MSE Millennium Science & Engineering, Inc.
1605 North 13th Street
Boise, Idaho 83702
Phone: (208) 345-8292
Fax: (208) 344-8007

July 15, 2003

Mr. John Bottomley
Barramundi Gold (USA) Ltd.
277 Lakeshore Road West, Suite 205
Oakville Ontario L6J 1H9

Re: Limited Subsurface Investigation at Rescue Mine, located near Warren, Idaho.

Dear Mr. Bottomley:

On November 16, 2002, Millennium Science & Engineering, Inc. (MSE) performed a limited subsurface investigation at the Rescue Mine, located near Warren in Idaho County, Idaho (Figure 1). This investigation addressed the scope of work outlined in our proposal to you dated November 7, 2002. You have indicated that an above ground storage tank (AST) located in the Generator Building, stored diesel fuel for generators used during mining operations at the Rescue Mine. It is our understanding that a release of diesel fuel (presumably from the AST) was identified by US Forest Service personnel in the Spring of 2002. MSE was retained by Barramundi Gold (USA) Ltd. to perform a limited subsurface assessment at the site to evaluate potential diesel contamination of soil in the vicinity of the generator building. Results of this limited subsurface assessment are presented in the following sections of this letter report.

LIMITED SUBSURFACE INVESTIGATION

MSE personnel mobilized to the site on November 16, 2002 to perform the limited subsurface assessment. Surface water samples were collected from two nearby settling ponds to evaluate potential surface water impairments in the vicinity (north) of the release. Surface water samples were collected from the main settling pond (W-1) and the lower setting pond (W-2) and were submitted to Alchem Laboratories (Alchem) of Boise, Idaho for analysis of benzene, toluene, ethylbenzene, total xylenes (BTEX) and polycyclic aromatic hydrocarbons (PAH's) by EPA Methods 8020 and 8270, respectively. BTEX concentrations are reported for the water samples in Table 1 and PAH concentrations are reported in Table 2.

Five test pits were excavated in the vicinity of the Generator Building using a backhoe (Test Pit 1 through Test Pit 4, and Test Pit 6) to a maximum depth of 5 feet below ground surface (BGS). Test pit locations are identified in Figure 2 and were selected in the field by MSE personnel. Photographs of site activities are included in Appendix 1. Soil samples were collected from the test pit areas at discrete depth intervals and were field screened for petroleum hydrocarbons using a portable photo-ionization detector

(PID) to determine the relative volatile organic constituent (VOC) concentration of the soil samples. Results of the field screen PID analysis are included in Appendix 2.

Four soil samples collected from the test pits were submitted to Alchem for laboratory analysis of BTEX by EPA method 8020 and PAH's by EPA method 8270. Soil laboratory analytical results for BTEX are reported in Table 3 and PAH results are reported in Table 4. Copies of laboratory analytical reports and chain-of-custody forms are included in Appendix 3. Potentially impacted soil removed from the test pits was returned to the original test pits following the collection of soil samples. Groundwater was not observed in the excavation during subsurface assessment activities. Following field activities, plastic sheeting was placed over the eastern side of the Generator Building to reduce surface water infiltration (snowmelt) in the impacted area.

RESULTS

Water samples collected from the lower and main settling ponds were below the laboratory detection limits for BTEX and PAH's (Tables 1 and 2). No surface water impairments were observed during this assessment.

Results of field screened petroleum hydrocarbon concentrations measured with a PID are presented in Appendix 2. No soil impacts were found in Test Pit 1. PID results indicated that diesel impacts appear to be limited to shallow subsurface soil in the vicinity of Test Pits 2, 3, and 4 and petroleum hydrocarbon concentrations decrease with increasing depth BGS along the outer (eastern) fringe of the soil contamination. The location of the diesel AST within the Generator Building limited the access to soils directly beneath the AST and to the north and west.

Four soil samples were collected during the assessment and were submitted for laboratory analysis of BTEX and PAH's (Tables 3 and 4). Soil samples collected from Test Pit 2 at five feet BGS, Test Pit 3 at six feet BGS, and Test Pit 4 at four feet BGS were below laboratory detection limits for BTEX and PAH's. The soil sample collected from Test Pit 2 at two feet BGS had elevated concentrations of BTEX and PAH's, indicating soil in this area has been impacted by a release from the diesel AST. Reported concentrations for total xylenes, acenaphthene, fluorene, naphthalene, and phenanthrene for this sample exceeded Idaho Risk Based Corrective Action (RBCA) Tier 0 Soil Cleanup Levels for Petroleum Releases.

Based on soil concentrations exceeding RBCA cleanup levels, additional investigation is warranted. As required by the State of Idaho, Department of Environmental Quality a RBCA Evaluation should be completed for this site. Although the extent of contamination does not appear extensive, additional soils data may need to be collected to the north and west to further define the area of impact. In addition, groundwater was not encountered during the current investigation (maximum depth explored was five feet BGS). However, groundwater is likely to be present at some depth and the potential for groundwater impacts may need to be evaluated.

CORRECTIVE ACTION PLAN

An alternative to further site characterization could include excavation of impacted soils as part of a proposed corrective action. This approach could be used to define the lateral and vertical extent of contamination during removal of impacted soils. Given the location of the Generator Building, this would likely require hand excavation of impacted soils within the Generator Building with limited excavation directly beneath the diesel fuel AST and walls of the structure. Following soil removal, samples for laboratory analysis would be collected from the vertical and lateral extent of the excavation. Samples would be analyzed for BTEX and PAH constituents. Samples of groundwater would be collected (if encountered). Excavated soils would be placed in a one foot thick lift in a DEQ approved landfarm located on-site. The design of the landfarm would follow DEQ protocol and may include placement of plastic sheeting and a bermed perimeter to prevent surface water run-on/run-off. The soils would be periodically aerated to promote biologic degradation of petroleum compounds. Following treatment, samples of the landfarmed soils would be collected for laboratory analysis to confirm clean-up goals have been met and suitability of the site for closure.

If you require additional information or have questions regarding this limited subsurface assessment, please feel free to contact us at 208-345-8292.

Sincerely,

Troy Ricke (for)

Deena Lilya, E.I.T.
Environmental Engineer

Paul Hunter, P.G.
Office Manager

REGISTERED PROFESSIONAL GEOLOGIST
PAUL K. HUNTER
910
STATE OF IDAHO

cc: John Rygh, USFS

Enclosures

TABLES

Table 1	Surface Water BTEX Analytical Results
Table 2	Surface Water PAH's Analytical Results
Table 3	Soil BTEX Analytical Results
Table 4	Soil PAH's Analytical Results

FIGURES

Figure 1	Vicinity Map
Figure 2	Site Plan with Soil Sample Locations

APPENDIX 1 – Site Photographs
APPENDIX 2 - Field Screened Petroleum Hydrocarbon Concentrations Measured with PID
APPENDIX 3 - Copies of Laboratory Analytical Results and Chain-of-Custody Forms

Table 1
Surface Water BTEX Analytical Results
Rescue Mine
Warren, Idaho

Results in micrograms per liter (ug/L)

Sample Location	Date	Time	Benzene	Toluene	Ethylbenzene	Total Xylenes
W-1 Main Settling Pond	11/16/2002	13:00	ND	ND	ND	ND
W-2 Lower Settling Pond	11/16/2002	13:40	ND	ND	ND	ND

Notes:
[1] ND - Not detected above laboratory reporting limits (Laboratory reporting limits are < 0.5 ug/L for benzene, toluene, ethylbenzene and total xylenes (BTEX) unless otherwise noted).
[2] Water samples were analyzed for BTEX by EPA Method 8020.

Table 2
Surface Water PAH's Analytical Results
Rescue Mine
Warren, Idaho

Results in micrograms per liter (ug/L)

Sample Location	Date	Time	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo(g, h, i) perylene	Benzo(k) fluoranthene
W-1 Main Settling Pond	11/16/2002	13:00	ND	ND	ND	ND	ND	ND	ND	ND
W-2 Lower Settling Pond	11/16/2002	13:40	ND	ND	ND	ND	ND	ND	ND	ND

Sample Location	Date	Time	Chrysene	Dibenzo(a, h) anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Napthalene	Phenanthrene	Pyrene
W-1 Main Settling Pond	11/16/2002	13:00	ND	ND	ND	ND	ND	ND	ND	ND
W-2 Lower Settling Pond	11/16/2002	13:40	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
[1] ND - Not detected above laboratory reporting limits (Laboratory reporting limits are < 1.0 ug/L for napthalene and < 0.5 ug/L for all other PAH's listed above unless noted otherwise).
[2] Water samples were analyzed for PAH's by EPA Method 8270

Table 3
Soil BTEX Analytical Results
Rescue Mine
Warren, Idaho

Results in micrograms per kilograms (ug/kg)

Soil Sample Location	Date	Time	Benzene	Toluene	Ethylbenzene	Total Xylenes
PIT 2 @ 2 ft BGS	11/16/2002	11:55	<125*	4,250	4,250	***39,300***
PIT 2 @ 5 ft BGS	11/16/2002	11:50	ND	ND	ND	ND
PIT 3 @ 6 ft BGS	11/16/2002	12:10	ND	ND	ND	ND
PIT 4 @ 4 ft BGS	11/16/2002	12:40	ND	ND	ND	ND
RBCA Tier 0 Soil Cleanup Levels			**60**	**5,400**	**10,000**	**7,000**

Notes:
[1] ND - Not detected above laboratory reporting limits (Laboratory reporting limits are < 25.0 ug/kg for benzene, toluene, ethylbenzene and total xylenes (BTEX) unless otherwise noted).
[2] * - Increased detection limit due to significant levels of petroleum based hydrocarbons present in sample.
[3] Soil samples were analyzed for BTEX by EPA Method 8020.
[4] RBCA = Risk Based Corrective Action
[5] Values in ***BOLD*** font exceed RBCA Tier 0 Soil Cleanup Levels.

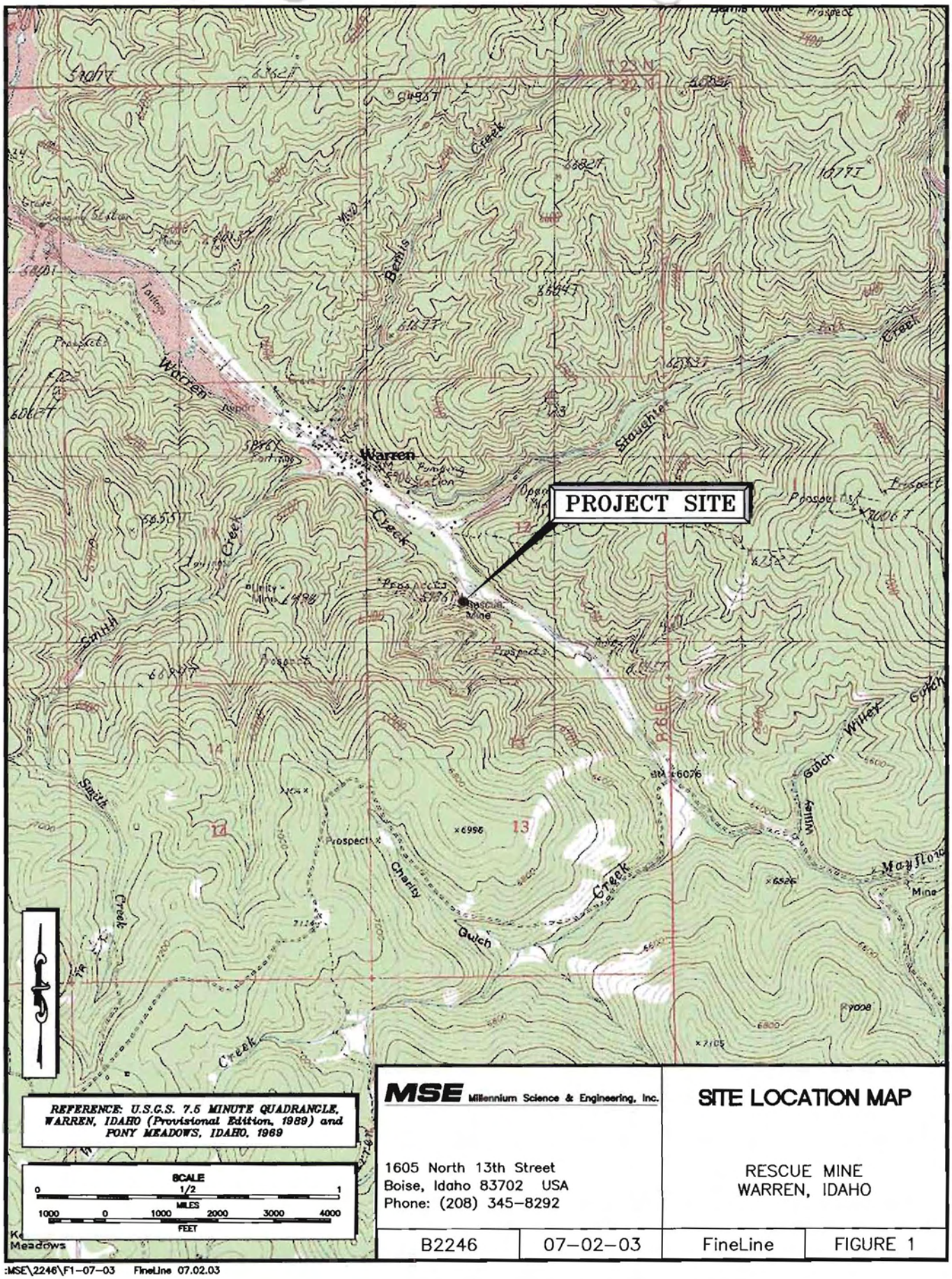
Table 4
Soil PAH's Analytical Results
Rescue Mine
Warren, Idaho

Results in micrograms per kilogram (ug/kg)

Sample Location	Date	Time	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo(g, h, i) perylene	Benzo(k) fluoranthene
PIT 2 @ 2 ft BGS	11/16/2002	11:55	***3,780***	ND	<1,560*	<80*	ND	ND	ND	ND
PIT 2 @ 5 ft BGS	11/16/2002	11:50	ND	ND	ND	ND	ND	ND	ND	ND
PIT 3 @ 6 ft BGS	11/16/2002	12:10	ND	ND	ND	ND	ND	ND	ND	ND
PIT 4 @ 4 ft BGS	11/16/2002	12:40	ND	ND	ND	ND	ND	ND	ND	ND
RBCA Tier 0 Soil Cleanup Levels			**1,100**	**NA**	**SSL (800)**	**1,220**	**120**	**1,220**	**SSL (400)**	**SSL (4,400)**

Sample Location	Date	Time	Chrysene	Dibenzo(a, h) anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Napthalene	Phenanthrene	Pyrene
PIT 2 @ 2 ft BGS	11/16/2002	11:55	140	ND	386	***5,190***	ND	***13,300***	***13,400***	1,810
PIT 2 @ 5 ft BGS	11/16/2002	11:50	ND	ND	ND	ND	ND	ND	ND	ND
PIT 3 @ 6 ft BGS	11/16/2002	12:10	ND	ND	ND	ND	ND	ND	ND	ND
PIT 4 @ 4 ft BGS	11/16/2002	12:40	ND	ND	ND	ND	ND	ND	ND	ND
RBCA Tier 0 Soil Cleanup Levels			**SSL (500)**	**NA**	**SSL (4,400)**	**4,200**	**NA**	**5,500**	**8,400**	**SSL (10,000)**

Notes:
[1] ND - Not detected above laboratory reporting limits (Laboratory reporting limits are < 168.0 ug/kg for napthalene and < 67.0 ug/kg for all other PAHs listed above unless noted otherwise).
[2] * - Increased detection limit due to significant levels of petroleum based hydrocarbons present in sample.
[3] Soil samples were analyzed for PAH's by EPA Method 8270.
[4] RBCA = Risk Based Corrective Action
[5] Values in ***BOLD*** font exceed RBCA Tier 0 Soil Cleanup Levels.
[6] SSL = Soil Saturation Limit
[7] NA = Not Applicable



REFERENCE: U.S.G.S. 7.5 MINUTE QUADRANGLE, WARREN, IDAHO (Provisional Edition, 1989) and PONY MEADOWS, IDAHO, 1969

MSE Millennium Science & Engineering, Inc.

1605 North 13th Street
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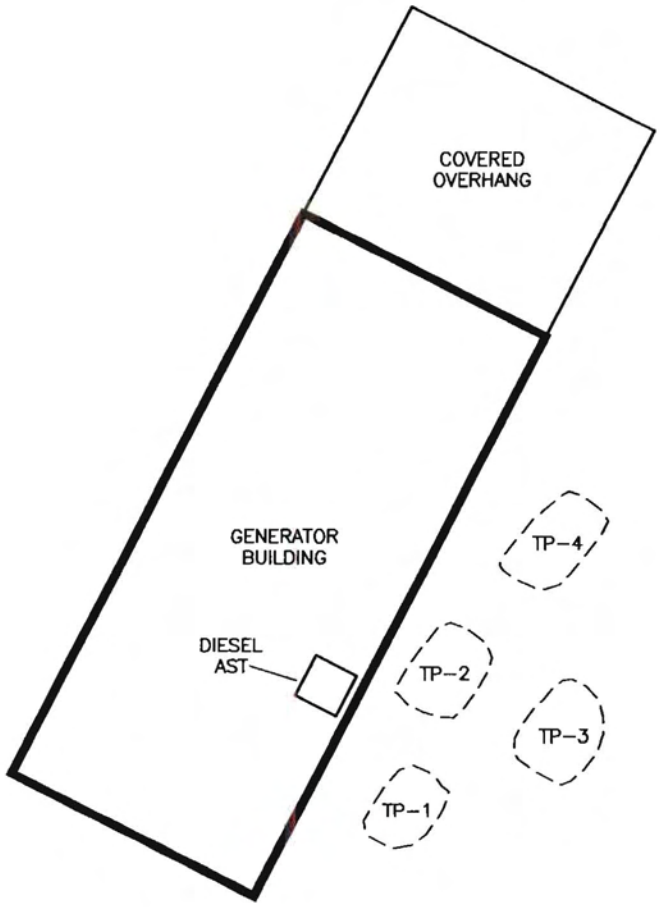
Phone: (208) 345-8292

SITE LOCATION MAP

RESCUE MINE
WARREN, IDAHO

B2246	07-02-03	FineLine	FIGURE 1

:MSE\2246\F1-07-03 FineLine 07.02.03



LEGEND	
TP-1	APPROXIMATE LOCATION OF TEST PIT

N

0 5 10 15 20

SCALE: 1" = 10'

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SITE PLAN WITH SAMPLE LOCATIONS

RESCUE MINE
WARREN, IDAHO

B2246	07-02-03	FineLine	FIGURE 2

:MSE\2246\F2-07-03 Fineline 07.02.03

APPENDIX 1

Site Photographs

Rescue Mine, Warren, Idano Photographs

Photo 1: Looking into Pit #1. Note stain boundary on material about halfway down pit wall.

Photo 2: Pit #2 directly adjacent to surface ponding stain.

Photo 3: MSE Employee using PID on wall of Pit #2.

Photo 4: Pits filled in and pond liner placed against wall and over main concentration of spill. Sloped to drain toward front of building.

APPENDIX 2

Field Screened Petroleum Hydrocarbon Concentrations Measured with PID

APPENDIX 2
Field Screening Measurements (PID)

Sample Location	PID (ppm)
PIT 1 @ Surface	0
PIT 1 @ 1.5 ft BGS	0
PIT 1 @ 2.5 ft BGS	0
PIT 2 @ 2.5 ft BGS	167
PIT 2 @ 3 ft BGS	140
PIT 2 @ 3.5 ft BGS	64 to 70
PIT 2 @ 5 ft BGS	10 to 16.7
PIT 2 East Wall @ 1 to 2.5 ft BGS	60 to 85
PIT 2 East Wall @ 3 ft BGS	12
PIT 2 East Wall @ 5 ft BGS	0
PIT 3 West Wall @ 1 to 3 ft BGS	100 to 165
PIT 3 West Wall @ 3.5 ft BGS	85
PIT 3 West Wall @ 4 ft BGS	12
PIT 3 West Wall @ 5 ft BGS	5
PIT 3 West Wall @ 6 ft BGS	0
PIT 3 East Wall @ 2 to 3 ft BGS	40 to 57
PIT 3 East Wall @ 3 to 4 ft BGS	0
PIT 3 East Wall @ 5 ft BGS	0
PIT 3 East Wall @ 5.5 ft BGS	0
PIT 4 West Wall @ 1.5 ft BGS	85
PIT 4 West Wall @ 2 ft BGS	40
PIT 4 West Wall @ 3 ft BGS	8.5
PIT 4 West Wall @ 4 ft BGS	7.7
PIT 4 East Wall @ 1.5 ft BGS	20.7
PIT 4 East Wall @ 2 ft BGS	12.4
PIT 4 East Wall @ 3 ft BGS	9.5
PIT 4 East Wall @ 4 ft BGS	6.4
PIT 6 Above Pond @ 0 to 1 ft BGS	0.9
PIT 6 Above Pond @ 1 to 2 ft BGS	1.2
PIT 6 Above Pond @ 2 to 3 ft BGS	0.8
PIT 6 Above Pond @ 3 to 4 ft BGS	0.8

APPENDIX 3

Laboratory Analytical Reports and Chain-of-Custody Forms

ALCHEM LABORATORIES

Alchem Laboratories, Inc.
104 West 31st Street
Boise, Idaho 83714
Phone (208) 336-0172
FAX (208) 336-7124
Water, Waste Water and Soil Analysis

LABORATORY REPORT

MILLENNIUM SCIENCE & ENGINEERING
ATTN: DAVE SCHWARZ
1605 N. 13TH STREET
BOISE, IDAHO 83702

DATE COLLECTED: 11/16/02
TIME COLLECTED: 11 :50
DATE RECEIVED: 11/18/02
DATE REPORTED: 11/20/02
SAMPLED BY: DAVE SCHWARZ

PROJECT: RESCUE MINE
SOURCE: PIT 2 @ 5FT BGS
MATRIX: SOIL

METHOD - BTEX 8020

LAB SAMPLE NUMBER - 49066

ORGANIC CONTAMINANT	DATE ANALYZED	ANALYST	ANALYTICAL RESULTS (µg/kg)
	11/19/02	J. DORMAN	
BTEX			
Benzene			<25.0
Toluene			<25.0
Ethylbenzene			<25.0
Total Xylenes			<25.0

Jennifer Dorman for S.H.
Suzanne Howell, Laboratory Manager

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PROJECT:RESCUE MINE
SOURCE: PIT 2 @ 5FT BGS
MATRIX: SOIL

PAH'S by METHOD 8270

LAB SAMPLE NO: **49066**

COMPOUND	METHOD DETECTION LEVEL (µg/kg)	ANALYTICAL RESULTS (µg/kg)
ACENAPHTHENE	67.0	ND
ACENAPHTHYLENE	67.0	ND
ANTHRACENE	67.0	ND
BENZO(a)ANTHRACENE	67.0	ND
BENZO(a)PYRENE	67.0	ND
BENZO(b)FLUORANTHENE	67.0	ND
BENZO(ghi)PERYLENE	67.0	ND
BENZO(k)FLUORANTHENE	67.0	ND
CHRYSENE	67.0	ND
DIBENZO(a,h)ANTHRACENE	67.0	ND
FLUORANTHENE	67.0	ND
FLUORENE	67.0	ND
INDENO(1,2,3-cd)PYRENE	67.0	ND
NAPHTHALENE	168.0	ND
PHENANTHRENE	67.0	ND
PYRENE	67.0	ND

SURROGATE RECOVERY	ACCEPTANCE LIMITS	RECOVERY
NITROBENZENE- D5	23%-120%	84%
2 FLUOROBIPHENYL	30%-115%	72%
TERPHENYL- D14	18%-137%	69%
PHENOL- D5	24%-113%	100%
2 FLUOROPHENOL	25%-121%	79%
2,4,6 TRIBROMOPHENOL	19%-122%	104%

ANALYST: B. CROY
DATE EXTRACTED: 11/19/02
DATE ANALYZED: 11/19/02

ND-None Detected

* SIGNIFICANT LEVELS OF PETROLEUM BASED HYDROCARBONS PRESENT IN SAMPLE.

Jennifer Dorman for S.H
Suzanne Howell, Laboratory Manager

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Water, Wastewater and Soil Analysis

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BOISE, IDAHO 83702

DATE COLLECTED: 11/16/02
TIME COLLECTED: 11 :55
DATE RECEIVED: 11/18/02
DATE REPORTED: 11/20/02
SAMPLED BY: DAVE SCHWARZ

PROJECT: RESCUE MINE
SOURCE: PIT 2 @ 2FT BGS
MATRIX: SOIL

METHOD - BTEX 8020

LAB SAMPLE NUMBER - 49067

ORGANIC CONTAMINANT	DATE ANALYZED	ANALYST	ANALYTICAL RESULTS (µg/kg)
	11/19/02	J. DORMAN	
BTEX			
Benzene			<125.0 *
Toluene			4,250.0
Ethylbenzene			4,250.0
Total Xylenes			39,300.0

* INCREASED DETECTION LIMIT DUE TO SIGNIFICANT LEVELS OF PETROLEUM BASED HYDROCARBONS PRESENT IN SAMPLE.

Jennifer Dorman for S.H.
Suzanne Howell, Laboratory Manager

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LABORATORY REPORT

* See corrected Lab Report for correct detection limits

MILLENNIUM SCIENCE & ENGINEERING
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SOURCE: PIT 2 @ 2FT BGS
MATRIX: SOIL

PAH'S by METHOD 8270

LAB SAMPLE NO: **49067**

COMPOUND	METHOD DETECTION LEVEL (µg/kg)	ANALYTICAL RESULTS (µg/kg)
ACENAPHTHENE	67.0	3,780.0
ACENAPHTHYLENE	67.0	ND
ANTHRACENE	* 1,560.0.0 ?	ND
BENZO(a)ANTHRACENE	* 80.0.0 ?	ND
BENZO(a)PYRENE	67.0	ND
BENZO(b)FLUORANTHENE	67.0	ND
BENZO(ghi)PERYLENE	67.0	ND
BENZO(k)FLUORANTHENE	67.0	ND
CHRYSENE	67.0	140.0
DIBENZO(a,h)ANTHRACENE	67.0	ND
FLUORANTHENE	67.0	386.0
FLUORENE	67.0	5,190.0
INDENO(1,2,3-cd)PYRENE	67.0	ND
NAPHTHALENE	168.0	13,300.0
PHENANTHRENE	67.0	13,400.0
PYRENE	67.0	1810.0

SURROGATE RECOVERY	ACCEPTANCE LIMITS	RECOVERY
NITROBENZENE- D5	23%-120%	61%
2 FLUOROBIPHENYL	30%-115%	57%
TERPHENYL- D14	18%-137%	62%
PHENOL- D5	24%-113%	88%
2 FLUOROPHENOL	25%-121%	70%
2,4,6 TRIBROMOPHENOL	19%-122%	92%

ANALYST: B. CROY
DATE EXTRACTED: 11/19/02
DATE ANALYZED: 11/20/02

ND-None Detected

* INCREASED DETECTION LIMIT DUE TO SIGNIFICANT LEVELS OF PETROLEUM BASED HYDROCARBONS PRESENT IN SAMPLE.

Jennifer Dorman for S.H
Suzanne Howell, Laboratory Manager

ALCHEM LABORATORIES

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104 West 31st Street
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**** CORRECTED ****

LABORATORY REPORT

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BOISE, ID 83702

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SOURCE: PIT 2 @ 2ft BGS
MATRIX: SOIL

PAH'S by METHOD 8270

LAB SAMPLE NUMBER: 49067

COMPOUND	METHOD DETECTION LEVEL LEVEL (ug/kg)	ANALYTICAL RESULTS (ug/kg)
ACENAPHTHENE	67.0	3,780.0
ACENAPHTHYLENE	67.0	ND
ANTHRACENE	* 1,560.0	ND
BENZO(a)ANTHRACENE	* 80.0	ND
BENZO(a)PYRENE	67.0	ND
BENZO(b)FLUORANTHENE	67.0	ND
BENZO(g,h,i)PERYLENE	67.0	ND
BENZO(k)FLUORANTHENE	67.0	ND
CHRYSENE	67.0	140.0
DIBENZO(a,h)ANTHRACENE	67.0	ND
FLUORANTHENE	67.0	386.0
FLUORENE	67.0	5,190.0
INDENO(1,2,3-cd)PYRENE	67.0	ND
NAPHTHALENE	168.0	13,300.0
PHENANTHRENE	67.0	13,400.0
PYRENE	67.0	1,810.0

SURROGATE RECOVERY	ACCEPTANCE LIMITS	RECOVERY
NITROBENZENE-D5	23%-120%	61%
2-FLUOROBIPHENYL	30%-115%	57%
TERPHENYL-D14	18%-137%	62%
PHENOL - D5	24%-113%	88%
2-FLUOROPHENOL	25%-121%	70%
2,4,6, - TRIBROMOPHENOL	19%-122%	92%

ANALYST: B. CROY
DATE EXTRACTED: 11-19-03
DATE ANALYZED: 11-20-03

ND = NONE DETECTED

*Increased detection limit due to significant levels of petroleum based hydrocarbons present in sample.

*Amended laboratory report - increased detection limit corrected.

Suzanne Howell, Laboratory Manager

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BOISE, IDAHO 83702

DATE COLLECTED: 11/16/02
TIME COLLECTED: 12 :10
DATE RECEIVED: 11/18/02
DATE REPORTED: 11/20/02
SAMPLED BY: DAVE SCHWARZ

PROJECT: RESCUE MINE
SOURCE: PIT 3 @ 6FT BGS
MATRIX: SOIL

METHOD - BTEX 8020

LAB SAMPLE NUMBER - 49068

ORGANIC CONTAMINANT	DATE ANALYZED	ANALYST	ANALYTICAL RESULTS (µg/kg)
	11/19/02	J. DORMAN	
BTEX			
Benzene			<25.0
Toluene			<25.0
Ethylbenzene			<25.0
Total Xylenes			<25.0

Jennifer Dorman for S.H.
Suzanne Howell, Laboratory Manager

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SAMPLED BY: DAVE SCHWARZ

PROJECT: RESCUE MINE
SOURCE: PIT 3 @ 6FT BGS
MATRIX: SOIL

PAH'S by METHOD 8270

LAB SAMPLE NO: **49068**

COMPOUND	METHOD DETECTION LEVEL (µg/kg)	ANALYTICAL RESULTS (µg/kg)
ACENAPHTHENE	67.0	ND
ACENAPHTHYLENE	67.0	ND
ANTHRACENE	67.0	ND
BENZO(a)ANTHRACENE	67.0	ND
BENZO(a)PYRENE	67.0	ND
BENZO(b)FLUORANTHENE	67.0	ND
BENZO(ghi)PERYLENE	67.0	ND
BENZO(k)FLUORANTHENE	67.0	ND
CHRYSENE	67.0	ND
DIBENZO(a,h)ANTHRACENE	67.0	ND
FLUORANTHENE	67.0	ND
FLUORENE	67.0	ND
INDENO(1,2,3-cd)PYRENE	67.0	ND
NAPHTHALENE	168.0	ND
PHENANTHRENE	67.0	ND
PYRENE	67.0	ND
SURROGATE RECOVERY		
	ACCEPTANCE LIMITS	RECOVERY
NITROBENZENE- D5	23%-120%	83%
2 FLUOROBIPHENYL	30%-115%	70%
TERPHENYL- D14	18%-137%	70%
PHENOL- D5	24%-113%	99%
2 FLUOROPHENOL	25%-121%	78%
2,4,6 TRIBROMOPHENOL	19%-122%	100%

ANALYST: B. CROY
DATE EXTRACTED: 11/19/02
DATE ANALYZED: 11/19/02

ND-None Detected

Jennifer Dorman for S.H
Suzanne Howell, Laboratory Manager

ALCHEM LABORATORIES

Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-[illegible]
FAX (208) 336-7124

Water, Waste Water and Soil Analysis

LABORATORY REPORT

MILLENNIUM SCIENCE & ENGINEERING
ATTN: DAVE SCHWARZ
1605 N. 13TH STREET
BOISE, IDAHO 83702

DATE COLLECTED: 11/16/02
TIME COLLECTED: 12 :40
DATE RECEIVED: 11/18/02
DATE REPORTED: 11/20/02
SAMPLED BY: DAVE SCHWARZ

PROJECT: RESCUE MINE
SOURCE: PIT 4 @ 4FT BGS
MATRIX: SOIL

METHOD - BTEX 8020

LAB SAMPLE NUMBER - 49069

ORGANIC CONTAMINANT	DATE ANALYZED	ANALYST	ANALYTICAL RESULTS (µg/kg)
	11/19/02	J. DORMAN	
BTEX			
Benzene			<25.0
Toluene			<25.0
Ethylbenzene			<25.0
Total Xylenes			<25.0

Jennifer Dorman for S.H
Suzanne Howell, Laboratory Manager

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PROJECT: RESCUE MINE
SOURCE: PIT 4 @ 4FT BGS
MATRIX: SOIL

PAH'S by METHOD 8270

LAB SAMPLE NO: **49069**

COMPOUND	METHOD DETECTION LEVEL (µg/kg)	ANALYTICAL RESULTS (µg/kg)
ACENAPHTHENE	67.0	ND
ACENAPHTHYLENE	67.0	ND
ANTHRACENE	67.0	ND
BENZO(a)ANTHRACENE	67.0	ND
BENZO(a)PYRENE	67.0	ND
BENZO(b)FLUORANTHENE	67.0	ND
BENZO(ghi)PERYLENE	67.0	ND
BENZO(k)FLUORANTHENE	67.0	ND
CHRYSENE	67.0	ND
DIBENZO(a,h)ANTHRACENE	67.0	ND
FLUORANTHENE	67.0	ND
FLUORENE	67.0	ND
INDENO(1,2,3-cd)PYRENE	67.0	ND
NAPHTHALENE	168.0	ND
PHENANTHRENE	67.0	ND
PYRENE	67.0	ND

SURROGATE RECOVERY	ACCEPTANCE LIMITS	RECOVERY
NITROBENZENE- D5	23%-120%	59%
2 FLUOROBIPHENYL	30%-115%	52%
TERPHENYL- D14	18%-137%	51%
PHENOL- D5	24%-113%	71%
2 FLUOROPHENOL	25%-121%	54%
2,4,6 TRIBROMOPHENOL	19%-122%	75%

ANALYST: B. CROY
DATE EXTRACTED: 11/19/02
DATE ANALYZED: 11/19/02

ND-None Detected

Jennifer Dorman for S.H
Suzanne Howell, Laboratory Manager

ALCHEM LABORATORIES

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Boise, Idaho 83714
Phone (208) 336-1172
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Water, Wastewater and Soil Analysis

LABORATORY REPORT

MILLENNIUM SCIENCE & ENGINEERING
ATTN: DAVE SCHWARZ
1605 N. 13TH STREET
BOISE, IDAHO 83702

DATE COLLECTED: 11/16/02
TIME COLLECTED: 13 :00
DATE RECEIVED: 11/18/02
DATE REPORTED: 11/20/02
SAMPLED BY: DAVE SCHWARZ

PROJECT: RESCUE MINE
SOURCE: W-1 MAIN SETTLING POND
MATRIX: WATER

METHOD - BTEX 8020

LAB SAMPLE NUMBER - **49070**

ORGANIC CONTAMINANT	DATE ANALYZED	ANALYST	RESULTS (µg/L)
	11/19/02	J. DORMAN	
BTEX			
Benzene			<0.5
Toluene			<0.5
Ethylbenzene			<0.5
Total Xylenes			<0.5

Jennifer Dorman for S.H
Suzanne Howell, Laboratory Manager

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ATTN: DAVE SCHWARZ
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BOISE, IDAHO 83702

DATE COLLECTED: 11/16/02
TIME COLLECTED: 13 :00
DATE RECEIVED: 11/18/02
DATE REPORTED: 11/20/02
SAMPLED BY: DAVE SCHWARZ

PROJECT: RESCUE MINE
SOURCE: W-1 MAIN SETTLING POND
MATRIX: WATER

PAH' S by METHOD 8270

LAB SAMPLE NO: **49070**

COMPOUND	METHOD DETECTION LEVEL (µg/L)	ANALYTICAL RESULTS (µg/L)
ACENAPHTHENE	0.5	ND
ACENAPHTHYLENE	0.5	ND
ANTHRACENE	0.5	ND
BENZO(a)ANTHRACENE	0.5	ND
BENZO(a)PYRENE	0.5	ND
BENZO(b)FLUORANTHENE	0.5	ND
BENZO(g,h,i)PERYLENE	0.5	ND
BENZO(k)FLUORANTHENE	0.5	ND
CHRYSENE	0.5	ND
DIBENZO(a,h)ANTHRACENE	0.5	ND
FLUORANTHENE	0.5	ND
FLUORENE	0.5	ND
INDENO(1,2,3-cd)PYRENE	0.5	ND
NAPHTHALENE	1.0	ND
PHENANTHRENE	0.5	ND
PYRENE	0.5	ND

SURROGATE RECOVERY	ACCEPTANCE LIMITS	RECOVERY
NITROBENZENE D5	35%-114%	85%
2 FLUOROBIPHENYL	43%-116%	73%
TERPHENYL D14	33%-141%	73%

ANALYST: B. CROY
DATE EXTRACTED: 11/19/02
DATE ANALYZED: 11/19/02

ND = NONE DETECTED

Jennifer Dorman for S.H
Suzanne Howell, Laboratory Manager

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1605 N. 13TH STREET
BOISE, IDAHO 83702

DATE COLLECTED: 11/16/02
TIME COLLECTED: 13 :40
DATE RECEIVED: 11/18/02
DATE REPORTED: 11/20/02
SAMPLED BY: DAVE SCHWARZ

PROJECT: RESCUE MINE
SOURCE: W-2 LOWER SETTLING POND
MATRIX: WATER

METHOD - BTEX 8020

LAB SAMPLE NUMBER - **49071**

ORGANIC CONTAMINANT	DATE ANALYZED	ANALYST	RESULTS (µg/L)
	11/19/02	J. DORMAN	
BTEX			
Benzene			<0.5
Toluene			<0.5
Ethylbenzene			<0.5
Total Xylenes			<0.5

Jennifer Dorman for S.H.
Suzanne Howell, Laboratory Manager

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BOISE, IDAHO 83702

DATE COLLECTED: 11/16/02
TIME COLLECTED: 13 :40
DATE RECEIVED: 11/18/02
DATE REPORTED: 11/20/02
SAMPLED BY: DAVE SCHWARZ

PROJECT: RESCUE MINE
SOURCE: W-2 LOWER SETTLING POND
MATRIX: WATER

PAH' S by METHOD 8270

LAB SAMPLE NO: **49071**

COMPOUND	METHOD DETECTION LEVEL (µg/L)	ANALYTICAL RESULTS (µg/L)
ACENAPHTHENE	0.5	ND
ACENAPHTHYLENE	0.5	ND
ANTHRACENE	0.5	ND
BENZO(a)ANTHRACENE	0.5	ND
BENZO(a)PYRENE	0.5	ND
BENZO(b)FLUORANTHENE	0.5	ND
BENZO(g,h,i)PERYLENE	0.5	ND
BENZO(k)FLUORANTHENE	0.5	ND
CHRYSENE	0.5	ND
DIBENZO(a,h)ANTHRACENE	0.5	ND
FLUORANTHENE	0.5	ND
FLUORENE	0.5	ND
INDENO(1,2,3-cd)PYRENE	0.5	ND
NAPHTHALENE	1 0	ND
PHENANTHRENE	0.5	ND
PYRENE	0.5	ND

SURROGATE RECOVERY	ACCEPTANCE LIMITS	RECOVERY
NITROBENZENE D5	35%-114%	85%
2 FLUOROBIPHENYL	43%-116%	72%
TERPHENYL D14	33%-141%	71%

ANALYST: B. CROY
DATE EXTRACTED: 11/19/02
DATE ANALYZED: 11/19/02

ND = NONE DETECTED

Jennifer Dorman for S.H.
Suzanne Howell, Laboratory Manager

7-97

NAME	Dave Schwarz / MSE
ATTENTION	"
ADDRESS	1605 N. 13th St.
CITY	Boise
STATE	ID
ZIP CODE	83702
PHONE #	345-8292
FAX #	344-8007
SAMPLER (S)	Dave Schwarz
PROJECT OR SITE	Rescue Mine
P.N. / P.O. NUMBER	

ALCHEM LABORATORIES

Alchem Laboratories, Inc.
104 West 31st Street
Boise, Idaho 83714
Phone (208) 336-1172

Chain of Custody Form

LAB NUMBER	DATE	TIME	SAMPLE IDENTIFICATION	MATRIX: WATER	MATRIX: SOIL	MATRIX: OTHER	TESTS (CIRCLE METHOD): TPH - 8015 MOD	TPH - 418.1	BTEX (602 / 8020) (+N +M)	CL. SOLVENTS (601 / 8010)	VOC's (601-602 / 8021)	GC-MS VOC's (624 / 8260)	PAH's (8270 / 8310)	PHENOLS (604 / 8040 / 8270)	PESTICIDES (608 / 8081 / 8270)	PCB's (608 / 8081)	SEMI-VOLATILES (625 / 8270)	TCLP-(DESIGNATE ANALYSIS)	8 RCRA METALS	RBCA - NO LEAD GAS BTEX+N+M (8020)	RBCA - LEADED GAS BTEX+N+M (8020), EDB (8011) EDC (8010)	RBCA - FUEL OILS BTEX (8020), PAH (8270)	RBCA - MOTOR OILS BTEX (8020), PAH (8270) CL. SOLVENTS (8010)							NUMBER OF CONTAINERS
49066	16 Nov 02	11:50	Pit 2 @ 5 ft. BGS		X																X								1
49067	"	11:55	Pit 2 @ 2 ft. BGS		X																X								1
49068	"	12:10	Pit 3 @ 6 ft. BGS		X																X								1
49069	"	12:40	Pit 4 @ 4 ft BGS		X																X								1
49070	"	13:00	W-1 Main Settling Pond	X																	X						DRS			3 4
49071	"	13:40	W-2 Lower Settling Pond	X																	X									1

RELINQUISHED BY (Signature)	DATE	TIME	RECEIVED BY (Signature)

Relinquished By (Signature)	Date/Time	Received for Laboratory By (Signature)	Date/Time	
DLS Schwarz	4:25 11-18-02	Barb Conklin	4:25 11-18-02	Received With Seal Intact? ☐ Yes ☐ No Label Tag, COC Agree? ☐ Yes ☐ No

ORIGINAL

7-97

NAME Dave Schwarz / MSE	
ATTENTION	
ADDRESS 1605 N. 3rd ?	
CITY Boise	STATE ID ZIP CODE 83
PHONE # 345-8292	FAX # 344-8007
SAMPLER (S) Dave Schwarz	
PROJECT OR SITE Rescue Mine	P.N. / P.O. NUMBER

ALCHEM LABORATORIES

Alchem Laboratories, Inc.
104 West 31st Street
Boise, Idaho 83714
Phone (208) 336-1172

Chain of Custody Form

LAB NUMBER	DATE	TIME	SAMPLE IDENTIFICATION	MATRIX: WATER	SOIL	OTHER	TESTS (CIRCLE METHOD): TPH - 8015 MOD	TPH - 418.1	BTEX (602 / 8020) (+N +M)	CL. SOLVENTS (601 / 8010)	VOC's (601-602 / 8021)	GC-MS VOC's (624 / 8260)	PAH's (8270 / 8310)	PHENOLS (604 / 8040 / 8270)	PESTICIDES (608 / 8081 / 8270)	PCB's (608 / 8081)	SEMI-VOLATILES (625 / 8270)	TCLP-(DESIGNATE ANALYSIS)	8 RCRA METALS	RBCA - NO LEAD GAS BTEX+N+M (8020)	RBCA - LEADED GAS BTEX+N+M (8020), EDB (8011) EDC (8010)	RBCA - FUEL OILS BTEX (8020), PAH (8270)	RBCA - MOTOR OILS BTEX (8020), PAH (8270) CL. SOLVENTS (8010)							NUMBER OF CONTAINERS
	16 Nov 02	11:50	Pit 2 @ 5 ft. BGS		X																	X								1
	"	11:55	Pit 2 @ 2 ft BGS		X																	X								1
	"	12:10	Pit 3 @ 6 ft BGS		X																	X								1
	"	12:40	Pit 4 @ 4 ft BGS		X																	X								1
	"	13:00	W-1 Main Settling Pond	X																		X						[illegible]		~~3~~ 4
	"	13:40	W-2 Lower Settling Pond	X																		X								4

RELINQUISHED BY (Signature)	DATE	TIME	RECEIVED BY (Signature)

Relinquished By (Signature)	Date/Time	Received for Laboratory By (Signature)	Date/Time	
D L Schwarz	11:25 11-18-02	Beck Coll...	11:25 11-18-02	Received With Seal Intact? ❑ Yes ❑ No Label Tag, COC Agree? ❑ Yes ❑ No

Rescue Mine, Warren, Idaho Photographs

Photo 1: Looking into Pit #1. Note stain boundary on material about halfway down pit wall.

Photo 2: Pit #2 directly adjacent to surface ponding stain.

Photo 3: MSE Employee using PID on wall of Pit #2.

Rescue Mine, Warren, Idaho Photographs

Photo 4: Pits filled in and pond liner placed against wall and over main concentration of spill. Sloped to drain toward front of building.

APPENDIX 2
Field Screening Measurements (PID)

Sample Location	PID (ppm)
PIT 1 @ Surface	0
PIT 1 @ 1.5 ft BGS	0
PIT 1 @ 2.5 ft BGS	0
PIT 2 @ 2.5 ft BGS	167
PIT 2 @ 3 ft BGS	140
PIT 2 @ 3.5 ft BGS	64 to 70
PIT 2 @ 5 ft BGS	10 to 16.7
PIT 2 East Wall @ 1 to 2.5 ft BGS	60 to 85
PIT 2 East Wall @ 3 ft BGS	12
PIT 2 East Wall @ 5 ft BGS	0
PIT 3 West Wall @ 1 to 3 ft BGS	100 to 165
PIT 3 West Wall @ 3.5 ft BGS	85
PIT 3 West Wall @ 4 ft BGS	12
PIT 3 West Wall @ 5 ft BGS	5
PIT 3 West Wall @ 6 ft BGS	0
PIT 3 East Wall @ 2 to 3 ft BGS	40 to 57
PIT 3 East Wall @ 3 to 4 ft BGS	0
PIT 3 East Wall @ 5 ft BGS	0
PIT 3 East Wall @ 5.5 ft BGS	0
PIT 4 West Wall @ 1.5 ft BGS	85
PIT 4 West Wall @ 2 ft BGS	40
PIT 4 West Wall @ 3 ft BGS	8.5
PIT 4 West Wall @ 4 ft BGS	7.7
PIT 4 East Wall @ 1.5 ft BGS	20.7
PIT 4 East Wall @ 2 ft BGS	12.4
PIT 4 East Wall @ 3 ft BGS	9.5
PIT 4 East Wall @ 4 ft BGS	6.4
PIT 6 Above Pond @ 0 to 1 ft BGS	0.9
PIT 6 Above Pond @ 1 to 2 ft BGS	1.2
PIT 6 Above Pond @ 2 to 3 ft BGS	0.8
PIT 6 Above Pond @ 3 to 4 ft BGS	0.8