg 10/10/2008
Hexachlorobutadiene	MS	ND	762	122	(78-133)			623	ug/Kg 10/10/2008
	MSD		786	126		3	(< 20)	623	ug/Kg 10/10/2008
Isopropylbenzene (Cumene)	MS	ND	641	103	(80-120)			623	ug/Kg 10/10/2008
	MSD		650	104		1	(< 20)	623	ug/Kg 10/10/2008
2-Hexanone	MS	ND	2255	120	(63-125)			1872	ug/Kg 10/10/2008
	MSD		2149	115		5	(< 20)	1872	ug/Kg 10/10/2008
1,2-Dichloropropane	MS	ND	644	103	(80-120)			623	ug/Kg 10/10/2008
	MSD		687	110		7	(< 20)	623	ug/Kg 10/10/2008
1,1-Dichloropropene	MS	ND	526	84	(80-124)			623	ug/Kg 10/10/2008
	MSD		567	91		8	(< 20)	623	ug/Kg 10/10/2008
1,1,2-Trichloroethane	MS	ND	617	99	(82-120)			623	ug/Kg 10/10/2008
	MSD		633	101		3	(< 20)	623	ug/Kg 10/10/2008



SGS Ref.# 864920 Matrix Spike Printed Date/Time 10/24/2008 9:10  
 864921 Matrix Spike Duplicate Prep Batch VXX18893  
 Method Vol. Extraction SW8260 Field I  
 Date 10/10/2008  
 Original 1085929014  
 Matrix Soil/Solid (dry weight)

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
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Volatile Gas Chromatography/Mass Spectroscopy

1,3-Dichlorobenzene	MS	ND	605	97	( 80-120 )			623 ug/Kg	10/10/2008
	MSD		610	98		1	(< 20)	623 ug/Kg	10/10/2008
1,2,3-Trichlorobenzene	MS	ND	739	119	( 77-126 )			623 ug/Kg	10/10/2008
	MSD		722	116		2	(< 20)	623 ug/Kg	10/10/2008
<b>Surrogates</b>									
1,2-Dichloroethane-D4 <surr>	MS		515	83	( 80-137 )				10/10/2008
	MSD		531	85		3			10/10/2008
Toluene-d8 <surr>	MS		604	97	( 80-122 )				10/10/2008
	MSD		628	101		4			10/10/2008
4-Bromofluorobenzene <surr>	MS		1553	103	( 42-147 )				10/10/2008
	MSD		1564	104		1			10/10/2008

Batch VMS10208  
 Method SW8260B  
 Instrument HP 5890 Series II MS1 VJA



SGS Ref.# 864926 Matrix Spike Printed Date/Time 10/24/2008 9:10  
 864927 Matrix Spike Duplicate Prep Batch VXX18894  
 Method Vol. Extraction SW8260 Field I  
 Date 10/11/2008  
 Original 864928  
 Matrix Soil/Solid (dry weight)

QC results affect the following production samples:  
 1085929013, 1085929015, 1085929016, 1085929017, 1085929026

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
<b><u>Volatile Gas Chromatography/Mass Spectroscopy</u></b>									
Trichlorofluoromethane	MS	ND	544	110	( 58-172 )			494 ug/Kg	10/11/2008
	MSD		555	112		2	(< 20 )	494 ug/Kg	10/11/2008
Naphthalene	MS	ND	593	120	( 71-121 )			494 ug/Kg	10/11/2008
	MSD		603	122*		2	(< 20 )	494 ug/Kg	10/11/2008
<b>Surrogates</b>									
1,2-Dichloroethane-D4 <surr>	MS		433	88	( 80-137 )				10/11/2008
	MSD		450	91		4			10/11/2008
Toluene-d8 <surr>	MS		501	101	( 80-122 )				10/11/2008
	MSD		538	109		7			10/11/2008
4-Bromofluorobenzene <surr>	MS		1190	91	( 42-147 )				10/11/2008
	MSD		1240	94		3			10/11/2008

Batch VMS10209  
 Method SW8260B  
 Instrument HP 5890 Series II MS1 VMA



SGS Ref.# 865066 Matrix Spike Printed Date/Time 10/24/2008 9:10  
 865067 Matrix Spike Duplicate Prep Batch MXT4171  
 Method Waters Digest for Metals by ICI  
 Date 10/15/2008  
 Original 1085421004  
 Matrix Soil/Solid (dry weight)

QC results affect the following production samples:  
 1085929018, 1085929019, 1085929020, 1085929021, 1085929022, 1085929023, 1085929024, 1085929025

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
-----------	------------	-----------------	-----------	-----------	---------------	-----	------------	---------------	---------------

TCLP Constituents Metals

Lead	MS ND	4.50		106	(50-125)			4.26	mg/L 10/17/2008
	MSD	4.61		108		2	(<20)	4.26	mg/L 10/17/2008

Batch MIP5609  
 Method SW6010B TCLP  
 Instrument TJA Enviro II ICP P2



SGS Ref.# 866401 Matrix Spike Printed Date/Time 10/24/2008 9:10  
 866402 Matrix Spike Duplicate Prep Batch VXX18925  
 Method Vol. Extraction SW8260 Field I  
 Date 10/16/2008  
 Original 866788  
 Matrix Soil/Solid (dry weight)

QC results affect the following production samples:  
 1085929014

Parameter	Qualifiers	Original Result	QC Result	Pct Recov	MS/MSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
<b><u>Volatile Gas Chromatography/Mass Spectroscopy</u></b>									
Trichlorofluoromethane	MS	ND	905	124	( 58-172 )			731 ug/Kg	10/16/2008
	MSD		772	106		16	(< 20 )	731 ug/Kg	10/16/2008
<b>Surrogates</b>									
1,2-Dichloroethane-D4 <surr>	MS		720	99	( 80-137 )				10/16/2008
	MSD		726	99		1			10/16/2008
Toluene-d8 <surr>	MS		698	96	( 80-122 )				10/16/2008
	MSD		699	96		0			10/16/2008
4-Bromofluorobenzene <surr>	MS		1730	100	( 42-147 )				10/16/2008
	MSD		1780	103		3			10/16/2008
Batch	VMS10227								
Method	SW8260B								
Instrument	HP 5890 Series II MS5 VLA								

**Troy, Joyce H (Anchorage)**

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**From:** Hager, Barbara (Anchorage)  
**Sent:** Friday, October 03, 2008 2:07 PM  
**To:** Troy, Joyce H (Anchorage)  
**Subject:** FW: Work Order number 1085929

Please add PCB to sample 15

*Barbara A. Hager*

SGS Environmental Services Inc.  
Alaska Division Project Manager  
200 West Potter Drive  
Anchorage, Alaska 99518  
Phone: (907) 562-2343  
Direct: (907) 550-3211  
Fax: (907) 561-5301

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**From:** Beene, Carmon R (Anchorage)  
**Sent:** Friday, October 03, 2008 2:05 PM  
**To:** Long, Alesha (Anchorage); Hager, Barbara (Anchorage)  
**Subject:** FW: Work Order number 1085929

---

**From:** Melissa Shippey [mailto:MShippey@tpeci.com]  
**Sent:** Friday, October 03, 2008 2:03 PM  
**To:** Beene, Carmon R (Anchorage)  
**Subject:** Work Order number 1085929

Carmon,

Please tell Anchorage they can try using either sample number Stockpile 2-2 or Stockpile 2-4, whichever has enough soil volume.

Thanks,  
Melissa

Melissa S Shippey - Staff Scientist  
Travis/Peterson Environmental Consulting, Inc.  
329 2nd Street  
Fairbanks, AK 99701  
907-455-7225  
907-378-3504 cell

**Long, Alesha (Anchorage)**

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**From:** Beene, Carmon R (Anchorage)  
**Sent:** Thursday, October 02, 2008 1:43 PM  
**To:** Long, Alesha (Anchorage)  
**Cc:** Hager, Barbara (Anchorage)  
**Subject:** FW: 1085929

---

**From:** Melissa Shippey [mailto:MShippey@tpecl.com]  
**Sent:** Thursday, October 02, 2008 1:38 PM  
**To:** Beene, Carmon R (Anchorage)  
**Subject:** RE: 1085929

Hello Carmon,

Ok so for W.O. 1085929 please have the following samples analyzed for PCBs in addition to DRO/RRO if enough volume is present.

"Power shed"  
Stockpile 2-1  
Stockpile 2-3.

If there is not enough volume and they'd like to use a different jar that's fine but it cannot be from ones that were sampled out of the lead stockpile. They can call me if they have questions.

Thanks,

Melissa Shippey – Travis/Peterson Environmental Consulting, Inc.  
907-455-7225



**Long, Alesha (Anchorage)**

---

**From:** Beene, Carmon R (Anchorage)  
**Sent:** Thursday, October 02, 2008 8:26 AM  
**To:** Long, Alesha (Anchorage)  
**Subject:** FW: problem with T/P samples 1085929-10 & -12  
**Importance:** High

Alesha,  
 The client was aware. She said that when the cooler tipped over at the airport is most likely when the methanol leaked out. She wants to go with Option B and do an in house extraction using the DRO jar. She is also aware of the low cooler temperatures and wants to proceed with analysis.  
 Carmon

---

**From:** Hall, Heather (Anchorage)  
**Sent:** Wednesday, October 01, 2008 7:33 PM  
**To:** Beene, Carmon R (Anchorage)  
**Cc:** Long, Alesha (Anchorage)  
**Subject:** problem with T/P samples 1085929-10 & -12  
**Importance:** High

Carmon ~

I understand that you are aware of the apparent leakage for Travis Peterson samples 1085929-10 & -12 and that the client is also aware. I have looked at both the field extracted and the unpreserved jars. I feel reasonably certain that:

- 1085929-10 may or may not have had any methanol. There is no evidence of leakage, but there is no evidence of methanol, either. The soil (which is actually very rocky) is moist, but so is the DRO jar.
- 1085929-12 apparently had methanol, as it is much wetter than the DRO jar, but there is definitely evidence of leakage.

The question now is: *How would they like to proceed?*

Option A = Recollect. If they need good data for the GRO & VOC, then they need to recollect.

Option B = Perform an in-house extraction using the DRO jar. The results would be biased low, but that would be much better than the Option C.

Option C = Have the lab add a vial of methanol to each; however:

*C1:* If methanol had been added in the field, and had leaked out in transit, then the volatiles have gone away with the methanol. Results will be, needless to say, biased low.

*C2:* If there was never any methanol added, then the volatiles have evaporated and the results will be so low as to be non-detect.

An additional problem is whether or not we schedule the sample as having had 1 vial

of methanol or 2 vials?!

My recommendation is to recollect. If that is not an option for them, then they might want to use the in-house extraction. Please check with them & get back to Alesha first thing in the morning.

Thank you,  
~ Heather

**Long, Alesha (Anchorage)**

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**From:** Beene, Carmon R (Anchorage)  
**Sent:** Thursday, October 02, 2008 10:38 AM  
**To:** Long, Alesha (Anchorage)  
**Subject:** RE: 1085929

8260 ON ALL PER CLIENT

---

**From:** Long, Alesha (Anchorage)  
**Sent:** Wednesday, October 01, 2008 5:44 PM  
**To:** Beene, Carmon R (Anchorage)  
**Subject:** 1085929

Page 2 of the COC the client requested GRO/VOC AK101/8021. I scheduled as GRO by AK101 and VOC by 8260 same as the 1<sup>st</sup> page of the COC but could you please confirm? Thank You.

# SGS

## 1085929



### CHAIN OF CUSTODY RECORD SGS Environmental Services Inc.

- Locations Nationwide
- Alaska
  - Louisiana
  - New Jersey
  - West Virginia
  - Hawaii
  - Maryland
  - North Carolina

www.us.sgs.com

# 063263

1 CLIENT: *Travis/Peterson Environmental*

CONTACT: *M. Shippey* PHONE NO: ( )

PROJECT: *Utica Mine* SITE/PWSID#: ( )

REPORTS TO: *329 2nd St* E-MAIL: *Mshippey@travis.com*

*Fairbairn AK* FAX NO: ( )

INVOICE TO: QUOTE #

P.O. NUMBER *1080-32*

SGS Reference: PAGE 1 OF 2

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	No CONTAINERS	Preservative Used	Analytic Required	REMARKS
①	OA # 1	9/24/08	1:23p	S	2	X	X	
②	# 2	9/26/08	1:45p	S	2	X	X	
③	# 3	9/26/08	1:55p	S	2	X	X	
④	# 4	9/26/08	2:09p	S	2	X	X	
⑤	# 5	9/26/08	2:20p	S	2	X	X	
⑥	Pb Stockpile 1	9/26/08	2:40p	S	2	X	X	
⑦	Pb Stockpile 2	9/26/08	2:42p	S	2	X	X	
⑧	Pb Stockpile 3	9/26/08	2:42p	S	2	X	X	
⑨	TIN SHACK	9/27/08	12:30	S	2	X	X	
⑩	Stockpile 1-1	9/27/08	12:41	S	2	X	X	

4 Shipping Carrier: *42608*

Shipping Ticket No: *42608*

Special Deliverable Requirements: *Level II check*

Requested Turnaround Time and Special Instructions: *Standard turnaround time.*

Samples Received Cold? (Circle) YES NO *NO*

Temperature *62.2 10-14*

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT *INTACT*

5 Collected/Relinquished By: (1) *M. Shippey* Date *9/28/08*

Relinquished By: (2) *WMMB* Date *9/28/08*

Relinquished By: (3) *WMMB* Date *9/28/08*

Relinquished By: (4) *WMMB* Date *9/28/08*

# SGS

## 1085929



### AIN OF CUSTODY RECORD Environmental Services Inc.

- Locations Nationwide
- Alaska
  - Hawaii
  - Louisiana
  - Maryland
  - New Jersey
  - North Carolina
  - West Virginia

www.us-sgs.com 063264

1 CLIENT: *Travis/Peterson Environmental*

CONTACT: *M. Shippey* PHONE NO: ( )

PROJECT: *Utica Mine* SITE/FWSID: ( )

REPORTS TO: *329 2nd St. Fairbanks AK* E-MAIL: *mshippey@tpsci.com* FAX NO: ( )

INVOICE TO: QUOTE #

P.O. NUMBER *1080-32*

SGS Reference: PAGE 2 OF 2

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	CONTAINERS			ANALYSIS REQUIRED	REMARKS	
					NO	C= COMP	G= GRAB			
10	Stockpile 1-2	9/27/08	12:45p	S	2	G		X	<i>2 of the samples lost their metal TRAC is aware of this.</i>	
11	Stockpile 2-1	9/27/08	1:00p	S	2	G		X		
12	Stockpile 2-2	9/27/08	1:10p	S	2	G		X		
13	Stockpile 2-3	9/27/08	1:20p	S	2	G		X		
14	Stockpile 2-4	9/27/08	1:30p	S	2	G		X		
15	POWER SHED	9/27/08	1:35p	S	2	G		X		
16	POWER SHED -2	9/27/08	1:40p	S	2	G		X		
17	TRIP BLANK	9/27/08	1:45p	-	1	-		X		
18										
19										

Preservative Used: *MedH*

Analysis Required: *GR/VOL/BOV AK/10/100 AK/10/100*

Shipping Carrier: *EMX*

Shipping Ticket No: *temperature 2.2 1.12 = 1.4*

Special Deliverable Requirements: *Level II*

Chain of Custody Seal: (Circle) *INTACT* BROKEN ABSENT

Requested Turnaround Time and Special Instructions: *see Standard turnaround*

5

Relinquished By: (1)	Date	Received By:	Time
<i>M. Shippey</i>	9/27/08	<i>AMBERN</i>	11:00
Relinquished By: (2)	Date	Received By:	Time
Relinquished By: (3)	Date	Received By:	Time
Relinquished By: (4)	Date	Received By:	Time
	9/30/08	<i>[Signature]</i>	09:05



1085929

SGS WO#:



SAMPLE RECEIPT FORM FOR TRANSFERS
From
FAIRBANKS, ALASKA OR HONOLULU, HAWAII
To
ANCHORAGE, AK

TO BE COMPLETED IN ANCHORAGE UPON ARRIVAL FROM FAIRBANKS OR HAWAII.
NOTES RECORDED BELOW ARE ACTIONS NEEDED UPON ARRIVAL IN ANCHORAGE.

Notes: SAMPLES; 10 A, 12 A HAVE NO MEON, CUBAT
ANOTATED THIS ON COC #42.

Receipt Date / Time: 9.30.08 0905

Is Sample Date/Time Conversion Necessary? Yes No [checked]

Number of Hours From Alaska Local Time: -

Foreign Soil? Yes No [checked]

Delivery method to Anchorage (circle all that apply):

Alert Courier / UPS / FedEx / USPS / AA Goldstreak / NAC / BRA / PenAir / Carlile Lynden SGS

Other:

Airbill #

COOLER AND TEMP BLANK READINGS\* 9/10

Table with 6 columns: Cooler ID, Temp Blank (°C), Cooler (°C), Cooler ID, Temp Blank (°C), Cooler (°C). Row 1 contains handwritten values: 1, 0.2, 0.7.

CUSTODY SEALS INTACT: YES / NO

# / WHERE: TWO FRONT & BACK TOP CIV

COMPLETED BY: [Signature]

\*Temperature readings include thermometer correction factors.



SAMPLE RECEIPT FORM

SGS WO#:

Yes No NA

- Are samples RUSH, priority or w/in 72 hrs of hold time?
- If yes, have you done e-mail ALERT notification?
- Are samples within 24 hrs. of hold time or due date?
- If yes, have you also spoken with supervisor?
- Archiving bottles (if req'd): Are they properly marked?
- Are there any problems? PM Notified? \_\_\_\_\_
- Were samples preserved correctly and pH verified? \_\_\_\_\_

TAT (circle one): Standard or- Rush  
 Received Date: 9/29/08  
 Received Time: 11:05  
 Is date/time conversion necessary? NO  
 # of hours to AK Local Time: NA  
 Thermometer ID: PMXP

Cooler ID	Temp Blank	Cooler Temp
1	4 °C	2.2 °C
	°C	°C
	°C	°C
	°C	°C
	°C	°C

- If this is for PWS, provide PWSID. \_\_\_\_\_
- Will courier charges apply?  
Method of payment? \_\_\_\_\_
- Data package required? (Level: 1 / 2 / 3 / 4)  
Notes: \_\_\_\_\_
- Is this a DoD project? (USACE, Navy, AFCEE)

Note: Temperature readings include thermometer correction factors.  
 Delivery method (circle all that apply): Client /  
 Alert Courier / UPS / FedEx / USPS / DHL /  
 AA Goldstreak / NAC / ERA / PenAir / Carlisle /  
 Lynden / SGS / Other: \_\_\_\_\_

Airbill # \_\_\_\_\_  
 Additional Sample Remarks: (✓if applicable)  
 Extra Sample Volume? \_\_\_\_\_  
 Limited Sample Volume? \_\_\_\_\_  
 MeOH field preserved for volatiles? ✓  
 Field-filtered for dissolved \_\_\_\_\_  
 Lab-filtered for dissolved \_\_\_\_\_  
 Ref Lab required? \_\_\_\_\_  
 Foreign Soil? \_\_\_\_\_

*This section must be filled out for DoD projects (USACE, Navy, AFCEE)*

Yes	No	
<input type="checkbox"/>	<input type="checkbox"/>	Is received temperature 4 ± 2°C? Exceptions: _____ Samples/Analyses Affected: _____
<input type="checkbox"/>	<input type="checkbox"/>	If temperature(s) < 0°C, were containers ice-free? <u>N/A</u> <i>Notify PM immediately of any ice in samples.</i>
<input type="checkbox"/>	<input type="checkbox"/>	Was there an airbill? (Note # above in the right hand column)
<input type="checkbox"/>	<input type="checkbox"/>	Was cooler sealed with custody seals? # / where: _____
<input type="checkbox"/>	<input type="checkbox"/>	Were seal(s) intact upon arrival?
<input type="checkbox"/>	<input type="checkbox"/>	Was there a COC with cooler?
<input type="checkbox"/>	<input type="checkbox"/>	Was COC sealed in plastic bag & taped inside lid of cooler?
<input type="checkbox"/>	<input type="checkbox"/>	Was the COC filled out properly?
<input type="checkbox"/>	<input type="checkbox"/>	Did the COC indicate USACE / Navy / AFCEE project?
<input type="checkbox"/>	<input type="checkbox"/>	Did the COC and samples correspond?
<input type="checkbox"/>	<input type="checkbox"/>	Were all sample packed to prevent breakage? Packing material: _____
<input type="checkbox"/>	<input type="checkbox"/>	Were all samples unbroken and clearly labeled?
<input type="checkbox"/>	<input type="checkbox"/>	Were all samples sealed in separate plastic bags?
<input type="checkbox"/>	<input type="checkbox"/>	Were all VOCs free of headspace and/or MeOH preserved?
<input type="checkbox"/>	<input type="checkbox"/>	Were correct container / sample sizes submitted?
<input type="checkbox"/>	<input type="checkbox"/>	Is sample condition good?
<input type="checkbox"/>	<input type="checkbox"/>	Was copy of CoC, SRF, and custody seals given to PM to fax?

*This section must be filled if problems are found.*

Yes	No	
<input type="checkbox"/>	<input type="checkbox"/>	Was client notified of problems?
		Individual contacted: _____
		Via: Phone / Fax / Email (circle one)
		Date/Time: _____
		Reason for contact: _____
		Change Order Required? _____
		SGS Contact: _____

Notes: Client is aware of low cooler temperature and wants to proceed with analysis on 9/29/08 -  
client indicated there 2 jars that lost methanol in transit - she did not indicate which samples

Completed by (sign): Armon Beebe (print): Armon Beebe  
 Login proof (check one): waived  required  performed by: \_\_\_\_\_





**SGS** Environmental

**CUSTODY SEAL**

Signature: *Michael S. James*

*MSJ*

Date/Time: 9/28/08

~~77-6672-04~~

1085929

1085929



**SGS** Environmental

CUSTODY SEAL

wat sara

Signature: Carmon Beene

Date/Time: 9/29/08 11:45

**SGS** Environmental

CUSTODY SEAL

wat sara

Signature: Carmon Beene

Date/Time: 9/29/08 11:45

SGS Environmental Services

TCLP SAMPLE CHARACTERIZATION

HSN#: 5929-18C Date: 9/30/08 Analyst: [Signature]

Sample Vol. (mL): 175 Container Volume (mL): 250

Top % (xylene miscible) Description / Notes:

Middle % (water miscible) Description / Notes:

Bottom 100 % (solids) Description / Notes: Drift, rock, roots

Percent Solids Determination:

Original Sample & Container weight (g): Solid % of sample:
Empty Original Container weight (g): Liquid % of sample:
Clean Container weight (g): Weight solids extracted (g):
Original Sample weight (g): Extraction Fluid:
Filter weight (g): Vol. Original Liquid Added Back (mL)
Clean Container & Liquid weight (g): Liquid Volume (mL):
Liquid weight (g):
Filter & Solid Sample weight (g):
Solid weight (g):

Notes:

HSN#: 5929-19C Date: 9/30/08 Analyst: [Signature]

Sample Volume (mL): Container Volume (mL): 250

Top % (xylene miscible) Description / Notes:

Middle % (water miscible) Description / Notes:

Bottom 100 % (solids) Description / Notes: Sand, rock

Percent Solids Determination:

Original Sample & Container weight (g): Solid % of sample:
Empty Original Container weight (g): Liquid % of sample:
Clean Container weight (g): Weight solids extracted (g):
Original Sample weight (g): Extraction Fluid:
Filter weight (g): Vol. Original Liquid Added Back (mL)
Clean Container & Liquid weight (g): Liquid Volume (mL):
Liquid weight (g):
Filter & Solid Sample weight (g):
Solid weight (g):

Notes:

SGS Environmental Services

TCLP SAMPLE CHARACTERIZATION

HSN#: 5959-20a Date: 9/30/08 Analyst: [Signature]

Sample Vol. (mL): 225 Container Volume (mL): 250
Top % (xylene miscible) Description / Notes:
Middle % (water miscible) Description / Notes:
Bottom 100 % (solids) Description / Notes: DIRT, ROCK

Percent Solids Determination:

Original Sample & Container weight (g):
Empty Original Container weight (g):
Clean Container weight (g):
Original Sample weight (g):
Filter weight (g):
Clean Container & Liquid weight (g):
Liquid weight (g):
Filter & Solid Sample weight (g):
Solid weight (g):
Solid % of sample:
Liquid % of sample:
Weight solids extracted (g):
Extraction Fluid:
Vol. Original Liquid Added Back (mL):
Liquid Volume (mL):

Notes:

HSN#: 5959-21a Date: 9/30/08 Analyst: [Signature]

Sample Volume (mL): 200 Container Volume (mL): 250
Top % (xylene miscible) Description / Notes:
Middle % (water miscible) Description / Notes:
Bottom 100 % (solids) Description / Notes: DIRT, ROCK

Percent Solids Determination:

Original Sample & Container weight (g):
Empty Original Container weight (g):
Clean Container weight (g):
Original Sample weight (g):
Filter weight (g):
Clean Container & Liquid weight (g):
Liquid weight (g):
Filter & Solid Sample weight (g):
Solid weight (g):
Solid % of sample:
Liquid % of sample:
Weight solids extracted (g):
Extraction Fluid:
Vol. Original Liquid Added Back (mL):
Liquid Volume (mL):

Notes:



SGS Environmental Services

TCLP SAMPLE CHARACTERIZATION

HSN#: 5929-22a Date: 9/30/08 Analyst: ajs

Sample Vol. (mL): 200 Container Volume (mL): 250  
Top \_\_\_\_\_ % (xylene miscible) Description / Notes: \_\_\_\_\_  
Middle \_\_\_\_\_ % (water miscible) Description / Notes: \_\_\_\_\_  
Bottom 100 % (solids) Description / Notes: Dirt rock, roots

Percent Solids Determination:

Original Sample & Container weight (g): \_\_\_\_\_ Solid % of sample: \_\_\_\_\_  
Empty Original Container weight (g): \_\_\_\_\_ Liquid % of sample: \_\_\_\_\_  
Clean Container weight (g): \_\_\_\_\_ Weight solids extracted (g): \_\_\_\_\_  
Original Sample weight (g): \_\_\_\_\_ Extraction Fluid: \_\_\_\_\_  
Filter weight (g): \_\_\_\_\_ Vol. Original Liquid Added Back (mL) \_\_\_\_\_  
Clean Container & Liquid weight (g): \_\_\_\_\_ Liquid Volume (mL): \_\_\_\_\_  
Liquid weight (g): \_\_\_\_\_  
Filter & Solid Sample weight (g): \_\_\_\_\_  
Solid weight (g): \_\_\_\_\_

Notes: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

HSN#: 5929-23a Date: 9/30/08 Analyst: ajs

Sample Volume (mL): 200 Container Volume (mL): 250  
Top \_\_\_\_\_ % (xylene miscible) Description / Notes: \_\_\_\_\_  
Middle \_\_\_\_\_ % (water miscible) Description / Notes: \_\_\_\_\_  
Bottom 100 % (solids) Description / Notes: Dirt, rock, wood

Percent Solids Determination:

Original Sample & Container weight (g): \_\_\_\_\_ Solid % of sample: \_\_\_\_\_  
Empty Original Container weight (g): \_\_\_\_\_ Liquid % of sample: \_\_\_\_\_  
Clean Container weight (g): \_\_\_\_\_ Weight solids extracted (g): \_\_\_\_\_  
Original Sample weight (g): \_\_\_\_\_ Extraction Fluid: \_\_\_\_\_  
Filter weight (g): \_\_\_\_\_ Vol. Original Liquid Added Back (mL) \_\_\_\_\_  
Clean Container & Liquid weight (g): \_\_\_\_\_ Liquid Volume (mL): \_\_\_\_\_  
Liquid weight (g): \_\_\_\_\_  
Filter & Solid Sample weight (g): \_\_\_\_\_  
Solid weight (g): \_\_\_\_\_

Notes: \_\_\_\_\_  
\_\_\_\_\_

SGS Environmental Services

TCLP SAMPLE CHARACTERIZATION

HSN#: 5929-21a Date: 9/30/08 Analyst: AS

Sample Vol. (mL): 200 Container Volume (mL): 250

Top \_\_\_\_\_ % (xylene miscible) Description / Notes: \_\_\_\_\_

Middle \_\_\_\_\_ % (water miscible) Description / Notes: \_\_\_\_\_

Bottom 100 % (solids) Description / Notes: Dirt, rock

Percent Solids Determination:

Original Sample & Container weight (g):	_____	Solid % of sample:	_____
Empty Original Container weight (g):	_____	Liquid % of sample:	_____
Clean Container weight (g):	_____	Weight solids extracted (g):	_____
Original Sample weight (g):	_____	Extraction Fluid:	_____
Filter weight (g):	_____	Vol. Original Liquid Added Back (mL)	_____
Clean Container & Liquid weight (g):	_____	Liquid Volume (mL):	_____
Liquid weight (g):	_____		
Filter & Solid Sample weight (g):	_____		
Solid weight (g):	_____		

Notes: \_\_\_\_\_  
\_\_\_\_\_

HSN#: 5929-25a Date: 9/30/08 Analyst: AS

Sample Volume (mL): \_\_\_\_\_ Container Volume (mL): 250

Top \_\_\_\_\_ % (xylene miscible) Description / Notes: \_\_\_\_\_

Middle \_\_\_\_\_ % (water miscible) Description / Notes: \_\_\_\_\_

Bottom 100 % (solids) Description / Notes: Dirt, rock

Percent Solids Determination:

Original Sample & Container weight (g):	_____	Solid % of sample:	_____
Empty Original Container weight (g):	_____	Liquid % of sample:	_____
Clean Container weight (g):	_____	Weight solids extracted (g):	_____
Original Sample weight (g):	_____	Extraction Fluid:	_____
Filter weight (g):	_____	Vol. Original Liquid Added Back (mL)	_____
Clean Container & Liquid weight (g):	_____	Liquid Volume (mL):	_____
Liquid weight (g):	_____		
Filter & Solid Sample weight (g):	_____		
Solid weight (g):	_____		

Notes: \_\_\_\_\_  
\_\_\_\_\_

## Laboratory Data Review Checklist

### 1. Laboratory

a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?

Yes       No

Comments:

b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?

Yes       No

Comments:

None were transferred.

### 2. Chain of Custody (COC)

a. COC information completed, signed, and dated (including released/received by)?

Yes       No

Comments:

b. Correct analyses requested?

Yes       No

Comments:

### 3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt ( $4^{\circ} \pm 2^{\circ} \text{C}$ )?

Yes       No

Comments:

b. Sample preservation acceptable - acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

Yes       No

Comments:

Except on samples 10A and 12A which had no methanol due to jar leakage.

c. Sample condition documented - broken, leaking (Methanol), zero headspace (VOC vials)?

Yes       No

Comments:

This was noted by TPECI personnel upon sample delivery to SGS.

d. If there were any discrepancies, were they documented? - For example, incorrect sample containers/preservation, sample temperature outside of acceptance range, insufficient or missing samples, etc.?

Yes     No

Comments:

No discrepancies.

e. Data quality or usability affected? Explain.

Comments:

There were no data flags to indicate the data usability was affected for samples 10A and 12A.

#### 4. Case Narrative

a. Present and understandable?

Yes     No

Comments:

b. Discrepancies, errors or QC failures identified by the lab?

Yes     No

Comments:

None

c. Were all corrective actions documented?

Yes     No

Comments:

N/A

d. What is the effect on data quality/usability according to the case narrative?

Comments:

None

#### 5. Samples Results

a. Correct analyses performed/reported as requested on COC?

Yes     No

Comments:

b. All applicable holding times met?

Yes     No

Comments:

c. All soils reported on a dry weight basis?

Yes     No

Comments:



d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?

Yes       No

Comments:

Except for sample number 1085929009 on the AK10/103 analysis.

e. Data quality or usability affected? Explain.

Comments:

No - the RRO was non-detect and no effect on data quality.

## 6. QC Samples

### a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

Yes       No

Comments:

ii. All method blank results less than PQL?

Yes       No

Comments:

iii. If above PQL, what samples are affected?

Comments:

N/A

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes       No

Comments:

N/A

v. Data quality or usability affected? Explain.

Comments:

N/A

### b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics - One LCS/LCSD reported per matrix, analysis and 20 samples?

Yes       No

Comments:

ii. Metals/Inorganics - One LCS and one sample duplicate reported per matrix, analysis and 20 samples?

Yes       No

Comments:

iii. Accuracy - All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

Yes  No

Comments:

Samples 864027 and 864919 had some analytes outside recovery limits.

iv. Precision - All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

Yes  No

Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

N/A

vi. Do the affected samples(s) have data flags? If so, are the data flags clearly defined?

Yes  No

Comments:

N/A

vii. Data quality or usability affected? Explain.

Comments:

N/A

c. Surrogates - Organics Only

i. Are surrogate recoveries reported for organic analyses - field, QC and laboratory samples?

Yes  No

Comments:

ii. Accuracy - All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)

Yes  No

Comments:

Except for samples 9009, 9011, and 9016 which had high recoveries of some surrogates.

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

Yes  No

Comments:

iv. Data quality or usability affected? Explain.

Comments:

Associated sample results are biased high.

d. Trip Blank - Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and cooler?

Yes       No

Comments:

ii. All results less than PQL?

Yes       No

Comments:

iii. If above PQL, what samples are affected?

Comments:

N/A

iv. Data quality or usability affected? Explain.

Comments:

N/A

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

Yes       No

Comments:

Sample PB Stockpile -3 is the duplicate sample for PB Stockpile-2. Lead analysis.

ii. Submitted blind to lab?

Yes       No

Comments:

iii. Precision - All relative percent differences (RPD) less than specified DQOs? (Recommended: 30% water, 50% soil)

Yes       No

Comments:

The calculated RPD for the two samples was 124%. These were grab samples, not split duplicates from a homogenized sample. The difference is likely due to the heterogeneity of the sample matrix.

iv. Data quality or usability affected?

Yes       No

Comments:

The data only indicate that the sample matrix is contaminated above regulatory criteria.

f. Decontamination or Equipment Blank (if applicable)

Yes     No     Not Applicable

i. All results less than PQL?

Yes     No

Comments:

N/A

ii. If above PQL, what samples are affected?

Comments:

N/A

iii. Data quality or usability affected? Explain.

Comments:

N/A

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Defined and appropriate?

Yes     No

Comments:

N/A

Completed by:

Title:

Date:

Report Name:

Report Date:

Firm:

File Number: