Appendix C

FIELD SAMPLING SHEETS AND GEOTECHNICAL TESTING RESULTS

1. Reference Areas
2. Residential Areas
3. Waste Rock and Sediment along Ephemeral Drainages
4. Surface Water
5. Stream Sediment
6. Vegetation
7. Benthic Macroinvertebrates
8. Geotechnical Testing Results

REFERENCE AREAS

Soil
~~VEGETATION~~

~~Soil/Mine-Waste~~ Sampling Form

Sample No.: REF 1A SOIL

Mine Site:

Claim No.:

Date: 10-18-04

Sampler(s): WLW/JLF

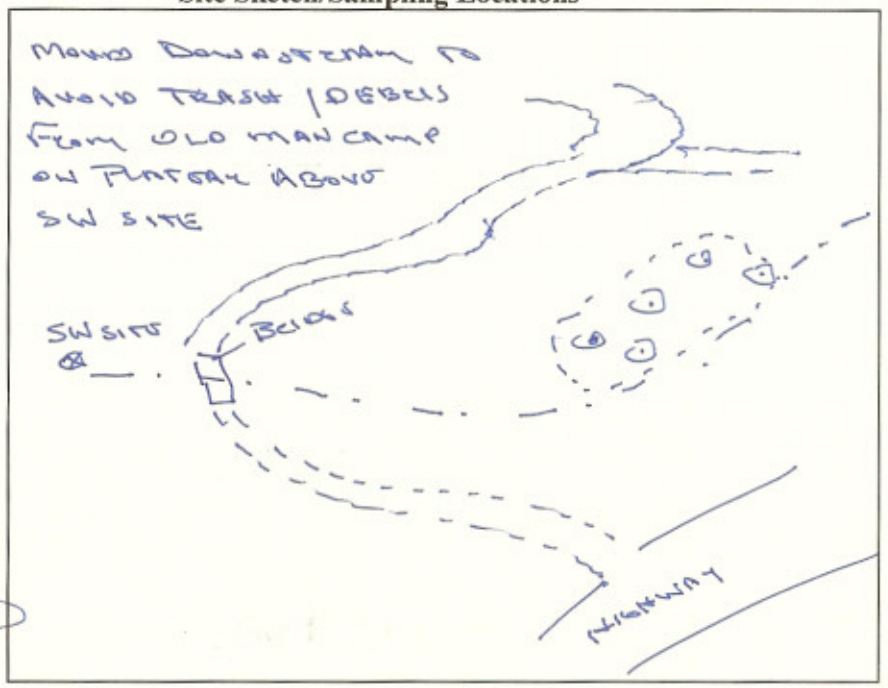
General Site Location: ~ 250'
DOWNSTREAM OF SW SITE

Current Conditions/Weather:

Sampling Method: GRAB

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
REF 1 SOIL	10.18.04	1730	0-6"	SEE SKETCH	Rd/Br F-VF SAND
SS 1:					w/ 10% SILT; LOOSE
SS 2:					SOME ROCK (SS)
SS 3:					FRAGMENTS; SOME
SS 4:					ROOTS; DRY
SS 5:					
SS 6:					
SS 7:					

Soil/Mine-Waste Sampling Form

Sample No.: REF AREA 1B

Mine Site:

Claim No.:

Date: 10-19-04

Sampler(s): WGM / JLP

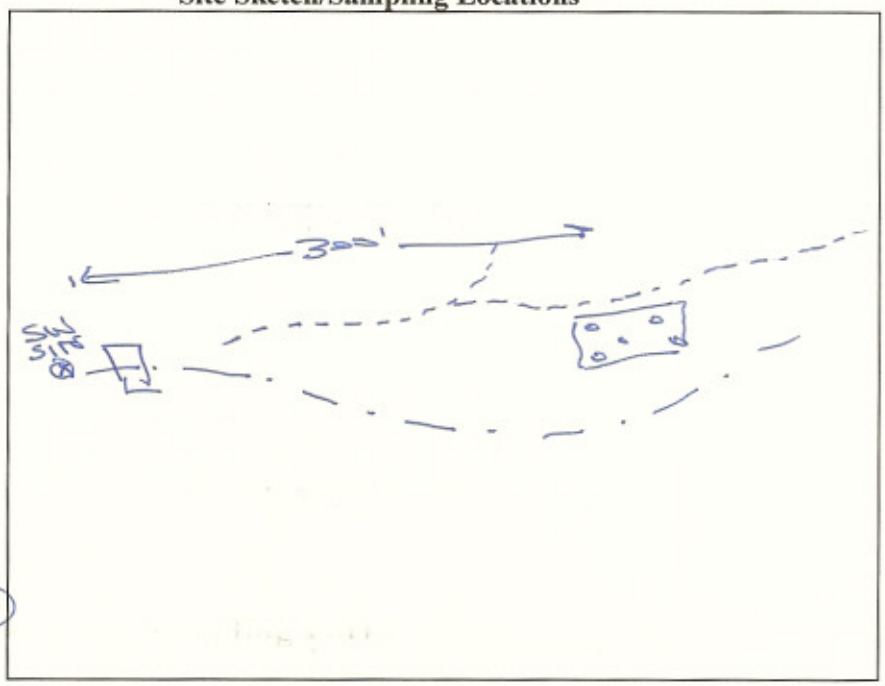
General Site Location: ~ 300' DOWN. STREAM OF SW SIDE

Current Conditions/Weather: CLOUDY / COOL

Sampling Method: COLAB

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
REF AREA 1B	10-19-04	1405	0-6"	SEE SKETCH	RD/BR SILTY SAND
SS 1:					(20% SILT) ; VF-F
SS 2:					SAND, LOOSE, ROOTS
SS 3:					SOME ROCK FRAGMENTS
SS 4:					(SS) ; DRY
SS 5:					
SS 6:					
SS 7:					

Soil/Mine-Waste Sampling Form

Sample No.: REF AREA 1C

Mine Site:

Claim No.:

Date: 10-19-04

Sampler(s): WHM / JCP

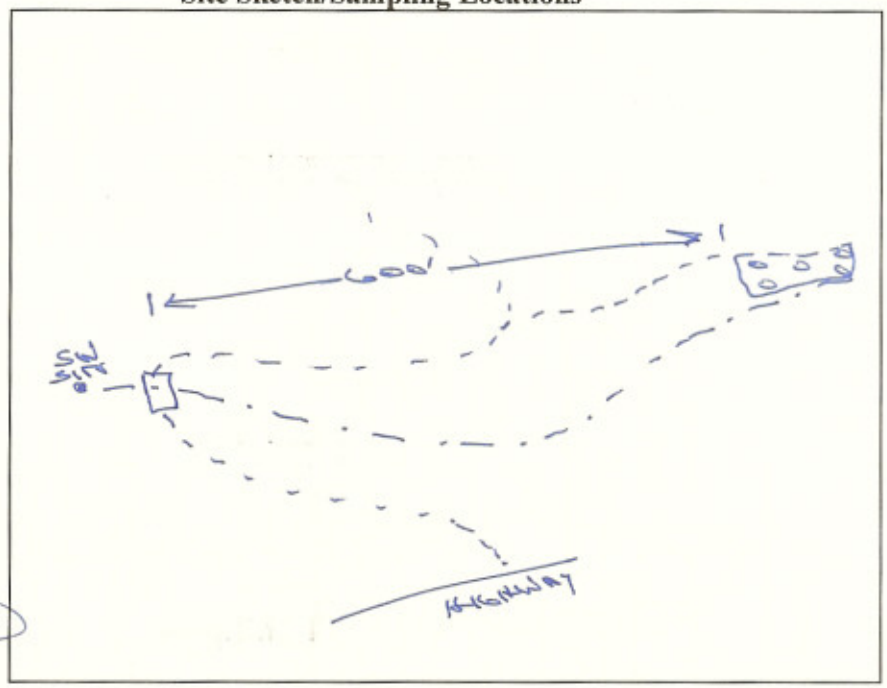
General Site Location: APPROX 600' DOWNSTREAM OF SW SITE

Current Conditions/Weather: CLOUDY / COOL

Sampling Method: GRAB

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
REF AREA 1C	10-19-04	1640	0-6"	SEE SKETCH	BR-GY/BR F-VF
SS 1:					SAND W/ 10% SILT;
SS 2:					SOME ROOT FRAGMENTS;
SS 3:					SOME ROOTS, LEAVE,
SS 4:					DRY
SS 5:					
SS 6:					
SS 7:					

Soil/Mine-Waste Sampling Form

Sample No.: REF 2-A

Mine Site:

Claim No.:

Date: 10-20-04

Sampler(s): JEF / WGW

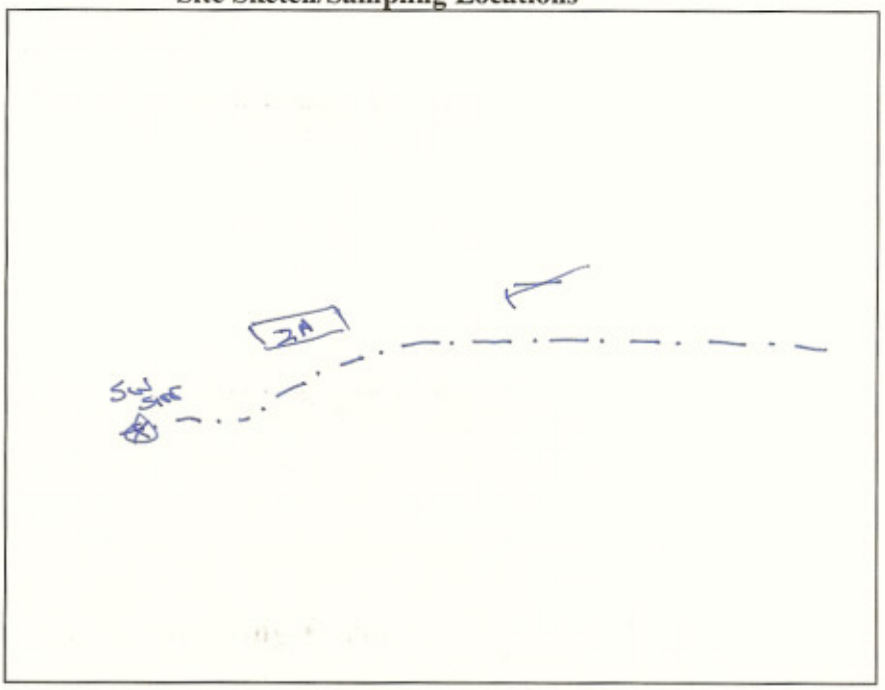
General Site Location: ~ 100' DN STREAM OF SWISS - APPROX 100 FT² AREA

Current Conditions/Weather: SUNNY / COOL

Sampling Method: GRAB

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
REF 2-A	10-20-04	1400	0-6"	SEE SKETCH	RD/BRN CLAY FINE-VF
SS 1:				5 SUBSAMPLE	SAND (25% CLAY) W/
SS 2:					10% SILT, LOOSE,
SS 3:					DRY; SOME ROOTS
SS 4:					
SS 5:					
SS 6:					
SS 7:					

Soil/Mine-Waste Sampling Form

Sample No.: REF 2-B

Mine Site:

Claim No.:

Date: 10-20-04

Sampler(s): WMN/JEF

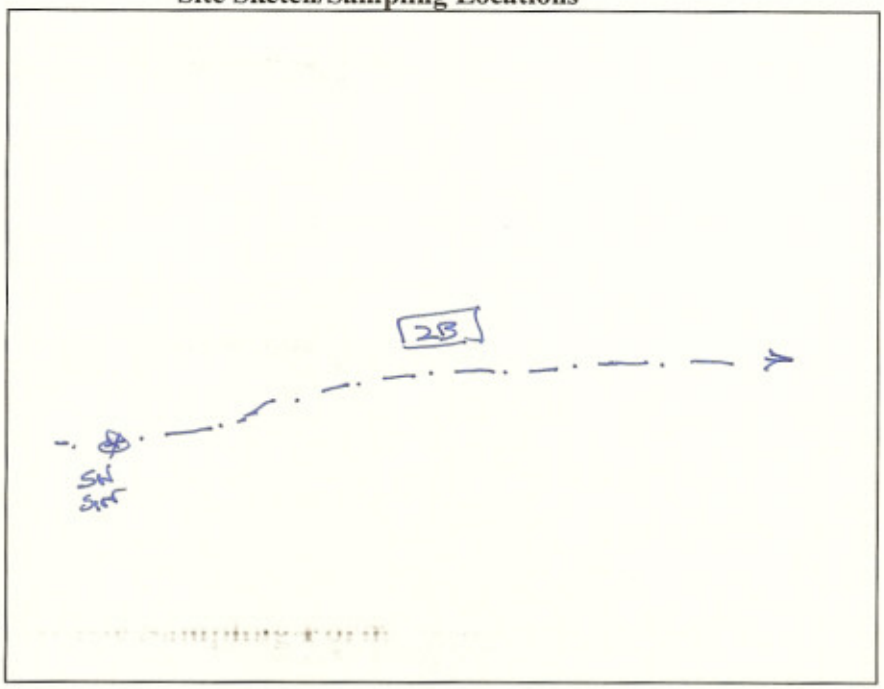
General Site Location: ~ 300' ON STREAM OF SW SITE ~ 100 ft² AREA

Current Conditions/Weather: CLOUDY/COOL

Sampling Method: GRAB

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
REF 2-B	10-20-04	1410	0-6"	SEE SKETCH	RD/BRN F-VF SAND
SS 1:				S SUBSAMPLE	W/ 10% SILT, SOME
SS 2:					ROOTS & ROCK FRAGMENTS,
SS 3:					LOOSE, DRY
SS 4:					
SS 5:					
SS 6:					
SS 7:					

Soil/Mine-Waste Sampling Form

Sample No.: REF 2-C

Mine Site:

Claim No.:

Date: 10-20-04

Sampler(s): Jeff / [illegible]

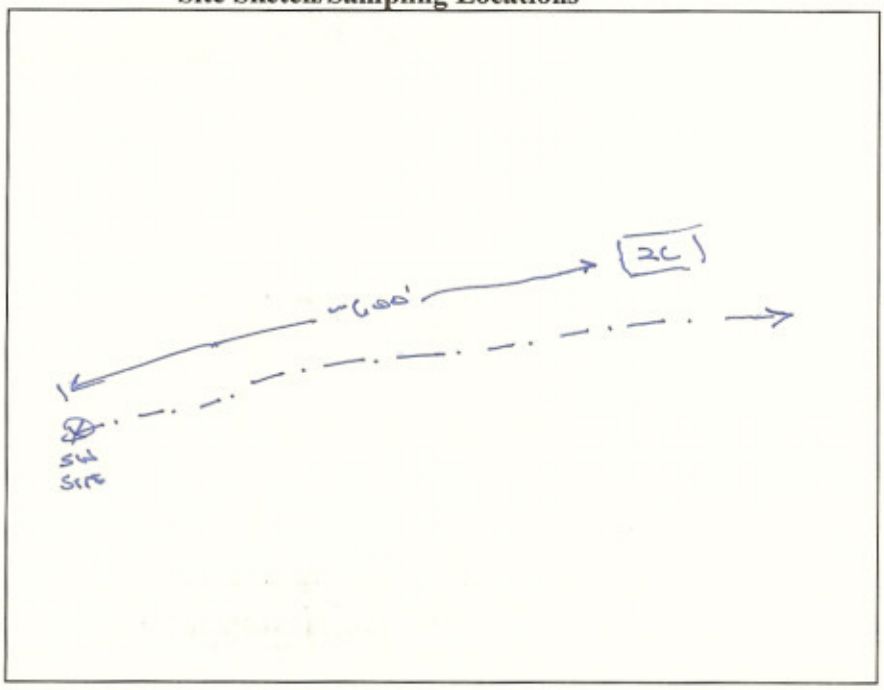
General Site Location: Approx 600' DJ Stream of SW site - Approx 100 ft² Area

Current Conditions/Weather: Cloudy / Cool

Sampling Method: Grab

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
REF 2-C	10-20-04	1425	0-6"	SITE SKETCH	RD/BRN VF SAND
SS 1:				5 SUBSAMPLE	W/ 10% SILT; ROCK (SS)
SS 2:					FRAGMENTS; LOOSE,
SS 3:					MOIST
SS 4:					
SS 5:					
SS 6:					
SS 7:					

Soil/Mine-Waste Sampling Form

Sample No.: REF AREA 3 SOIL1

Mine Site:

Claim No.:

Date: 10-20-04

Sampler(s): BD SMITH

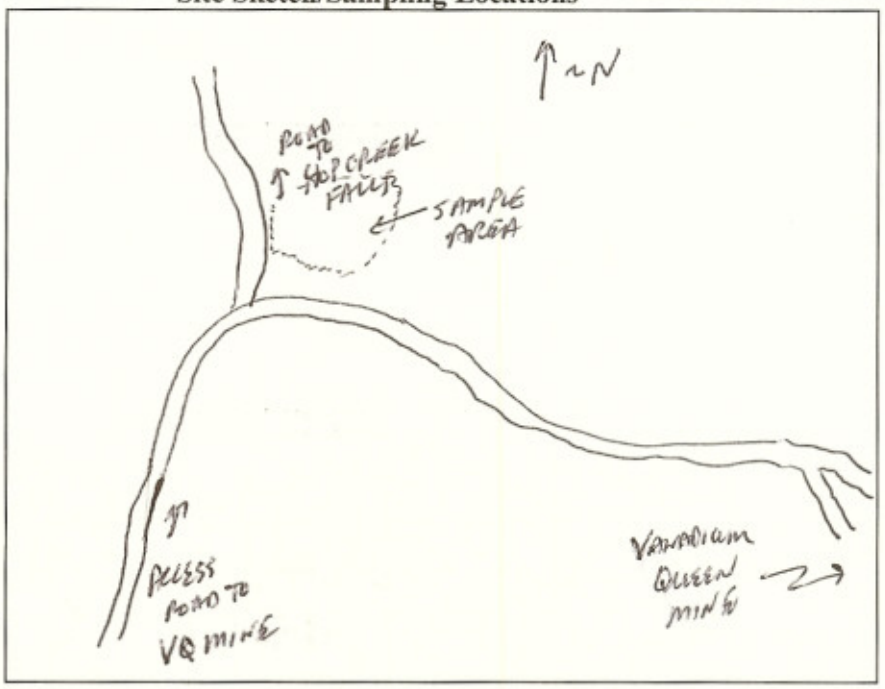
General Site Location: ~500 FT N OF VANADIUM QUEEN MINE ON SW FACING SLOPE

Current Conditions/Weather: CLOUDY, GUSTY, COOL.

Sampling Method: HAND TOOLS

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
	10-20-04	1450		5 SUBSAMPLES IN	MED-DK BWN TO LT
SS 1:				~100 FT X 100 FT	GRAY-GN, V. FN SAND, SILT
SS 2:				AREA	CLAY ≤10%, MOIST
SS 3:					SOME SMALL ROOTS
SS 4:					SILT ~70%, V. FN SAND
SS 5:		1502			~20%
SS 6:					
SS 7:					
	GPS LOCATION:		UTM 12S	0667423; 4245010	ACC ~23 FT;
	ELEV. 6562 FT				

Soil/Mine-Waste Sampling Form

Sample No.: REF AREA 3 SOIL 2

Mine Site:

Claim No.:

Date: 10-20-04

Sampler(s): BD SMITH

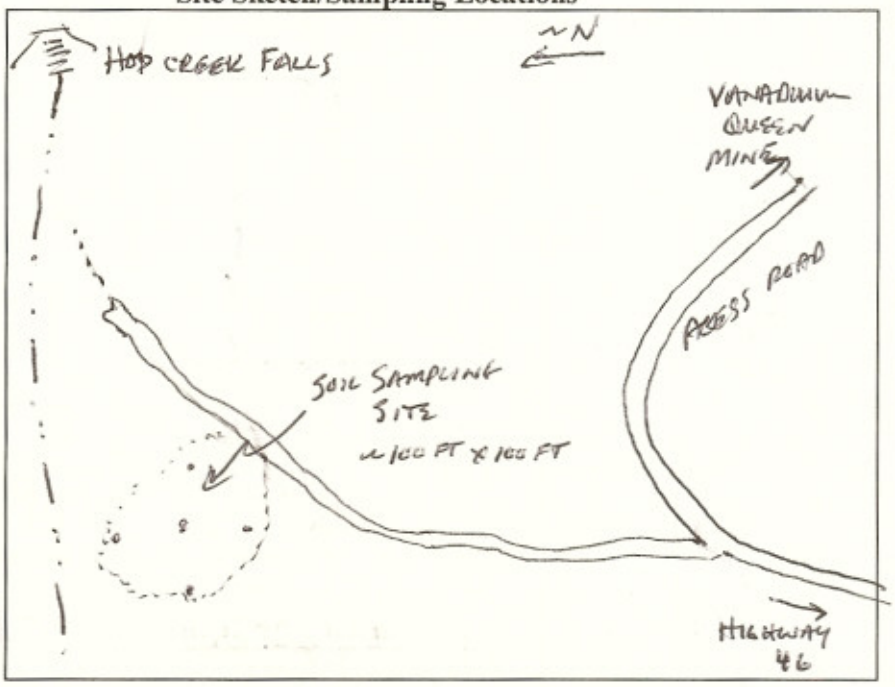
General Site Location: ~1/4 MILE N OF & BELOW VANADIUM QUEEN MINE UNPAVED TO HOP CREEK FALLS

Current Conditions/Weather: CLOUDY, GUSTY, COOL

Sampling Method:

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
		"1525"		~100 FT X 100 FT AREA	MED BRWN AND RED
SS 1:	1515			BELOW ACCESS ROAD	BRWN TO DK BRWN
SS 2:				TO HOP CREEK FALLS	LOAM; SILT ~ 80%,
SS 3:	1520			OFF OF ROAD TO VANA-	V. FN. SAND ~ 20%;
SS 4:				DIUM QUEEN MINE	CLAY ≤ 10%.
SS 5:	1540			STRATIGRAPHICALLY	MINOR GRAVEL
SS 6:				BELOW SALT WASH BUT	
SS 7:				IN LANDSLIDE DEPOSIT	
	GPS: 12 S 0667369; 4245039; ACC = 21 FT; 6485' = ELEV.				
	SAMPLING TIME: 1525				

Soil/Mine-Waste Sampling Form

Sample No.: REF AREA 3 SOIL 3

Mine Site:

Claim No.:

Date: 10-20-04

Sampler(s): BD SMITH

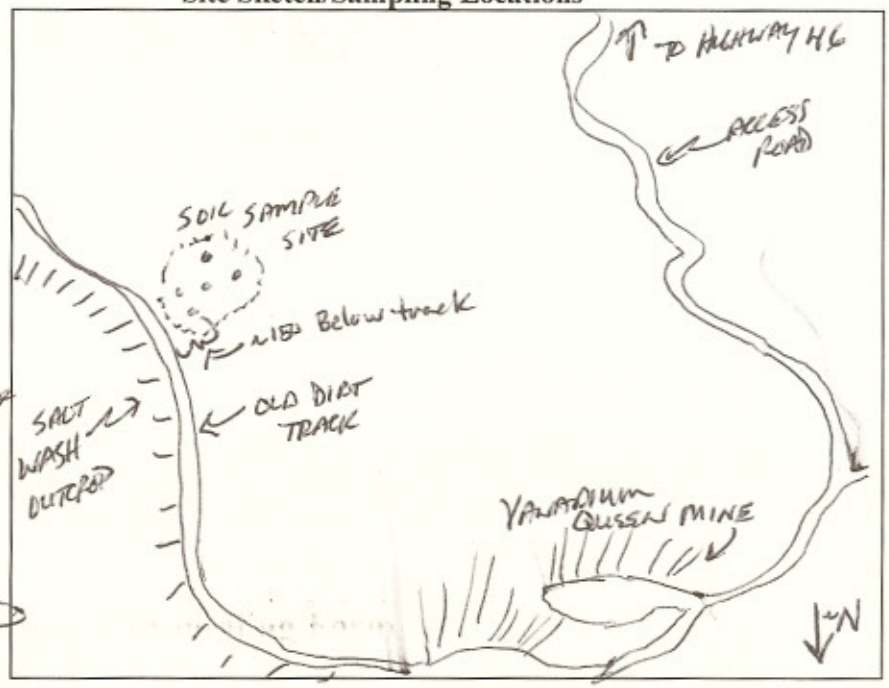
General Site Location: ~1/4 MILE SE OF VANADIUM QUEEN MINE ON STEEP SLOPE BELOW OLD ROAD / SALT WASH

Current Conditions/Weather: CLOUDY, OVERCAST, GUSTY, COOL/MILD

Sampling Method: HAND TOOLS

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
	NOTE: COLLECTED THIS SAMPLE SE OF VANADIUM QUEEN MINE				
	BECAUSE SALT WASH MEMBER OUTCROPS WELL HERE. NO OUTCROP				
	TO NW AS A LANDSLIDE HAS COVERED THIS AREA (THIS IS WHERE				
	SAMPLES REF AREA 3 SOIL 1 AND SOIL 2 WERE COLLECTED).				

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
	10-20-04			5 SUBSAMPLES IN	MED TO DK RED BRN
SS 1:				~100 FT X 100 FT AREA	AND LT-MED GRAY-GREEN, SILT, BROKEN
SS 2:				BELOW OLD DIRT	WEATHERED SILT/MUDST,
SS 3:				TRACK AT BASE OF	V. FN SAND, SILT ~80%,
SS 4:				SALT WASH MEMBER	V. FN SAND ~15%;
SS 5:				AND ~1/4 MILE SE OF	SILT/MUDST ~5%.
SS 6:	RINSE TB ON 10-21-04 @ 0920			VANADIUM QUEEN	
SS 7:	IS FOR 2 SCOOPS & 1 SPOON.			MINE	
	DUPLICATE IS "VQSE SOIL".				
	GPS: UTM 12S 0667685; 4244580; ACC=22 FT; ELEV.=6443'				

Surface-Water Monitoring Field Form

Station ID: REF AREA 2	**Date:** 10-14-04	**Observer:** BDS
Location: TWO MILE CREEK	**Start Time:** 1200	**Sampling**
Site Description: IMMEDIATELY UP-	**End Time:** 1230	**Team:** BDS
STREAM OF UPPER-MOST GREY DAM MINE DUMP *		**Lead Signature:** BD Smith
Project: LA SAL CREEK	**Instruments:**	**Date:** 10 / 14 / 04

Sampling Information

Surface-water Type: stream / lake / pond / spring / seep /mine drainage / NPDES outfall / other: _____

Sampling Location: bank / wading / boat / bridge / other: _____

Sampling Site: pool / riffle / eddy / backwater / open / channel / braided / other: RUN-RIFFLE-IN MULTIPLE CHANNEL STREAM

Stream/Channel/Pool Width: _____ ft/m **Mean Depth:** _____ ft/m

Water Color: clear / brown / green / blue / grey / other: _____

Weather: SKY- clear / scattered / broken / cloudy / overcast. PRECIP- none / light / mod. / heavy / snow / rain
WIND- calm / breeze / gusty / moderate / strong / est. wind speed/direction: _____ / _____
TEMP- cold / cool / mild / warm / hot / est. air temperature: 12.5°C Comments: _____

Field Measurements

Parameter	Units	Reading	Time	Instrument	Comments
Air Temp	°C	12.5	1221	THERM.	TOOK WATER & SEDIMENT
					SAMPLE UNDER LARGE
Water Temp	°C	6.4		10	BOULDER FORMING LARGE
					CAVERN - BELOW DAM
pH	s.u.	8.59	1222	10	LARGE LOG, THIS IS
					~ ≤ 100 FT DOWNST. OF
Conductivity	µS/cm	248	1222	10	PREVIOUS SAMPLE IN
					SPRING '04
DO	mg/L	9.82	1222	DO 310	78.6% @ 5.9°C
ORP	RmV	120.3	1222	PH 310	CARBOY AND PUMP FILTER
					AT CAR
Alkalinity	mg/L				
Turbidity	n.t.u.				
					FLOW BY BILL CARGY (BLM)
Discharge	ft^3/s, L/s, gpm				
Stage ht.	ft, m				
GPS Coordinates	UTM 12S 0662342; 4250334; ACC = 37 FT; ELEV = 4605 FT				
Measurement: In situ or container			Sample Water @ 1215		
Number and types of filters used: 1; 0.45			Sediment @ 1225		

Surface-Water Monitoring Field Form

Station ID: REF AREA 3	**Date:** 10-14-04	**Observer:** BDS
Location: Base of '60' FALLS HOP CREEK	**Start Time:** 1345	**Sampling**
Site Description: ~ 150' DOWNST. OF MAIN FALLS OF U-BREAKING SS unit ~ 1/4-1/2 mi NW Vanadium Queen mine	**End Time:** 1435	**Team:** BDS
		Lead Signature: BA Smith
Project: LA SAL CREEK	**Instruments:**	**Date:** 10 / 14 / 04

Sampling Information

Surface-water Type: stream / lake / pond / spring / seep /mine drainage / NPDES outfall / other: _____

Sampling Location: bank / wading / boat / bridge / other: within channel of boulders

Sampling Site: pool / riffle / eddy / backwater / open / channel / braided / other: tail of pool

Stream/Channel/Pool Width: ~ 2.0 (ft)/m **Mean Depth:** .1 to .2 (ft)/m

Water Color: clear / brown / green / blue / grey / other: _____

Weather: SKY- clear / scattered / broken / cloudy / overcast. PRECIP- none / light / mod. / heavy / snow / rain
WIND- calm / breeze / gusty / moderate / strong / est. wind speed/direction: _____ / _____
TEMP- cold / cool / mild / warm / hot / est. air temperature: 18.7 Comments: _____

Field Measurements

Parameter	Units	Reading	Time	Instrument	Comments
Air Temp	°C	18.7	1348	THERM	
Water Temp	°C	9.2	1348	10	
pH	s.u.	8.65	1348	10	
Conductivity	µS/cm	574	1349	10	
DO	mg/L	9.16	1349	DO 310	79.0 % @ 8.9°C
ORP	RmV	90.4	1350	DH 310	
Alkalinity	mg/L				
					Flow by B. Merrill, J. Fogg.
Turbidity	n.t.u.				Flow measured at top of
					Falls w/ Bucket/Watch
Discharge	ft^3/s, L/s, gpm				
Stage ht.	ft, m				
GPS Coordinates	UTM 12S 0667308; 4245671. ALT = 23FT. ELEV = 6562'				
Measurement: In situ or container		Water Sample @ 1345 COC = 1340			
Number and types of filters used:		1, 0.45	Sediment @ 1405		

Soil/Mine-Waste Sampling Form

Sample No.: REF AREA 1 SED

Mine Site:

Claim No.:

Date: 10-13-04

Sampler(s): BD SMITH; B. MERRILL

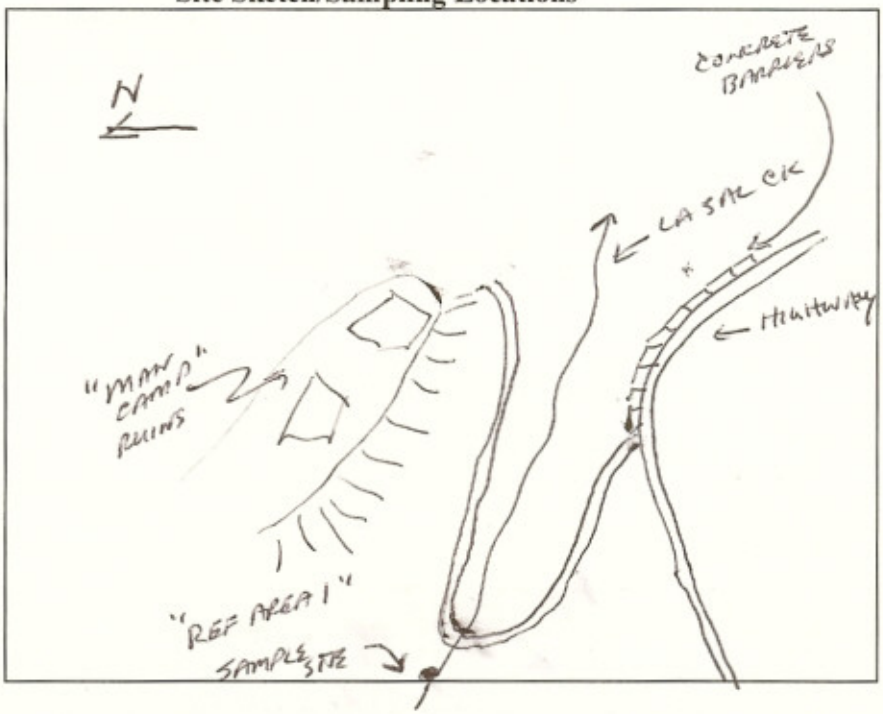
General Site Location: LA SAL CREEK ~150 FT UPSTREAM MAIN CAMP ACCESS RD ABOVE FIREFLY MINE

Current Conditions/Weather: CLEAR, MILD,

Sampling Method: SS SPOON

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
	10-13-04	1640		COLLECTED 4 SUB-	MED BRN, LT YEL,
SS 1:	↓	↓		SAMPLES OVER 10 FT	BRN TO MED TO DK
SS 2:				REACH. STREAM IS	GRAY. CLAY ~ 50%
SS 3:				HEAVILY VEGETATED	TO V. V. FN. SILT.
SS 4:				W/ WILLOW.	ORGANIC, ALMOST
SS 5:				ALL SAMPLES BELOW	MUCK SEVERAL INCHES
SS 6:				WATER SURFACE IN	(1-2") BELOW TOP
SS 7:				1 TO 1.5' DEEP x 3' W	OF SEDIMENT
				CHANNEL.	

Soil/Mine-Waste Sampling Form

Sample No.: REF AREA 2 SED

Mine Site: GREY DAWN MINE AREA

Claim No.:

Date: 10-14-04

Sampler(s): TBD SMITH

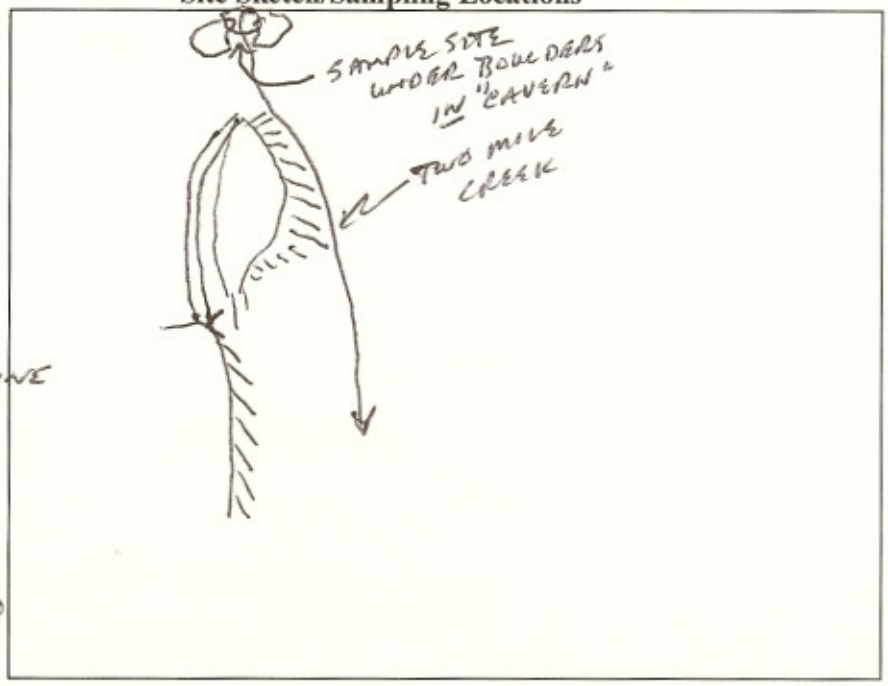
General Site Location: TWO MILE CREEK AT BOULDER FALLS BEYOND GREY DAWN MINE

Current Conditions/Weather: CLEAR WARM

Sampling Method: SS SPOON

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
	10-14-04	1215		IN LARGE CAVERNOUS	LT TO MD. BROWN
SS 1:				AREA FORMED BY	V. FN. SILT ~60%
SS 2:				LARGE BOULDERS	TO CLAY ~40%.
SS 3:				IN BOULDER-CHOKED	V. LITTLE FN. SAND
SS 4:				CHANNEL TWO MILE	
SS 5:				CREEK JUST ABOVE	
SS 6:		1225		GREY DAWN MINE	
SS 7:					
	DESIGNATED	SAMPLE TIME	1225		

Soil/Mine-Waste Sampling Form

Sample No.: REF AREA 3 SED

Mine Site: UPSTREAM ~~[illegible]~~ VANADIUM QUEEN MINE

Claim No.:

Date: 10-14-04

Sampler(s): BD SMITH

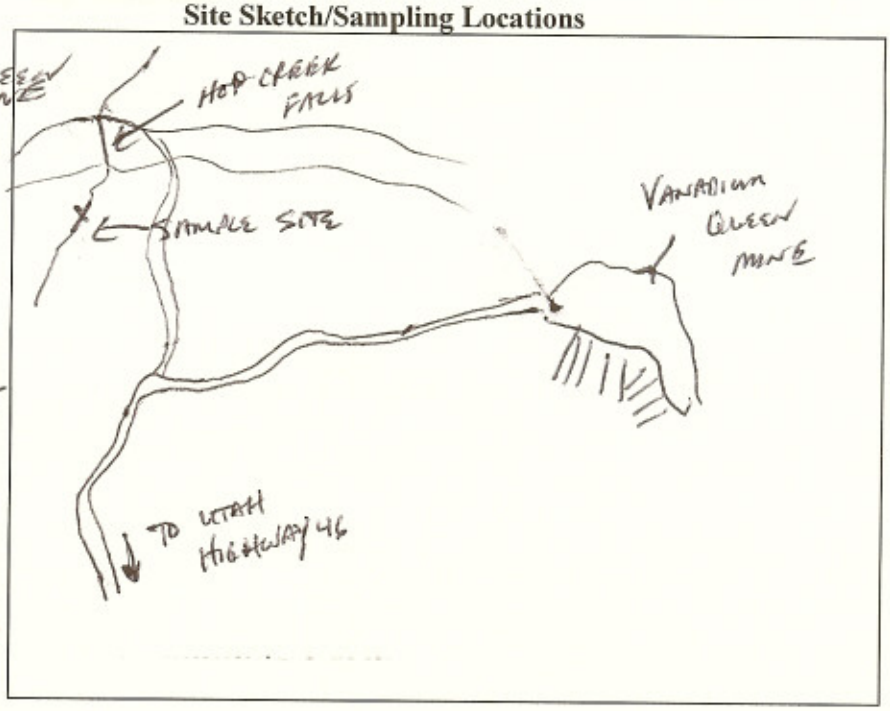
General Site Location: HOP CREEK BELOW 60' FALLS; 1/2 mi NE VQ MINE

Current Conditions/Weather: CLEAR WARM.

Sampling Method: SS SPOON.

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
	10-14-04	1355		VARIOUS POCKETS,	DK BRN. CLAY,
SS 1:				POOLS, EDDYS, FLOOD	~ 80%; DK BRN.
SS 2:				SPLASH (ABOVE WATER	TO LT BRN. VFN
SS 3:				LINE).	SAND, SILT, MINOR
SS 4:				~ 80% SAMPLE IS	CRS. SAND + GRAVEL
SS 5:				CLAY ON SAND/CLAY	
SS 6:		1405		DEPOSIT BARS NEXT	
SS 7:				TO POOLS BETWEEN	
				BOULDERS	
	DESIGNATED		SAMPLE TIME:	1405	

VEGETATION
~~Soil/Mine-Waste~~ Sampling Form

Sample No.: REF AREA 3 F1

Mine Site: N OF VANADIUM QUEEN MINE

Claim No.:

Date: 10-20-09

Sampler(s): BD SMITH

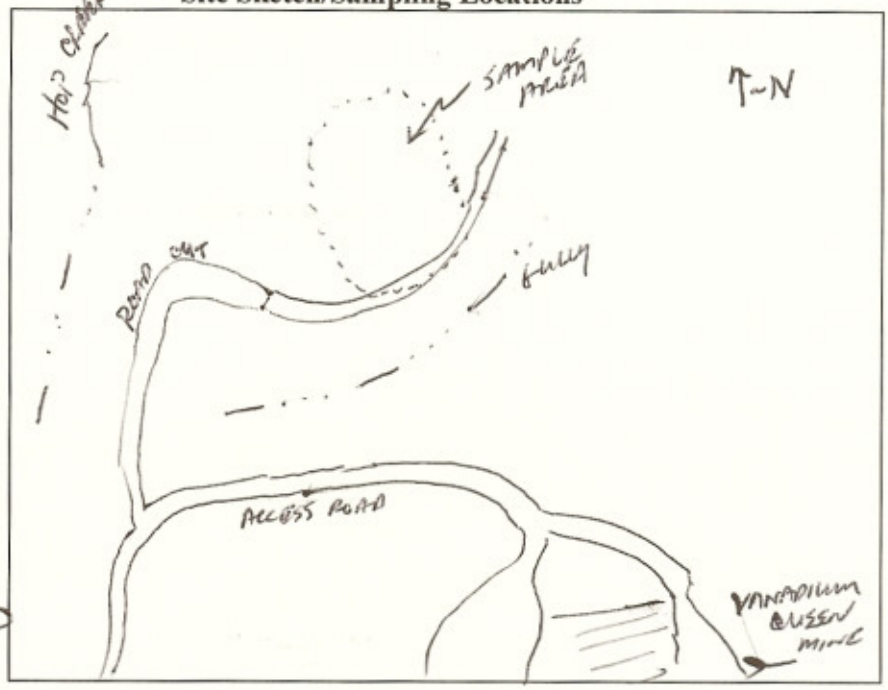
General Site Location: ~ 200-500 FT N OF VANADIUM QUEEN MINE DRAIN ON SW FACING SLOPE

Current Conditions/Weather: CLOUDY, GUSTY, COOL

Sampling Method: PRUNERS

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
	10-20-09	1400		VARIOUS SUBSAMPLES	FORBS TENTATIVELY
SS 1:				IN ~ 100 X 100 FT	IDENTIFIED,
SS 2:				AREA. ALSO SOME	"PEPPER WEED"
SS 3:				SUBSAMPLES ON	STICKY YELLOW ASTER
SS 4:				ROAD CUT BECAUSE	SCARLET GILIA
SS 5:				THESE SPECIES CON-	YELLOW CLOVER
SS 6:				SISTENT W/ WHAT	PURPLE / GRAY ASTER
SS 7:				WAS FOUND ON MINE	
				AREA	

VEGETATION
~~Soil/Mine-Waste~~ Sampling Form

Sample No.: REF AREA 3 S 1

Mine Site: N OF VANADIUM QUEEN MINE

Claim No.: 1

Date: 10-20-04

Sampler(s): BO SMITH

General Site Location: ~200-500FT N OF VANADIUM QUEEN MINE BENCH ON SW FACING SLOPE

Current Conditions/Weather: CLOUDY, DUSTY, COOL

Sampling Method: PRUNERS

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations

Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
	10-20-04	1400		VARIOUS SUBSAMPLES	SHRUBS TENTATIVELY
SS 1:				IN ~100 x 100 FT AREA	IDENTIFIED:
SS 2:				INCLUDING ROAD CUT	MTN. MAHOGANY,
SS 3:				N OF VQ MINE ON	RABBITBRUSH
SS 4:				N SIDE OF GULLY.	POSSIBLE SERVICE BERRY.
SS 5:				HERE SIMILAR SPECIES	
SS 6:				EXISTED AS ON VQ	
SS 7:				MINE BENCH.	
	RINSE GB - 10-21-04 @			0830	
	IS ON 2 PRUNERS AND			1 CLIPPER TOOL	

RESIDENTIAL AREAS

Surface-Water Monitoring Field Form

Station ID: RESIDENCE 1	**Date:** 4-27-04	**Observer:** BDS
Location: ROBERT RILEY RESIDENCE	**Start Time:** 1023	**Sampling**
Site Description: SPRING CONCRETE	**End Time:**	**Team:** BDS
COLLECTION BOX ~100' N OF HOUSE		**Lead Signature:** B.D. Smith
Project: LA SAL CREEK	**Instruments:**	**Date:** 4 / 27 / 04

Sampling Information

Surface-water Type: stream / lake / pond / spring / seep /mine drainage / NPDES outfall / other: _____

Sampling Location: bank / wading / boat / bridge / other: RESIDENCE CONCRETE SPRING COLLECTION BOX

Sampling Site: pool / riffle / eddy / backwater / open / channel / braided / other: _____

Stream/Channel/Pool Width: ~4 (ft)/m **Mean Depth**: ~5 (ft)/m

Water Color: clear / brown / green / blue / grey / other: _____

Weather: SKY- clear / scattered / broken / cloudy / overcast. PRECIP- none / light / mod. / heavy / snow / rain
WIND- calm / breeze / gusty / moderate / strong / est. wind speed/direction: _____ / _____
TEMP- cold / cool / mild / warm / hot / est. air temperature: _____ Comments: _____

Field Measurements

Parameter	Units	Reading	Time	Instrument	Comments
Air Temp	°C	21°C	1032	THERM.	
Water Temp	°C	9.8	1029	pH 10	DO 9.7 @ 1031
pH	s.u.	7.07	1029	pH 10	
Conductivity	µS/cm	234	1029	pH 10	
DO	mg/L	1.14	1031	DO 310	10.1%, @ 9.8°C → 9.7 @ 1031
ORP	RmV	159.3	1030	~~DO~~ pH 310	
Alkalinity	mg/L				
Turbidity	n.t.u.				
Discharge	ft^3/s, L/s, gpm				— CANNOT DETERMINE BUT
Stage ht.	ft, m				ESTIMATE OF FLOW IS ≤ 1 gpm BELOW BOX.
GPS Coordinates	UTM S 0667338	4244495	ACC: 23'	ELEV. 6269'	
Measurement: In situ or container		SAMPLE COLLECTED AT 1045			
Number and types of filters used: 2 .45µ/sample		SPRING-1 DUP IS DUPLICATE AT 1110			

Surface-Water Monitoring Field Form

Station ID: RESIDENCE 2	**Date:** 4-27-04	**Observer:** TAS
Location: CLEARAINE RESIDENCE	**Start Time:** 1205	**Sampling**
Site Description: POLYETHYLENE TANK	**End Time:**	**Team:**
INSIDE WOOD SHED		**Lead Signature:**
Project: LA SAL CREEK	**Instruments:**	**Date:** / /

Sampling Information

Surface-water Type: stream / lake / pond / spring / seep /mine drainage / NPDES outfall / other:

Sampling Location: bank / wading / boat / bridge / other: POLYETHYLENE STORAGE TANK ≈ 425 gal.

Sampling Site: pool / riffle / eddy / backwater / open / channel / braided / other: water is flowing into tank ~ 1 gpm

Stream/Channel/Pool Width: 24.0 ft/m **Mean Depth**: 2.5 ft/m

Water Color clear / brown / green / blue / grey / other:

Weather: SKY- clear / scattered / broken / cloudy / overcast. PRECIP- none / light / mod. / heavy / snow / rain
WIND- calm / breeze / gusty / moderate / strong / est. wind speed/direction: /
TEMP- cold / cool / mild / warm / hot / est. air temperature: Comments:

Field Measurements

Parameter	Units	Reading	Time	Instrument	Comments
Air Temp	°C	18°C	1216	THERM.	
Water Temp	°C	10.9	1215	pH 10	
pH	s.u.	7.52	1215	pH 10	
Conductivity	µS/cm	308	1215	pH 10	@ 11° C
DO	mg/L	7.40			@ 10.8°C 66.3%
ORP	RmV	146.6	1216	pH 310	
Alkalinity	mg/L				
Turbidity	n.t.u.				
Discharge	ft^3/s, L/s, gpm				Estimate inflow @ 1-2 gpm
Stage ht.	ft, m				
GPS Coordinates	UTM 5 0667313	4244335	Acc: 20 FT	6235' ELEV	
Measurement: In situ or container		Sample collected AT 1248-1258			
Number and types of filters used:	1, .45µ				

Surface-Water Monitoring Field Form

Station ID: RESIDENCE 3U	**Date:** 4-28-04	**Observer:** BAS
Location: ##	**Start Time:** 0950	**Sampling**
Site Description: "UPPER" SPRING	**End Time:**	**Team:** BAS
W/ CUT OF STEEL DRUM ~ 600' + N OF HOUSE		**Lead Signature:**
Project: LA SAL CREEK	**Instruments:**	**Date:** 4 / 28 / 04

Sampling Information

Surface-water Type: stream / lake / pond / spring / seep /mine drainage / NPDES outfall / other: _____

Sampling Location: bank / wading / boat / bridge / other: FROM ALUMINUM 4" Ø PIPE INLET TO DRUM

Sampling Site: pool / riffle / eddy / backwater / open / channel / braided / other: PIPE AS ABOVE

Stream/Channel/Pool Width: NA ft/m **Mean Depth**: NA ft/m

Water Color: clear / brown / green / blue / grey / other: _____

Weather: SKY- clear / scattered / broken / cloudy / overcast. PRECIP- none / light / mod. / heavy / snow / rain
WIND- calm / breeze / gusty / moderate / strong / est. wind speed/direction: _____ / _____
TEMP- cold / cool / mild / warm / hot / est. air temperature: 17.8 Comments: _____

Field Measurements

Parameter	Units	Reading	Time	Instrument	Comments
Air Temp	°C	~~17.8~~ 22.0	0959	THERM.	
Water Temp	°C	13.1	0956	pH 10	
pH	s.u.	7.90	0956	pH 10	
Conductivity	µS/cm	159.5	~~0922~~ 0956	pH 10	
DO	mg/L	7.66	0958	DO 310	72.6% @ 13.0°
ORP	RmV	121.2	0958	pH 310	
Alkalinity	mg/L				
Turbidity	n.t.u.				
Discharge	ft³/s, L/s, gpm				900 ml / 2 sec MEASURED
Stage ht.	ft, m				
GPS Coordinates	UTM S 0667738, 4244422 REC. 10'				ELEV. 6210 - 6220 FT.
Measurement: In situ or container					
Number and types of filters used:	1.45µ				

Surface-Water Monitoring Field Form

Station ID: RESIDENCE 3L	**Date:** 4-27-04	**Observer:** TDS
Location: CRAREY RESIDENCE	**Start Time:** 1346	**Sampling**
Site Description: MAIN LOWER SPRING	**End Time:** 1428	**Team:** TDS
W/ CYLINDRICAL METAL TANK (ON SIDE)		**Lead Signature:**
Project: LA SAL CREEK	**Instruments:**	**Date:** / /

Sampling Information

Surface-water Type: stream / lake / pond / spring / seep /mine drainage / NPDES outfall / other:

Sampling Location: bank / wading / boat / bridge / other: SET NALGENE BEAKER AT OVERFLOW OUTLET LET WATER RUN INLOUT WATER MEASURED PARAMETERS

Sampling Site: pool / riffle / eddy / backwater / open / channel / braided / other:

Stream/Channel/Pool Width: ~4 TANK ft/m **Mean Depth**: 6 LONG ft/m

Water Color: clear / brown / green / blue / grey / other:

Weather: SKY- clear / scattered / broken / cloudy / overcast. PRECIP- none / light / mod. / heavy / snow / rain
WIND- calm / breeze / gusty / moderate / strong / est. wind speed/direction: /
TEMP- cold / cool / mild / warm / hot / est. air temperature: Comments:

Field Measurements

Parameter	Units	Reading	Time	Instrument	Comments
Air Temp	°C	24.2°C	1357	THERM.	
Water Temp	°C	12.7	1354	pH 10	
pH	s.u.	7.83	1354	pH 10	
Conductivity	µS/cm	173.9	1354	pH 10	
DO	mg/L	6.83	1402	DO 310	64.7% @ 13.1°C → 12.9°C
ORP	RmV	104.4	1402	pH 310	
Alkalinity	mg/L				
Turbidity	n.t.u.				
Discharge	ft^3/s, L/s, gpm				
Stage ht.	ft, m				
GPS Coordinates	UTM 5.0667746, 4244363 ACC. 15 FT 6178 FT ELEV.				
Measurement: In situ or container		Sample collected AT 1415			
Number and types of filters used:	1, 0.45µ	Collected non filters using fill beaker from over flow spout.			

Surface-Water Monitoring Field Form

Station ID: RESIDENCE 3 W	**Date:** 4-28-04	**Observer:** BDS
Location: RESIDENCE	**Start Time:** 1050	**Sampling**
Site Description: FLOWING WELL ~ 80' E OF DRIVEWAY, 40 N OF HIGHWAY 46	**End Time:**	**Team:** BDS, JCF
		Lead Signature:
Project: LA SAL CREEK	**Instruments:**	**Date:** 4 / 28 / 04

Sampling Information

Surface-water Type: stream / lake / pond / spring / seep /mine drainage / NPDES outfall / other: WELL - FLOWING

Sampling Location: bank / wading / boat / bridge / other: AT CASING. FLOW IS RISING ~ 14-18" FROM GROUND SURFACE

Sampling Site: pool / riffle / eddy / backwater / open / channel / braided / other: BEAKER W/ WELL FLOW INTO FT.

Stream/Channel/Pool Width: 1-3.5 (ft/m) **Mean Depth**: ~0.10 (ft/m)

Water Color: (clear) / brown / green / blue / grey / other: _____

Weather: SKY- clear / (scattered) / broken / cloudy / overcast. PRECIP- (none) / light / mod. / heavy / snow / rain
WIND- calm / breeze / (gusty) / moderate / strong / est. wind speed/direction: _____ / _____
TEMP- cold / cool / (mild) / warm / hot / est. air temperature: _____ Comments: Fe - STAINED SED / VEG.

Field Measurements

Parameter	Units	Reading	Time	Instrument	Comments
Air Temp	°C	24.0	1104	THERM.	
Water Temp	°C	14.3	1101	pH 10	
pH	s.u.	7.36	1101	pH 10	
Conductivity	µS/cm	275	1101	pH 10	
DO	mg/L	2.12	1101	DO 310	20.9% @ 14.2°C
ORP	RmV	-58.2	1102	pH 310	-61.6 @ 1105
Alkalinity	mg/L				
Turbidity	n.t.u.				
Discharge	ft^3/s, L/s, gpm				
Stage ht.	ft, m				
GPS Coordinates	UTM 5 0667860, 4244234, ACC: 24 FT, 6125 FT ELEV.				
Measurement: In situ or (container)		Sampled @ 1115 - (1125)			
Number and types of filters used:	1, .45µ				

Surface-Water Monitoring Field Form

Station ID: RESIDENCE 1	**Date:** 10-18-04	**Observer:** BDS
Location: RILEY RESIDENCE	**Start Time:** 1536	**Sampling**
Site Description: MR. RILEY RESIDENCE	**End Time:** 1426	**Team:** BDS
AT CONFLUENCE LA SACK & TWO MILE CREEK		**Lead Signature:** BD Smith
Project: LA SAL CREEK	**Instruments:**	**Date:** 10 / 18 / 04

Sampling Information

Surface-water Type: stream / lake / pond / spring / seep /mine drainage / NPDES outfall / other:

Sampling Location: bank / wading / boat / bridge / other: IN CONCRETE 40"W x 90"L x 31"D COLLECTION BOX

Sampling Site: pool / riffle / eddy / backwater / open / channel / braided / other: STILL

~~Stream/Channel/Pool~~ BOX **Width:** 40 W ~~ft/m~~ **Mean Depth:** ~ 2.5 ft/m

Water Color: clear / brown / green / blue / grey / other:

Weather: SKY- clear / scattered / broken / cloudy / overcast. PRECIP- none / to light / mod. / heavy / snow / rain
WIND- calm / breeze / gusty / moderate / strong / est. wind speed/direction: /
TEMP- cold / cool / mild / warm / hot / est. air temperature: Comments:

Field Measurements

Parameter	Reading	Time	Instrument	Comments
Air Temp °C				
Water Temp °C	11.5	1543	10	
pH (s.u.)	6.45	1543	10	
Conductivity (µmhos/cm)	265	1543	10	
DO (mg/L)	0.75	1543		6.8% @ 11.3°C
Eh (mV)	190.6			↑ INCREASING
Alkalinity (mg/L)				
Turbidity (n.t.u.)				
Discharge (ft3/s, gpm)				(measured/estimated) - Cannot access
Gage ht. (ft)				

GPS: UTM 12S 0667338; 4244501; PRE = 21 FT; ELEV = 6201 FT

Measurement: In Situ or Container Water Sample @ 1605

Number and type of filters used: 1; 0.45µ

Surface-Water Monitoring Field Form

Station ID: RESIDENCE 2	**Date:** 10-18-04	**Observer:** BDS
Location: OLEBRAINS RESIDENCE	**Start Time:** 1420	**Sampling**
Site Description: SPRING 300 gal.	**End Time:** 1515	**Team:** BDS
POLYETHYLENE STORAGE TANK, ACTIVELY RECEIVING FLOW		**Lead Signature:** BD Smith
Project:	**Instruments:**	**Date:** 10 / 18 / 04

Sampling Information

Surface-water Type: stream / lake / pond / (spring) / seep /mine drainage / NPDES outfall / other: * POLYETHYLENE TANK

Sampling Location: bank / wading / boat / bridge / other: THROUGH 8" ACCESS HATCH IN TANK -

Sampling Site: pool / riffle / eddy / backwater / open / channel / braided / other: _____

Stream/Channel/Pool Width: _____ ft/m **Mean Depth**: _____ ft/m 300 gallon cylindrical polyethylene tank

Water Color: (clear) / brown / green / blue / grey / other: _____

Weather: SKY- clear / scattered / broken / (cloudy) / overcast. PRECIP- none / (light) / mod. / heavy / snow / rain
WIND- calm / (breeze) / gusty / moderate / strong / est. wind speed/direction: _____ / _____
TEMP- cold / (cool) / mild / warm / hot / est. air temperature: 12.9 Comments: _____

Field Measurements

Parameter	Reading	Time	Instrument	Comments
Air Temp °C	12.9	1448	THERM	
Water Temp °C	10.7	1423	10	
pH (s.u.)	6.79	1423	10	6.82 IN INFLOW WATER
Conductivity (µmhos/cm)	305	1423	10	
DO (mg/L)	5.20	1429	DO 310	47.0% @ 10.6°C
Eh (mV)	250	1423	pH 310	↑ 270 @ 1428
Alkalinity (mg/L)				
Turbidity (n.t.u.)				
Discharge (ft3/s, gpm)				(measured/estimated) 2L/20S - BYPASS
Gage ht. (ft)				VALVE

GPS: UTM 12 S 0667314; 4244336; ACC = 15 FT; ELEV = 6181 FT

Measurement: In Situ or Container POLYETHYLENE TANK IN SHED

Number and type of filters used: 1, 0.45µ Water Sample AT 1455

Surface-Water Monitoring Field Form

Station ID: RESIDENCE 3a	**Date:** 10-18-04	**Observer:** BDS
Location: CRAPY RESIDENCE	**Start Time:** 1659	**Sampling**
Site Description: UPPER-MOST SPRING	**End Time:** ~1745	**Team:** BDS
DEVELOPED w/ ALUMINUM PIPE INTO 1/3 STEEL DRUM		**Lead Signature:** BD Smith
Project: LA SAL CREEK	**Instruments:**	**Date:** 10 / 18 / 04

Sampling Information

Surface-water Type: stream / lake / pond / spring / seep /mine drainage / NPDES outfall / other: _____

Sampling Location: bank / wading / boat / bridge / other: 1/3 STEEL DRUM COLLECTION TANK ~ 20 gal.

Sampling Site: pool / riffle / eddy / backwater / open / channel / braided / other: SMALL STEEL COLLECTION TANK

Stream/Channel/Pool Width: — ft/m **Mean Depth:** — ft/m

Water Color: clear / brown / green / blue / grey / other: _____

Weather: SKY- clear / scattered / broken / cloudy / overcast. PRECIP- none / light / mod. / heavy / snow / rain
WIND- calm / breeze / gusty / moderate / strong / est. wind speed/direction: _____ / _____
TEMP- cold / cool / mild / warm / hot / est. air temperature: 13.7 Comments: _____

Field Measurements

Parameter	Reading	Time	Instrument	Comments
Air Temp °C	13.7	1736		
Water Temp °C	13.9	1706	10	
pH (s.u.)	7.43	1706	10	
Conductivity (µmhos/cm)	165.3	1705	10	
DO (mg/L)	7.22	1705	DO 310	69.9% @ 14.0 °C
Eh (mV)	122.8	1705	pH 310	↑ SLTLY INCREASING
Alkalinity (mg/L)				
Turbidity (n.t.u.)				
Discharge (ft3/s, gpm)				(measured/estimated) 2500ml/55sec
Gage ht. (ft)				

GPS: UTM: 12S 0667744; 4244424; ACC = 24 FT; ELEV = 6191 FT

Measurement: In Situ or Container Sample AT 1725

Number and type of filters used: 1, 0.45µ

Surface-Water Monitoring Field Form

Station ID: RESIDENCE 3L	**Date:** 10-19-04	**Observer:** BDS
Location: CRARY RESIDENCE	**Start Time:** 1016	**Sampling**
Site Description: LOWER MAIN SPRING	**End Time:** 1056	**Team:** BDS
JUST NORTH OF "CHICKEN COOP" OVER FENCE		**Lead Signature:** BD Smith
Project: LA SAL CREEK	**Instruments:**	**Date:** 10 / 19 / 04

Sampling Information

Surface-water Type: stream / lake / pond / spring / seep /mine drainage / NPDES outfall / other:

Sampling Location: bank / wading / boat / bridge / other: FROM 2-INCH TOP OVERFLOW ON CYLINDRICAL TANK

Sampling Site: pool / riffle / eddy / backwater / open / channel / braided / other: AS ABOVE

Stream/Channel/Pool Width: ft/m **Mean Depth:** ft/m TANK IS

Water Color: clear / brown / green / blue / grey / other:

Weather: SKY- clear / scattered / broken / cloudy / overcast. PRECIP- none / light / mod. / heavy / snow / rain
WIND- calm / breeze / gusty / moderate / strong / est. wind speed/direction: /
TEMP- cold / cool / mild / warm / hot / est. air temperature: 11.3 Comments:

Field Measurements

Parameter	Reading	Time	Instrument	Comments
Air Temp °C	11.3	1051		
Water Temp °C	13.2	1031	10	
pH (s.u.)	7.72	1031	10	
Conductivity (µmhos/cm)	182.7	1031	10	
DO (mg/L)	6.87	1022	DO 310	65.4% @ 13.2°C
Eh (mV)	130.8	1022	PH 310	
Alkalinity (mg/L)				
Turbidity (n.t.u.)				Measured 1700 ml/15 sec + below
				overflow estimated @ 500 ml/10 sec
Discharge (ft3/s, gpm)				(measured/estimated)
Gage ht. (ft)				
GPS: UTM 12S 0667746; 4244370; ACC = 20 FT, ELEV = 6152'				
Measurement: In Situ or Container				
Number and type of filters used:	Water Sample @ 1045			

Surface-Water Monitoring Field Form

Station ID: RESIDENCE 3W	**Date:** 10-19-04	**Observer:** BDS
Location: CRARY RESIDENCE	**Start Time:** 1120	**Sampling**
Site Description: FLOWING WELL	**End Time:** 1220	**Team:** BDS
80 FT E OF DRIVEWAY AT INTERSECTION HIGHWAY 46		**Lead Signature:** BD Smith
Project: LA SAL CREEK	**Instruments:**	**Date:** 10 / 19 / 04

Sampling Information

Surface-water Type: stream / lake / pond / spring / seep /mine drainage / NPDES outfall / other: WELL

Sampling Location: bank / wading / boat / bridge / other: AT TOP OF CASING

Sampling Site: pool / riffle / eddy / backwater / open / channel / braided / other: FLOWING-WELL

Stream/Channel/Pool Width: _____ ft/m **Mean Depth:** _____ ft/m

Water Color: clear / brown / green / blue / grey / other: _____

Weather: SKY- clear / scattered / broken / cloudy / overcast. PRECIP- none / light / mod. / heavy / snow / rain
WIND- calm / breeze / gusty / moderate / strong / est. wind speed/direction: _____ / _____
TEMP- cold / cool / mild / warm / hot / est. air temperature: 12.2 Comments: _____

Field Measurements

Parameter	Reading	Time	Instrument	Comments
Air Temp °C	12.2	1135	THERM	
Water Temp °C	14.1	1128	10	
pH (s.u.)	7.41	1128	10	
Conductivity (µmhos/cm)	2.75	1128	10	
DO (mg/L)	0.62	1129	DO 310	6.0% @ 14.0°C
Eh (mV)	-58.1	1128	pH 310	
Alkalinity (mg/L)				
Turbidity (n.t.u.)				measured 1700 ml/4.55 ≅ 1/4 of FLOW
Discharge (ft3/s, gpm)				(measured/estimated)
Gage ht. (ft)				

GPS: UTM 12S 0667865; 4244236; ACC = 19 FT. ELEV = 6108 FT

Measurement: In Situ or Container DUPLICATE HERE = ENTRADA W @ 1210

Number and type of filters used: 1, 0.45µ Simple Water @ 1135

Soil/Mine-Waste Sampling Form

Sample No.: RILEY GARDEN SOIL

Mine Site:

Claim No.:

Date: 10-18-04

Sampler(s): WOW

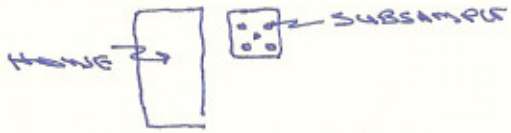
General Site Location: S. SIDE OF HOUSE

Current Conditions/Weather: CLOUDY/COOL

Sampling Method: GRAB

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
RILEY GARDEN SOIL	10-18-04	1340	0-6"	5 SUBSAMPLES	RD/BR SILTY CLAY
SS 1:				AT LOCATIONS SHOWN	W/ 30% SILT, 10%
SS 2:				ON SITE SKETCH	VF SAND; SOME
SS 3:					ROOTS, MOIST
SS 4:					
SS 5:					
SS 6:					
SS 7:					

Soil/Mine-Waste Sampling Form

Sample No.: RILEY PASTURE SOIL

Mine Site:

Claim No.:

Date: 10-18-04

Sampler(s): WHM

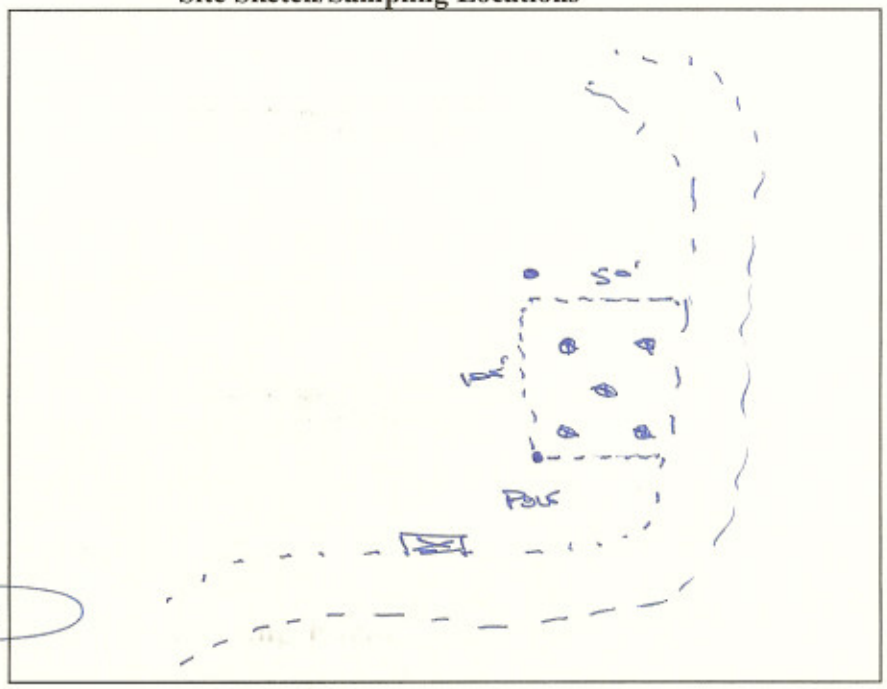
General Site Location:

Current Conditions/Weather:

Sampling Method: GRAB

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
RILEY PASTURE SOIL	10-18-04	1455	0-12"	5 SUBSAMPLES	BRN SANDY CLAY
SS 1:				AS SHOWN	W/ 30% VF SAND &
SS 2:					10% SILT W/ ROOT;
SS 3:					MOIST
SS 4:					
SS 5:					
SS 6:					
SS 7:					

Soil/Mine-Waste Sampling Form

Sample No.: RES 2 PASTURE SOIL

Mine Site:

Claim No.:

Date: 10-18-04

Sampler(s): WGW

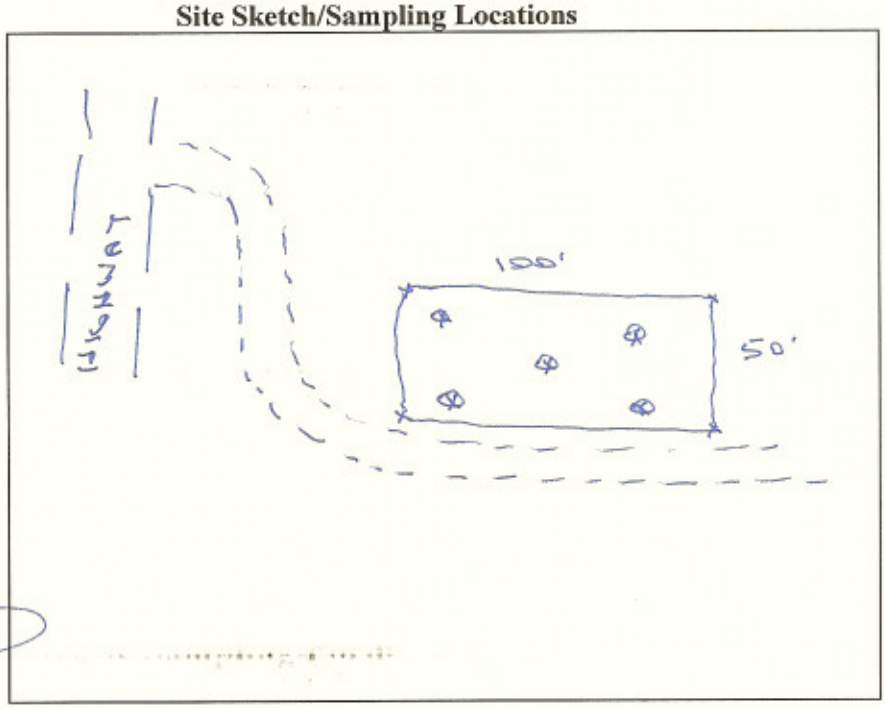
General Site Location:

Current Conditions/Weather: CLOUDY / COOL

Sampling Method: GRAB

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
RES 2 PASTURE SOIL ~~10-18-04~~	10-18-04	1600	0-12	5 SUBSAMPLES	DK ~~RB~~/BR SANDY CLAY;
SS 1:				AT LOCATIONS	W/ 20 VF SAND;
SS 2:				SHOWN ABOVE	~~BRN~~; MOIST
SS 3:					
SS 4:					
SS 5:					
SS 6:					
SS 7:					

Soil/Mine-Waste Sampling Form

Sample No.: RES 3 GARDEN SOIL

Mine Site:

Claim No.:

Date: 10-18-04

Sampler(s): WGM

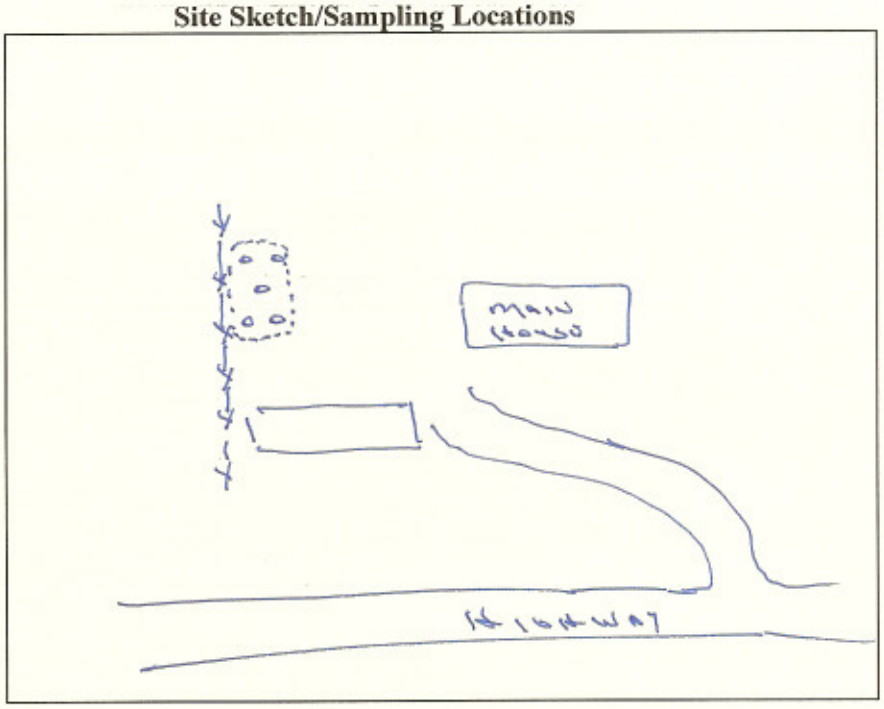
General Site Location:

Current Conditions/Weather:

Sampling Method: Coring

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
RES 3 GARDEN SOIL	10-18-04	1705	0-6"	SEE SKETCH	RD/BL SANDY
SS 1:					CLAY W/ 25%
SS 2:					VF SAND; SOME
SS 3:					ROOTS & ROCK FRAG'S,
SS 4:					MOIST
SS 5:					
SS 6:					
SS 7:					

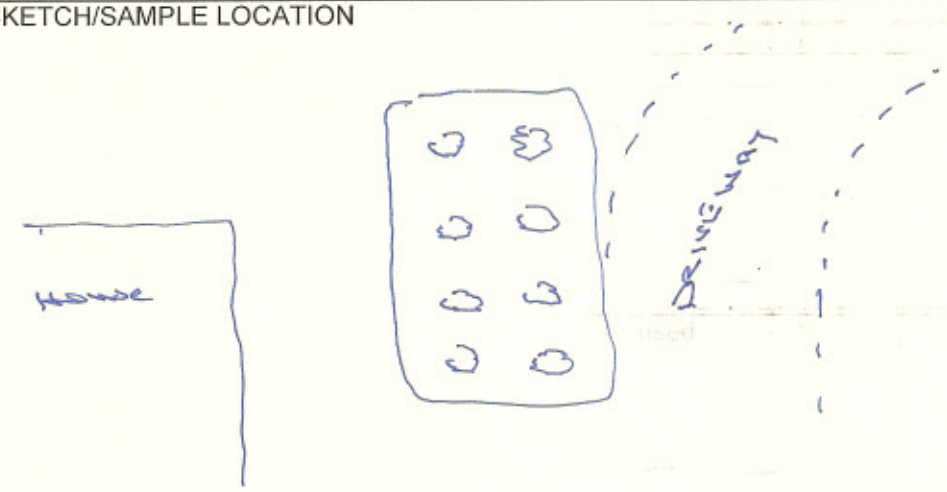
VEGETATION SAMPLING DATA SHEET

SITE NAME RILEY GARDEN VEG	LOCATION
DATE 10-18-04	LATITUDE
TIME 1345	LONGITUDE
PROJECT LA SAL	
SAMPLER(s) [illegible]	

VEGETATION TYPE	Indicate the type of vegetation sampled ☐ Grass ☐ Forb ☐ Shrub ☑ Other (GARDEN PRODUCE) TOMATOES; ZUCCHINI

SAMPLE COLLECTION	Indicate the type of sampling equipment used ☐ Clipper ☐ Core ☐ Other HAND PICKING Indicate the type of sample ☑ Composite No. of subsamples ~~16~~ 8 PLANTS ☐ Discrete Indicate the type and number of samples collected ☑ Chemical Analysis No. 1 Preservative ICE ☐ Plant Identification No. _____ Preservative _____

SITE SKETCH/SAMPLE LOCATION



GENERAL COMMENTS	

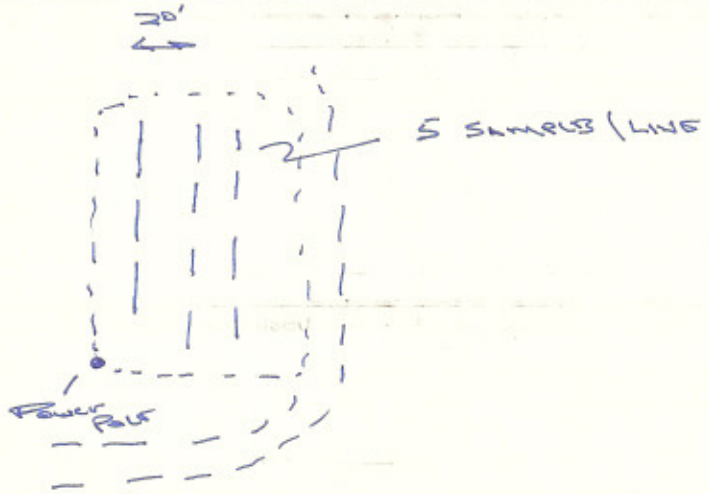
VEGETATION SAMPLING DATA SHEET

SITE NAME Riley Pasture Grass	LOCATION
DATE 10-18-04	LATITUDE
TIME 1500	LONGITUDE
PROJECT La Sal	
SAMPLER(s) RI	

VEGETATION TYPE	Indicate the type of vegetation sampled ☐ Grass ☐ Forb ☐ Shrub ☒ Other (Pasture Grass)

SAMPLE COLLECTION	Indicate the type of sampling equipment used ☑ Clipper ☐ Core ☐ Other _____ Indicate the type of sample ☑ Composite No. of subsamples 3 Lines at 20' ☐ Discrete Indicate the type and number of samples collected ☑ Chemical Analysis No. 1 Preservative 1cc ☐ Plant Identification No. _____ Preservative _____

SITE SKETCH/SAMPLE LOCATION



GENERAL COMMENTS	

VEGETATION

~~Soil/Mine-Waste Sampling Form~~

Sample No.: RES 2 PASTURE VEG

Mine Site: _____

Claim No.: _____

Date: 10-18-04

Sampler(s): FI

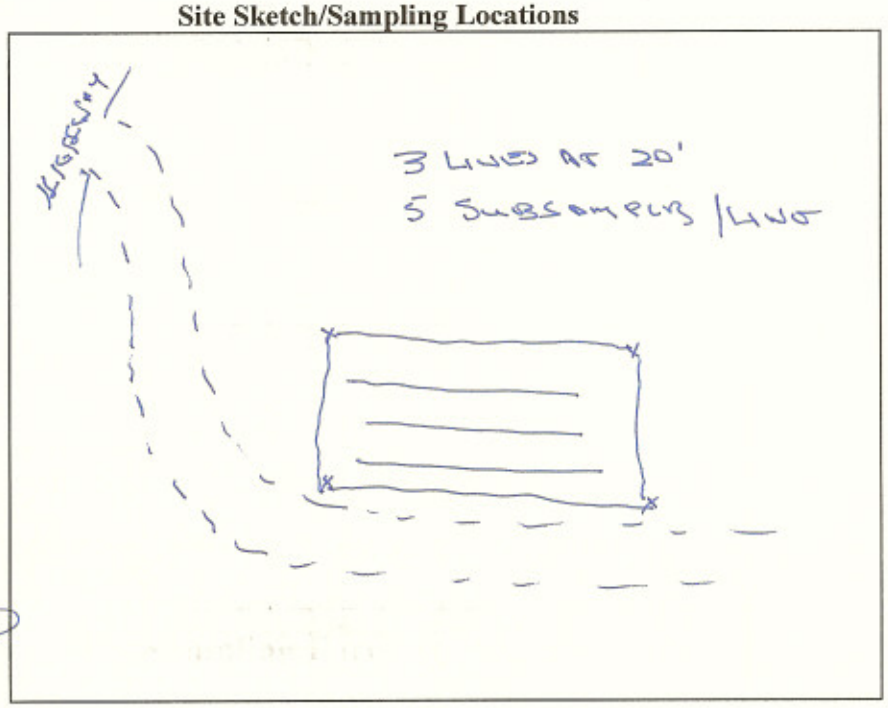
General Site Location: _____

Current Conditions/Weather: _____

Sampling Method: _____

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
RES 2 PASTURE VEG	10-18-04	1600	PASTURE GRASS		
SS 1:			HAND PICKING		
SS 2:					
SS 3:					
SS 4:					
SS 5:					
SS 6:					
SS 7:					

Soil/Mine-Waste Sampling Form

Sample No.: RES 3 GOLDEN VIEW

Mine Site:

Claim No.:

Date: 10-18-04

Sampler(s): PI

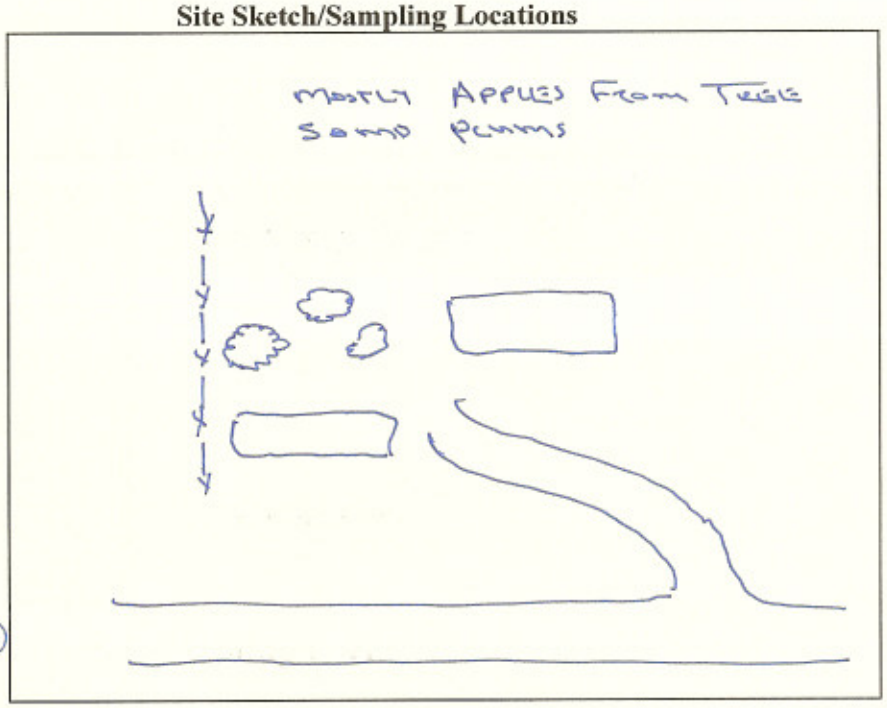
General Site Location:

Current Conditions/Weather:

Sampling Method: HAND-PICK

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

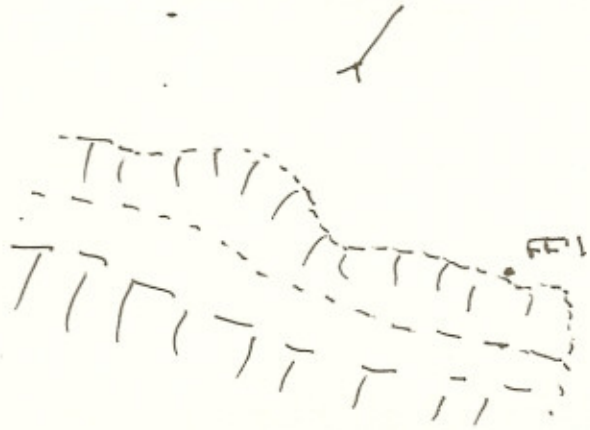
Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
	10-18-04	1705		FROM TREES IN YARD	
SS 1:					
SS 2:					
SS 3:					
SS 4:					
SS 5:					
SS 6:					
SS 7:					

WASTE ROCK AND SEDIMENT ALONG EPHEMERAL DRAINAGES

FIELD LOG OF BORING

SHEET 1 OF 2

LOCATION OF BORING:



PROJECT: FF1	BORING NO.
	TOTAL DEPTH:
JOB NO.:	LOGGED BY:
PROJ. MGR.:	EDITED BY:
DRILLING CONTRACTOR: DA SMITH	
DRILL RIG TYPE: TRAC 185A	
DRILLERS NAME: ROGER D.	
SAMPLING METHODS: GRAB / SPLIT SPOON	
HAMMER WT.:	DROP:
STARTED, TIME: 1120	DATE: 4-23-04
COMPLETED, TIME: 1215	DATE: 4-23-04
BORING DEPTH (ft.)	12
CASING DEPTH (ft.)	
WATER DEPTH (ft.)	
TIME:	
DATE:	
BACKFILLED, TIME:	DATE: BY:
SURFACE ELEV.:	DATUM:
CONDITIONS:	

SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)				DEPTH IN FEET	GRAPHIC LOG	
												0-6 LT RD/BR SILTY CLAYEY SAND (ML)
										1		W/ 20% SILT; 20% CLAY; VF SAND SOME
												RX FRAG'S; DRY, LOOSE
										2		
		3	25%									2-4 SAME W/ WASTE RX (SS) FRAGS AND
		2										LESS CLAY CONTENT (10%)
										3		INSUFFICIENT VOL. FOR SAMPLE (ROCK
		3										PLUGGED SHOE)
		4										
		4	95%							4		4-6 SAME BECOMES RD/BR F SAND 4.5-5.0
		4										AND LT RD/BR F SILTY SAND 5-6, LOOSE, DRY
										5		
		3										
		4										
										6		
		3	20%									6-8 YW/BR F SAND (SM) W/ 20% SILT
		4										ABD. LIMONITE STAINING ON SAND GRAINS
										7		LOOSE, DRY; ABD SS RX FRAGMENTS
		8										[~~[illegible]~~ SS RX PLUGGED SHOE
		11										AND LIMITED RECOVERY
										8		
		5	80%									8-9.5 RD/BR SILTY SAND (SM) 10% SILT;
		21										F SAND, ABD CS RX FRAGMENTS
										9		
		21										BECOMES LT RD/BR 9-9.5, LOOSE, DRY
		11										
										10	NOT USED	9.5-10 RD/BR CLAYEY F SAND; ROOT IN SAMPLE
		10	90%									SAMPLE 10-10.5 RD/BR F SAND

FF7

FIELD LOG OF BORING (CONTINUED)

SHEET 2 OF 2

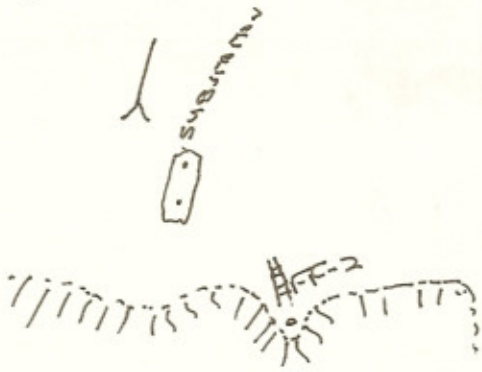
DEPTH	TYPE	BLOWS	DRIVEN	REC'V'D	COND	D.RATE				DEPTH	GRAPHIC LOG	PROJECT FF1	NO	BORING NO
		10								1		10.5' - 12 RD/BR CLAY F SAND (ML)		
		15										w/ PEBBLES [NATIVE SOIL]		
		16								2	TD			
										3				
										4				
										5				
										6				
										7				
										8				
										9				
										0				
										1				
										2				
										3				
										4				
										5				
										6				
										7				
										8				
										9				
										0				

WM

FIELD LOG OF BORING

SHEET ____ OF ____

LOCATION OF BORING:



PROJECT: FF-2	BORING NO.
	TOTAL DEPTH:
JOB NO.:	LOGGED BY:
PROJ. MGR.:	EDITED BY:
DRILLING CONTRACTOR: DA SMITH	
DRILL RIG TYPE: TEAC HSA	
DRILLERS NAME: ROGY D.	
SAMPLING METHODS: GRAB / SPLIT SPOON	
HAMMER WT.:	DROP:
STARTED, TIME: 1225	DATE: 4-23-04
COMPLETED, TIME:	DATE:
BORING DEPTH (ft.)	
CASING DEPTH (ft.)	
WATER DEPTH (ft.)	
TIME:	
DATE:	
BACKFILLED, TIME:	DATE: BY:
SURFACE ELEV.:	DATUM:
CONDITIONS:	

SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)				DEPTH IN FEET	GRAPHIC LOG	
							DUP 4			DUP 4		0-6" GRY/BR F-VF SAND W/ ABD. ST (CON)
												FRAGMENTS AND SOME SS CLASTS, 30% (SM)
										1		[DUPLICATE COLLECTED]
										2		2-3.5 RD/BR CLAY SAND (ML) W/ 30% CLAY
		1		60%							NATIVE MATERIAL	
		2				INSUFFICIENT SAMPLE						PEBBLES, NATIVE SOIL MATERIAL
										3		
		3										
		4										3.5-4.0 LT GY SILTY VF SAND (ML) W/ 20% SILT & RX FRAGS
										4		
		.5		60%		INSUFFICIENT SAMPLE						4-4.5 WOOD FRAGMENTS MIXED WITH NATIVE MATERIAL
		.5										4.5-5 RD/BR NATIVE CLAYEY SAND
										5		
		2										5-5.5 LT GY/BR SILTY VF SAND (ML) W/ SS RX FRAGS
		3										5.5-6.0 DK GRY/GY SILTY SAND (ML) MOIST, LOOSE
										6		~~6-6.5 WOOD FRAGMENTS~~
		1		90%								6-8 LT GRAY SILTY FINE SAND (SM) W/ 10%
		1										~~6.5-7.0 RD/BR NATIVE CLAYEY SILTY SAND W/~~
										7		SILT, LOOSE, MOIST; BLACK F SS FRAGMNTS
		1										6-6.5; OCCASIONAL GRAY SS FRAGMNTS TO
		2										8'
										8		
		1		90%								8-9 RD/BR CLAYEY VF SAND; 40% CLAY W/ RD
		2										MUDSTONE FRAGMNTS & SOME GY/GR SILTSTONES
										9		
		3		70%								9-10 SAMPLE [NATIVE SOIL - WILL CONTINUE DRILLING TO VERIFY]
		2										
										10		
		2										10-11 GY/GRY SILTY FINE SAND (SM) W/ 25% SILT

FF7

STOPPED DRILLING ON 4-23 AT 1330 DUE TO HYDRAULIC HOSE LEAK
WILL RESUME IN AM.

FIELD LOG OF BORING (CONTINUED)

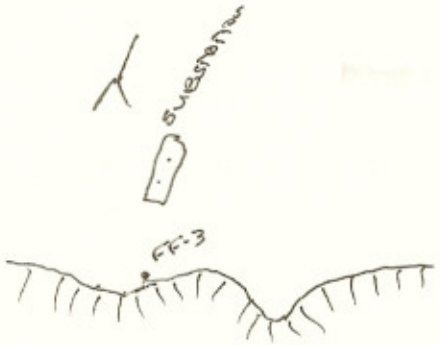
SHEET 2 OF 2

DEPTH	TYPE	BLOWS	DRIVEN	REC'V'D	COND	D.RATE				DEPTH	GRAPHIC LOG	PROJECT FF-2	NO	BORING NO
		5								11		HEAVY LIMONITE STAINING IN SOME ZONES; GR ST SLASTS IN SAND		
		3		95%								RESUME 9:30 4-24-04 11-13		
		5								12		11-12 RD/BR CLAYEY VF SAND W/ROOTS FENG!		
		4										12-12.5 GY/GW ST		
		4								13		12.5-13 RD/BR CLAYEY SAND W/ BUBBLES		
		5		95%								13-14 SOMS TO GY/GW V.F. SANDY CLAY AT		
		4								14		13.5-14		
											TD	END DRILLING 0945		
										15				
										16				
										17				
										18				
										19				
										20				
										1				
										2				
										3				
										4				
										5				
										6				
										7				
										8				
										9				
										0				

FIELD LOG OF BORING

SHEET 1 OF ___

LOCATION OF BORING:



PROJECT: FF-3	BORING NO.
	TOTAL DEPTH:
JOB NO.:	LOGGED BY:
PROJ. MGR.:	EDITED BY:
DRILLING CONTRACTOR: DO Smith	
DRILL RIG TYPE: Trac 14SA	
DRILLERS NAME: Rogley O.	
SAMPLING METHODS: Grab / split spoon	
HAMMER WT.:	DROP:
STARTED, TIME: 1010	DATE: 4-24-04
COMPLETED, TIME: 1100	DATE: 4-24-04
BORING DEPTH (ft.)	14
CASING DEPTH (ft.)	
WATER DEPTH (ft.)	
TIME:	
DATE:	
BACKFILLED, TIME:	DATE: BY:
SURFACE ELEV.:	DATUM:
CONDITIONS:	

SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)				DEPTH IN FEET	GRAPHIC LOG	
												0-6 OY/BR SILTY VF SAND (ML) w/ 30% SILT AND ABD CT LES BY FILAMENTS
										1		
										2		
		2 2		~~60%~~ 50%	50%							2-3 SAME W/ CLAY CONTENT TO 20%
												[INSUFF. VOL FOR ANALYSIS 2-4]
										3		
		1 2										3-4 COLOR A TO YR/BR W/ LIMONITE STAINING AND SS BY FERROMAN; 5% CLAY
										4		
		2 .5		80%								4-4½ ~~5~~ OY/BR SILTY, CLAYY V.F SAND W/ 25% CLAY; 10% SILT W/ OY ST FERROMAN, LOOSE, MOIST
										5		
		.5 2										5-6 SAME W/ SOME LIMONITE STAINING ON SAND GRAINS
										6		
		2 7		50%								6-6.5 SAME
										7		
		3 3										6.5-7.0 LT RO/BR SILTY SAND; 30% SILT ABD SS FEMS AND ZONES OF OY/GN ST
										8		
		2 7		10%								PUSHED BY HAND OR SNOW 8.5-10 8.0-8.5 SAME AS ABOVE
										9		
		9 11										
										10		
		5		30%								10-11 SAME

FF7

FIELD LOG OF BORING (CONTINUED)

SHEET 2 OF ____

DEPTH	TYPE	BLOWS	DRIVEN	REC'V'D	COND	D.RATE				DEPTH	GRAPHIC LOG	PROJECT	NO	BORING NO
												FT-3		
		7								11				
		11										11-12 RED SANDY SILT (ML) w/ 20% VF SAND		
		17										LOOSE, DRY [DRIVING HIT RX 11-12 FT AND QUITTING		
										12		BOTH HOLE DRILLING FURTHER RECOVERY		
		8		97%								12-14 RED/BR CLAY & SAND w/ POSSIBLE		
		7										[NATIVE]		
										13				
		5										HIT VINYL BAG (LINER) MATERIAL AT		
		6										APPROXIMATELY 13.5'		
										14				
											TD			
										15				
										16				
										17				
										18				
										19				
										20				
										1				
										2				
										3				
										4				
										5				
										6				
										7				
										8				
										9				
										0				

FIELD LOG OF BORING

SHEET 1 OF ___

LOCATION OF BORING:

PROJECT: FF-4	BORING NO.
	TOTAL DEPTH:
JOB NO.:	LOGGED BY:
PROJ. MGR.:	EDITED BY:
DRILLING CONTRACTOR: DA Smith	
DRILL RIG TYPE: Terex HSA	
DRILLERS NAME: Rory D.	
SAMPLING METHODS: Grab / Split Spoon	
HAMMER WT.:	DROP:
STARTED, TIME: 1115	DATE: 4-24-04
COMPLETED, TIME: 1205	DATE: 4-24-04
BORING DEPTH (ft.)	9
CASING DEPTH (ft.)	
WATER DEPTH (ft.)	
TIME:	
DATE:	
BACKFILLED, TIME:	DATE: BY:
SURFACE ELEV.:	DATUM:
CONDITIONS:	

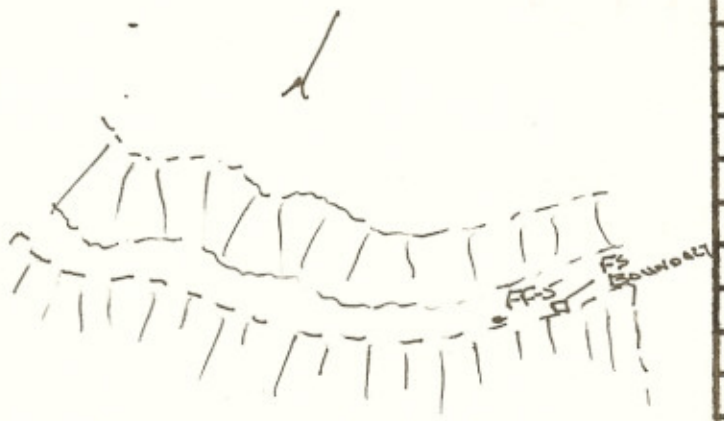
SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)				DEPTH IN FEET	GRAPHIC LOG	
		2 3	80%						Grab			0-6" Ro/Bk silty clayey sand; vf-f Bearing
												upper 3" consists of gy/blk fss w/ yellow staining
		5 5								1		0.6-1.5 same w/ abd ss frx
												1.5-2.0 gn/yw clayey sand (SM) w/ 30% clay fines
		5 4	~~5%~~	5%		Composite Samples 1-6 Dole To				2		Shoe fluid w/ gy/gn siltstone frx
												Limiting recovery. Apparent water
		2 2				Limiting Recovery Thick waste rock zone				3		Rock
		1 2	40%							4		4-4.5 Lt gy/br silty sand (SM) w/ 30% silt
												4.5-6.0 Lt Ro/br f-vf sand w/ <10% silt
		1 2								5		and abd ss fragment; some fe staining
		5 7	50%							6	Water	6-7.5 (split spoon at 7.5) 6-7 Ro/br
												sandy clay (CL) w/ 20% vf sand; abd
		9								7		ms fragments, ~~dry~~ wet
		No Samples										7.5-8.0 gy/gn siltstone fragments
		5 7	90%							8		8-9 Lt Ro/br clayey sand to Ro ms; abd
												ss/ss fragments loose, dry
										9	TD	
										10		

FF7

FIELD LOG OF BORING

SHEET ____ OF ____

LOCATION OF BORING:



PROJECT: FF-5	BORING NO.
	TOTAL DEPTH:
JOB NO.:	LOGGED BY:
PROJ. MGR.:	EDITED BY:
DRILLING CONTRACTOR: DA Smith	
DRILL RIG TYPE: Tex HSA	
DRILLERS NAME: Rocky D.	
SAMPLING METHODS: Geoprobe / Split Spoon	
HAMMER WT.:	DROP:
STARTED, TIME: 1320	DATE: 4-24-04
COMPLETED, TIME: 1455	DATE: 4-24-04
BORING DEPTH (ft.) 23	
CASING DEPTH (ft.)	
WATER DEPTH (ft.)	
TIME:	
DATE:	
BACKFILLED, TIME:	DATE: BY:
SURFACE ELEV.:	DATUM:
CONDITIONS:	

SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)				DEPTH IN FEET	GRAPHIC LOG	
		3 3		50%					Geop			0-6 LT Rd/Br SILTY VF SAND (SM) w/ ABD Bk Fe Nodules
												0-2 Dring; 0.5-2.0 Gy/Br SILTY, CLAYEY
		2 3								1		SAND (SM); 30% SILT; 10% CLAY; ABD SS/ST
												Rock Fe Nodules; Bk VF SAND AT 1.5 (2"), Loose, moist
		2 2		75%						2		2-4 Gy/Br SILTY VF SAND (ML); 25% SILT
												Some Gy ST Fe Nodules; 1" Bk VF SAND 2.5-3.0
		1 2								3		Loose, moist
		1 2		45%						4		4-6: Same As Above w/ some Limonite
												Staining on sand grains; some Bk VF sand
		2 3								5		nodules and clay content to 15%
		3 2		0						6		6-Drove Rock in shoe at 6' - No sample
												Recovered
		3 3								7		
		3 2		75%						8		8-10 Same; clay content decr to <10%
												Freq. RD ms & Fe(s) Fragments
		1 2								9		
		1		50%						10		10-12 Same; some Limonite staining on sand grains

FF7

FIELD LOG OF BORING (CONTINUED)

SHEET 2 OF ____

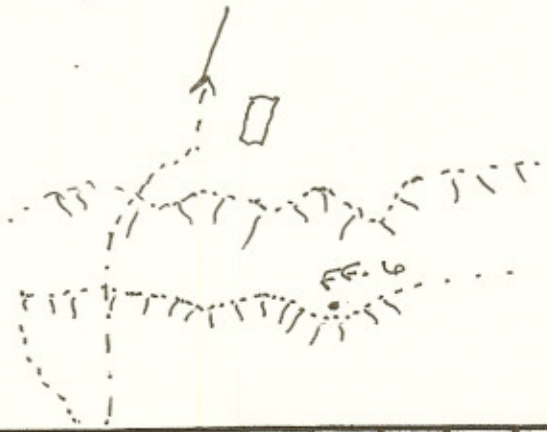
PROJECT	NO	BORING NO
FF-5		

DEPTH	TYPE	BLOWS	DRIVEN	REC'V'D	COND	D.RATE				DEPTH	GRAPHIC LOG	
		3								11		
		3										
		3										
		2		70%						12		12-14 SAME W/ SS RX FRAGS OVERLYING GY/GW
		3										MUDSTONE (ML) AT 13.5-14
		2								13		
		3										
		2		80%	.1 mR/hr BACKGROUND					14		14-14.5 SAME
		2			.3 mR/hr OFF BLK SAND							14.5-15 BR/GW SILTSTONE FRAG CONTAINING BK SAND W/ YW STAINED SAND (CARBONATE)
		2		60%						15		15-16 GY/BC SILTY F-VF SAND; 15% SILT; ABD
		5										BL/GW ST FRAGS
		3								16		16-16.5 SAME W/ 1-2" BK VF SAND AT 16.5 W/
		7										SOME YW STAINING ON SAND 16.5-17 RO/BC F-VF SAND FE-STAINING
		5		25%						17		17-17.5 GY/GW SS RX FRAGS TO F GY/BC SAND
		6										HIT RX AT 17.5 END DISCOVERY.
		3								18		
		2										
		5		50%	50%					19		19-19.5 YW/BC SILTY F SAND W/ 20% SILT; SS RX FRAGS
		3										19.5-20 RO/BC CLAY VF SAND (ML) [NATIVE TYPE MTL]
		6								20	NATIVE?	20-20.5 RO/BC SILTY VF SAND W/ ST, SS FRAG
		9										20.5-21 GY/GW ST FRAGMENTS
		7		90%						1		21-21.5 SS/SS RX FRAGS
		3										
		3								2		21.5-23 RO/BC CLAYEY/SILTY VF SAND (ML)
		4									NATIVE	30% CLAY 10% SILT; ABD ORGANIC MATER
										3		(STICKS/ROOTS); WET
											TO	COLLECTED SAMPLE OF SAT. NATIVE MATERIAL
										4		
										5		
										6		
										7		
										8		
										9		
										0		

FIELD LOG OF BORING

SHEET 1 OF ___

LOCATION OF BORING:



PROJECT: FF-6	BORING NO.
	TOTAL DEPTH:
JOB NO.:	LOGGED BY:
PROJ. MGR.:	EDITED BY:
DRILLING CONTRACTOR: DA SMITH	
DRILL RIG TYPE: TRUC HSA	
DRILLERS NAME: ROGER D.	
SAMPLING METHODS: CORES / SPLIT SPOON	
HAMMER WT.:	DROP:
STARTED, TIME: 1024	DATE: 4-26-04
COMPLETED, TIME: 1335	DATE: 4-26-04
BORING DEPTH (ft.) 36'	
CASING DEPTH (ft.)	
WATER DEPTH (ft.)	
TIME:	
DATE:	
BACKFILLED, TIME:	DATE: BY:
SURFACE ELEV.:	DATUM:
CONDITIONS: CLEAR; WARM	

SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)				DEPTH IN FEET	GRAPHIC LOG	
									DUP	7.5		0-6" RD/BR SILT F SAND (15% SILT) ABD WHITE PX FRAGMENTS
												[DUP 7.5 WERE COLLECTED
										1		
										2		
		2		60%								2-4; 2-3 GY/BR SILT VF-F SAND W/
		3										ABD SS/ST FRAGMENTS (20% SILT), LARGE GY/CON SS/ST FRAGS MAGNET
										3		
		4										3-4 SAME W/ INCR SILT (30%), RD MS
		3										FRAGMENTS (3-3.5) AND MINOR CLAY (10%) 3-3.5
										4		
		2		75%								4-6 SAME W/ HEAVY LIMONITE STAINING 5.5-5.7
		5										
										5		
		3										
		3										
										6		
		2		80%								6-8 SAME W/ HEAVY LIMONITE STAINING 7-7.2;
		2										OCCASIONAL BLK VF SAND NODULES THRU-OUT
										7		
		2										INTERVAL
		3										
										8		
		2		60% 70%								8-10 SAME W/ OCCASIONAL LIMONITE STAINING
		2										
										9		
		3										
		5										
										10		
		6		2"								10-12 (HTR RD/BR ST ROCK) PLUGGED SAMPLE AT 10.2'

FF7

NOTE: RECENTLY-RECOVERED SOIL HAS NATIVE APPEARANCE LIMITED

FIELD LOG OF BORING (CONTINUED)

SHEET 2 OF 3

PROJECT	NO	BORING NO
FF-6		

DEPTH	TYPE	BLOWS	DRIVEN	REC'V'D	COND	D.RATE				DEPTH	GRAPHIC LOG	
		4	-							11		
		4										
		4								12		12-12.5 RD/BL CLAY VF SAND (40% CLAY)
		4		75%								[NATIVE MATERIAL]
		4								13		12.5-13 GR/GRN SILT TO FRAGMENTS GRAY SS
		3										
		2								14		13.5-14 GRAY/BRN VF SILTY SAND (15%); SOME YW STAINING ON SAND IN FRAGS
		3		80%								14-14.5 RD/BRN CLAY SAND VF; 40% CLAY) & NATIVE MATERIAL
		3								15		14.5-15.5 LT GY/BR SILTY VF SAND (30% SILT) w/
		4										SS & GR ST RX FRAGMNTS; LOOSE, MOIST
		4								16		15.5-16 SAME EXCEPT COLOR TO DK GY-GY/BRN
		5		60%								16-18 SAME w/ ABD GR/YW STAINING ON
		5								17		SAND GRAINS IN AREAS; GY SS RX FRAGMNTS
		4										17.5-18
		4								18		
		6		75%								RD/BL VF SAND w/ RD MS FRAGMNTS; PEBBLE
		5								19		IN SAND MATRIX; ST/SS RX FRAGS
		5		70%								
		9								20		RX PLANAR SHALE - NO RICKMAN?
		11		0								
		10								21		
		9										
		8								22		
		5		85%								22-24 GRY/BR SILTY VF SAND (30% SILT)
		4								23		OCCASIONAL BLK SAND NODULES w/ YW STAINING
		6										ON ASSOCIATED SAND GRAINS; ABD. SS RX
		6										FRAGMNTS, LOOSE, MOIST
		4								24		
		4		80%								24-25.5 SAME
		5								25		
		5										
		6								26		25.5-26 RD/BL CLAYEY VF SAND (30% CLAY) NATIVE MATERIAL
		7		90%								26-28 GY/BL SILTY VF SAND (30% SILT; OCCASIONAL
		7								27		BLK SAND NODULES w/ SOME YW STAINING ON GRAINS
		5										SS RX FRAG'S 26-26.5; <10% FRAG'S 26.5-28
		6										
		3		90%						28		28-28.5 RD/BL SILTY VF SAND (15% SILT), RD MS FRAGS
		3										
		4								29		28.5-29.5 GY/BR SILTY V.F SAND (25% SILT w/ SOME
		4										GR/BK SS NODULES, LOOSE, MOIST
		4										29.5-30 RD/BL CLAY VF SAND (40% CLAY) PEBBLE [NATIVE MATERIAL]
		7		60%						30		30-32 RD/BL SANDY CLAY (CL) w/ 20% V.F. SAND

30-31.5 NATIVE MATERIAL

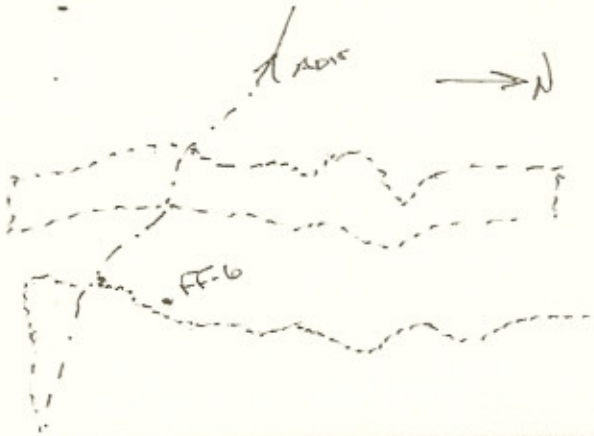
FIELD LOG OF BORING (CONTINUED)

DEPTH	TYPE	BLOWS	DRIVEN	REC'V'D	COND	D.RATE				DEPTH	GRAPHIC LOG	PROJECT	NO	BORING NO
												FF-6		
		6								31		~~WATER~~ RX PLUGGY SHOD AT 31.5'-32.0' LIMITING		
		10										RELOWER		
		5								32				
		7										32-34 GY/BR SILTY VF SAND (30% SILT W/ ABD		
		7								33		SS/ST FRAGS; LOOSE, MOIST; FRACTURED		
		6										A GY/GN ST ROCK 33.5-34.0		
		13								34				
		5		3%								34-34.5 GY/BR TO GY/BR SILTY VF SAND W/ SOFT FRAG		
		21								35		34.5 DEFLECTS OFF LARGE BOULDER		
		37										CHIPS RECOVERED INDICATE BOULDER SURFACE		
		28								36		HEAVY OXIDIZE (OK RD/BR COLOR) SUGGESTING MnO_2		
											TD	SURFACE EXPOSURE - BOULDER LIKELY SITING ON		
												NATIVE (BOULDER) CONSISTS OF GN/BR SS		
										7				
												RE-POSITION RIG TO DRILL.		
										8		GEOTECH BORING 5' NORTH OF		
												FF-6; AUGER TO 15 AND		
										9		DRIVE BRASS LINERS 15-17'		
										0				
										1				
										2				
										3				
										4				
										5				
										6				
										7				
										8				
										9				
										0				

FIELD LOG OF BORING

SHEET 1 OF 3

LOCATION OF BORING:



PROJECT: FF-~~8~~ 7	BORING NO.
	TOTAL DEPTH:
JOB NO.:	LOGGED BY:
PROJ. MGR.:	EDITED BY:
DRILLING CONTRACTOR: DA Smith	
DRILL RIG TYPE: Trak HSA	
DRILLERS NAME: Roger D	
SAMPLING METHODS: Grab / Split Spoon	
HAMMER WT.:	DROP:
STARTED, TIME: 1420	DATE: 4-26-04
COMPLETED, TIME: 1630	DATE:
BORING DEPTH (ft.) 26'	
CASING DEPTH (ft.)	
WATER DEPTH (ft.)	
TIME:	
DATE:	
BACKFILLED, TIME:	DATE: BY:
SURFACE ELEV.:	DATUM:
CONDITIONS:	

SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)				DEPTH IN FEET	GRAPHIC LOG	
								Grab				0-6 Ro/Br VF silty sand; 20% silt (water Rx frags)
										1		
										2		2-3 Gy/Br silty VF sand (30% silt); ss / st
		1 1		60%								Rx fragments; loose, moist
										3		
		3 4			Composited [FF7 1-3]							3-4 Ro/Br sandy CL (30% VF sand; organic
										4		matter at 3'; ss Rx frags [native material]
		4 4		100%								4-5 Gy/Gw ss flowing sand [limited recovery]; ss frag's
										5		[refusal - moved 5' south drove 0-2'; ~~2-4~~
		1 3										0-2 Ro/Br (0-6") · Gy/Br silty V.F sand
										6		w/ hard rock fragments [~~est.~~ 1.0 - 2.0 added
		7 4		70%								to sample 2-3 above; Ro/Br sandy clay
										7		1.8-2.0
		~~3~~ 7	cwd									Auger 2-5 [no sample]
										8		Air during drill. Could not sample
		~~4~~ ~~2~~										
										9		
										10		
		3		75%								5-7 Ro/Br silty VF sand · 5-5.5; 5.5-6.0 Gy ss Rx frag's

FF7

FIELD LOG OF BORING (CONTINUED)

SHEET 2 OF 3

DEPTH	TYPE	BLOWS	DRIVEN	REC'V'D	COND	D.RATE				DEPTH	GRAPHIC LOG	PROJECT	NO	BORING NO
												FF 7		
		7												
		4								6		6-7 YW/BR F SAND (10% SILT) HEAVY		
		2										LIMONITE STAINING		
										7				
		5		90%								7-8 SAME		
		4										8-9 GY/BR SILTY VF SAND; BLK SAND NODULES; VERY MOIST		
										8				
		3										W/ABD BL/GN ST AND BLK WW 8.5-9.0; RD/BR		
		4										SANDY CLAY (NATIVE) AT 8.0' AND 9.0 (2" EACH)		
		3		80%						9		9-10 RD/BR SILTY, CLAYEY VF SAND (30% SILT;		
		3										10% CLAY; ABD BL/GN ST/SS FRAGS		
										10				
		2										10-11; RD/BR SILTY, CLAYEY SAND (30% SILT; 10% CLAY)		
		3								11		WET		
		2										11-12 BL/GN MUDSTONE W/ HEAVY LIMONITE		
		2								12		STAINING ON WET SURFACE		
		3		5%								12-14 ROCK PLUGGED SHOE LIMITED RECOVERY		
		3								13		RECOVERED MATERIAL WET CLAYEY SAND W/		
		3										HEAVY LIMONITE STAINING		
		3												
										14				
		3		60%								14-16 GY/BR SILTY F.F. SAND W/ 30% SILT		
		3										ABD BL/GN MS FRAGMENTS (WEST)		
										15				
		3												
		3												
										16				
		3		50%								16-18 GRAY F-VF SAND W/ <10% SILT GRADES		
		3										TO LT GRAY 17-18; WET		
										17				
		5												
		5												
										18				
		3		70%								18-20 SAME W/ SOME YW STAINING ON SAND		
		4										FROM 19-20 (WET)		
										19				
		3			COMPOSITE							~~19-20~~ W		
		4			18-22.5 DUE									
					TO LIMITS					20				
		5		30%	RECOVERY 22.5-19.5							20-22 SAME (GY SS RX PLUGGED SHOE LIMITED		
		5										RECOVERY		
										21				
		5												
		4												
										22				
		6		60%								22-22.5 SAME		
		4												
										23		22.5-24 RD/BR SANDY CLAY (CL) W/ 20% VF		
		4										SAND, NATIVE MATERIAL (WET)		
		3												
										24				
		3		75%								24-26 SAME NATIVE MATERIAL		
		4												
										25				
		4												

FIELD LOG OF BORING (CONTINUED)

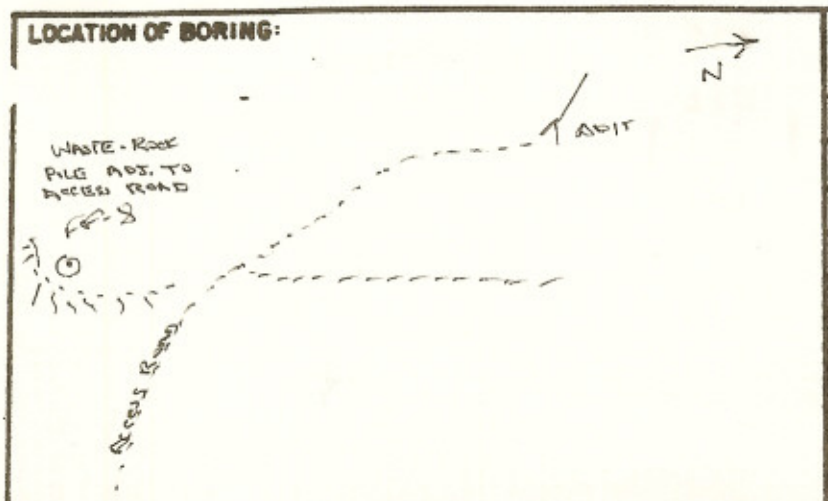
SHEET 3 OF 3

DEPTH	TYPE	BLOWS	DRIVEN	REC'V'D	COND	D.RATE				DEPTH	GRAPHIC LOG	PROJECT	NO	BORING NO
												AF-7		
		6								261	TD			
										272				
										283				
										294				
										305				
										6				
										7				
										8				
										9				
										0				
										1				
										2				
										3				
										4				
										5				
										6				
										7				
										8				
										9				
										0				

FIELD LOG OF BORING

SHEET 1 OF 3

LOCATION OF BORING:



PROJECT: FF-8	BORING NO.
	TOTAL DEPTH:
JOB NO.:	LOGGED BY:
PROJ. MGR.:	EDITED BY:
DRILLING CONTRACTOR: DA Smith	
DRILL RIG TYPE: Trac Hsa	
DRILLERS NAME: Rodrk D.	
SAMPLING METHODS: Grab / Split Spoon	
HAMMER WT.:	DROP:
STARTED, TIME: 1650	DATE: 4-26-04
COMPLETED, TIME: 1750	DATE: 4-26-04
BORING DEPTH (ft.) 14'	
CASING DEPTH (ft.)	
WATER DEPTH (ft.)	
TIME:	
DATE:	
BACKFILLED, TIME:	DATE: BY:
SURFACE ELEV.:	DATUM:
CONDITIONS:	

SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)				DEPTH IN FEET	GRAPHIC LOG	
								Grab				0-6 GY/BR SILTY F-MF SAND W/ WASTE ROCK CLASTS LOOSE, DRY; SOME GR/GN SILTSTONE FRAG
										1		
		3		90%						2		2-4 GY/BR SILTY VF SAND (5-7% SILT); BI/BN
		5										MICACEOUS 2.5-3.0, LOOSE MOIST
										3		
		4										3.5-4.0 YW/BR VF SAND W/ LIMONITE STAINING
		4										
		3		90%						4		4-5 GRY/BN SILTY VF SAND W/ GY/GN ST/SS
		4										YW ~~BR~~/BR SS CLASTS AT ~5.0' W/ LIM. STAIN
		2		100%						5		5-7; ~~5-6~~ GY/BN SILTY VF SAND W/ WASTE ROCK FRAG
		1										LOOSE, MOIST; ABD. LIMONITE STAINING FROM
		1								6		6'-7'
		2										
		3		20%						7		7-9; ~~6~~ 7-8 SAME; SS RX PUSHED SHOE AT 7.25'
		3										NO RECOVERY TO 9.0'
		4		NO RECOVERY						8		
		3										
										9		YW ~~BR~~/BR F SAND W/ FEO STAINING AND ABD
		3										
		3										SS RX CLASTS
										10		
		3		95%								10-10.2 SAME; 10.2-11.8 GY/BR SILTY VF SAND (10% SILT)

FF7

10-12?

FIELD LOG OF BORING (CONTINUED)

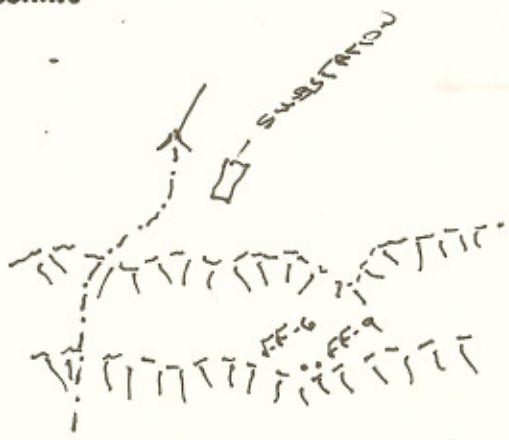
SHEET 2 OF 2

DEPTH	TYPE	BLOWS	DRIVEN	REC'V'D	COND	D.RATE				DEPTH	GRAPHIC LOG	PROJECT FF-8	NO	BORING NO
		1								11		SS/ST Rock Fragments, Loose, moist		
		2												
		2								12		11.8-12 DK Rd/Br clayey sand; 40% clay; VF sand; moist (Reddish)		
		3										12-14 Rd/Br sandy clay (15% VF sand);		
		9								13	NATIVE	NATIVE		
		17												
		23								14		TD		
										15				
										16				
										17				
										18				
										19				
										20				
										1				
										2				
										3				
										4				
										5				
										6				
										7				
										8				
										9				
										0				

FIELD LOG OF BORING

SHEET 1 OF 2

LOCATION OF BORING:



FF-9 LOCATED APPROX. 5' N. OF FF-6

PROJECT: FF-9	BORING NO.
	TOTAL DEPTH:
JOB NO.:	LOGGED BY:
PROJ. MGR.:	EDITED BY:
DRILLING CONTRACTOR DA SMITH	
DRILL RIG TYPE: TRAC HOG	
DRILLERS NAME: ROGER D.	
SAMPLING METHODS: SPLIT SPOON	
HAMMER WT.:	DROP:
STARTED, TIME: 1340	DATE: 4-26-04
COMPLETED, TIME: 1405	DATE: 4-26-04
BORING DEPTH (ft.) 15'	
CASING DEPTH (ft.)	
WATER DEPTH (ft.)	
TIME:	
DATE:	
BACKFILLED, TIME:	DATE: BY:
SURFACE ELEV.:	DATUM:
CONDITIONS:	

SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)				DEPTH IN FEET	GRAPHIC LOG
										1	
										2	
										3	
										4	
										5	
										6	
										7	
										8	
										9	
										10	

ADVANCED TO 15' FOR COLLECTION OF LINER SAMPLES FOR GEOTECH ANALYSIS

FF7

FIELD LOG OF BORING (CONTINUED)

SHEET 2 OF 2

PROJECT	NO	BORING NO
FF-9		

DEPTH	TYPE	BLOWS	DRIVEN	REC'V'D	COND	D.RATE				DEPTH	GRAPHIC LOG	
										11		
										12		
										13		
										14		
										15		DROVE SAMPLER 15.17
		3 4		LINERS COLLECTED W/ SAMPLE						16		COLLECTED LINERS FROM 15.3 - 17.0
		5 4		15.33-15.66 15.66-16.00 16.00-16.33						17	TD	
				16.33-16.66 16.66-17.00						18		
										19		
										20		
										21		
										22		
										23		
										24		
										25		
										26		
										27		
										28		
										29		
										30		

Soil/Mine-Waste Sampling Form

Sample No.: SEGMENT 1

Mine Site: FIRE FLY

Claim No.:

Date: 04-24-04

Sampler(s): PSI

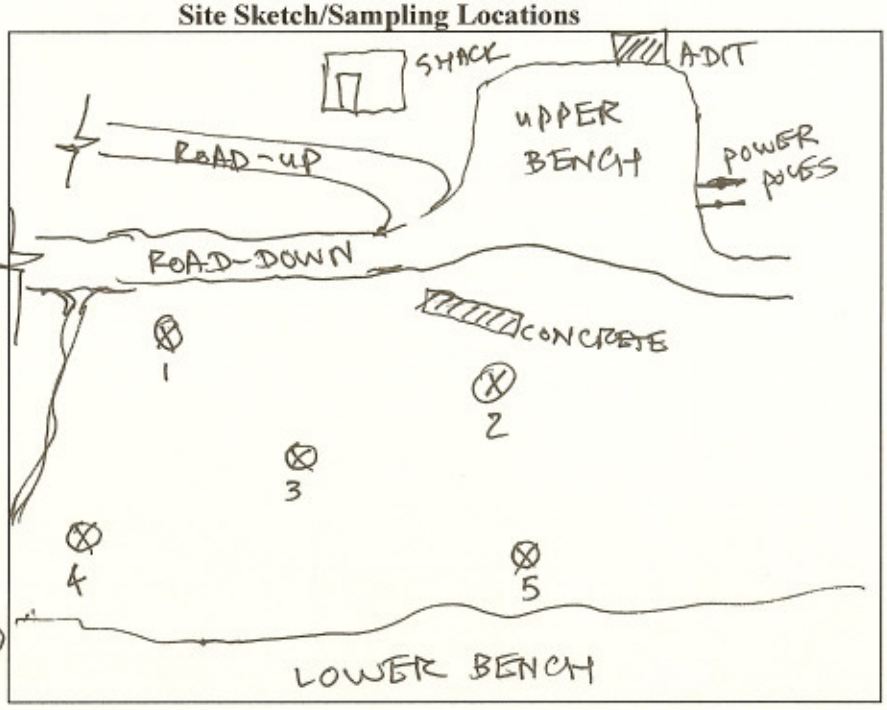
General Site Location: BETWEEN UPPER & LOWER BENCHES - W. OF ADIT

Current Conditions/Weather: PARTLY CLOUDY - BREEZY

Sampling Method: GRAB

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
	4-24-04	1100	0-6	SEE DIAGRAM ABOVE	RD/BR SILTY VF
SS 1:	↓	↓	↓	↓	SAND (25% SILT);
SS 2:					FE STAINING ON SAND
SS 3:					GRAINS, LOOSE, SOME
SS 4:					ST/SS RX FRAG'S, DRY
SS 5:					
SS 6:					
SS 7:					

Soil/Mine-Waste Sampling Form

Sample No.: SEGMENT 2

Mine Site: FIREFLY

Claim No.:

Date: 04-24-04

Sampler(s): PSI

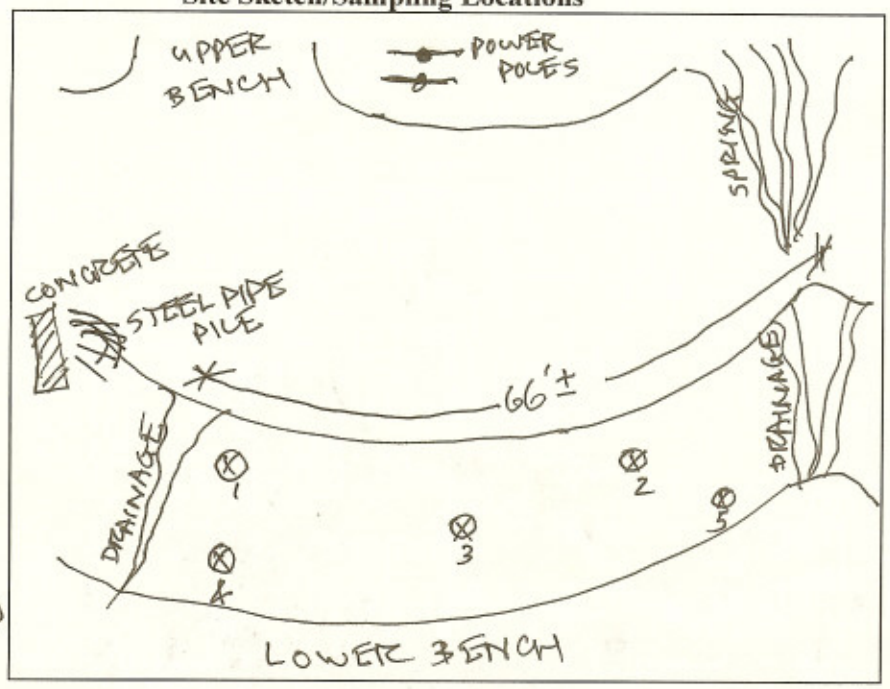
General Site Location: BETWEEN UPPER & LOWER BENCHES - S. OF ADIT

Current Conditions/Weather: PARTLY CLOUDY - BREEZY

Sampling Method: GRAB

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
	4-24-04	1120	0-6	SEE DIAGRAM ABOVE	GY/BR SILTY VF
SS 1:					SAND W/ 30% SILT,
SS 2:					ABO. WASTE RX FRAG,
SS 3:					LOOSE; MOIST
SS 4:					
SS 5:					
SS 6:					
SS 7:					

Soil/Mine-Waste Sampling Form

Sample No.: SEGMENT 3

Mine Site: FIREFLY

Claim No.:

Date: 04-24-04

Sampler(s): PSI

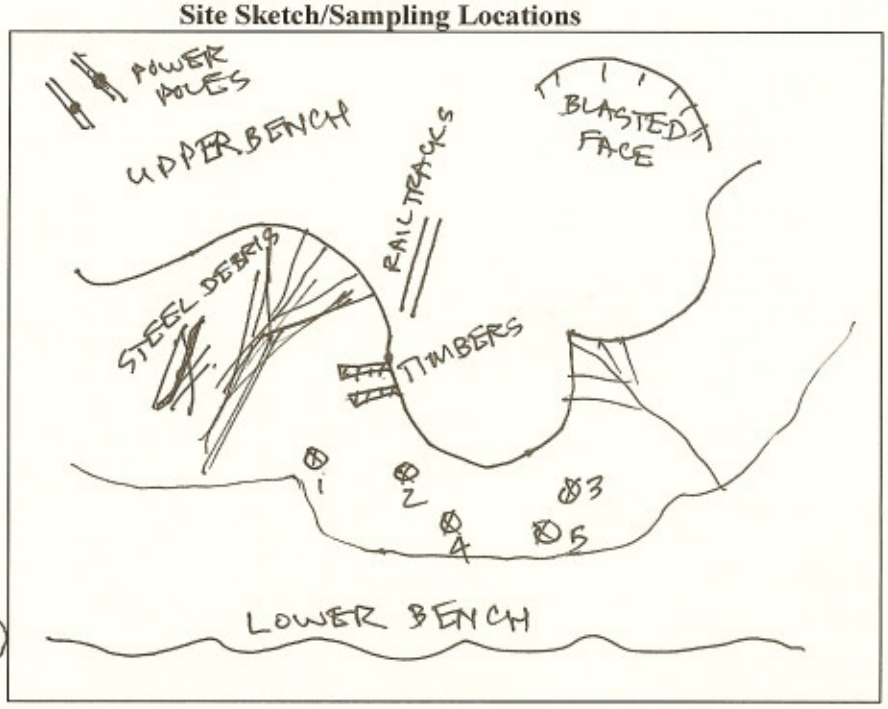
General Site Location: BETWEEN UPPER & LOWER BENCH - S. OF BLASTED FACE

Current Conditions/Weather: PARTLY CLOUDY - BREEZEY

Sampling Method: GRAB

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
	4-24-04	1030	0-6	SEE DIAGRAM	LT GY/BRN SILTY VF
SS 1:					SAND; 25% SILT; SOME
SS 2:					FE STAINING; ABD WOOD
SS 3:					RX FRAG'S, LOOSE, MOIST
SS 4:					
SS 5:					
SS 6:					
SS 7:					

Soil/Mine-Waste Sampling Form

Sample No.: SEGMENT 4

Mine Site: FIREFLY

Claim No.:

Date: 04-24-04

Sampler(s): PSI

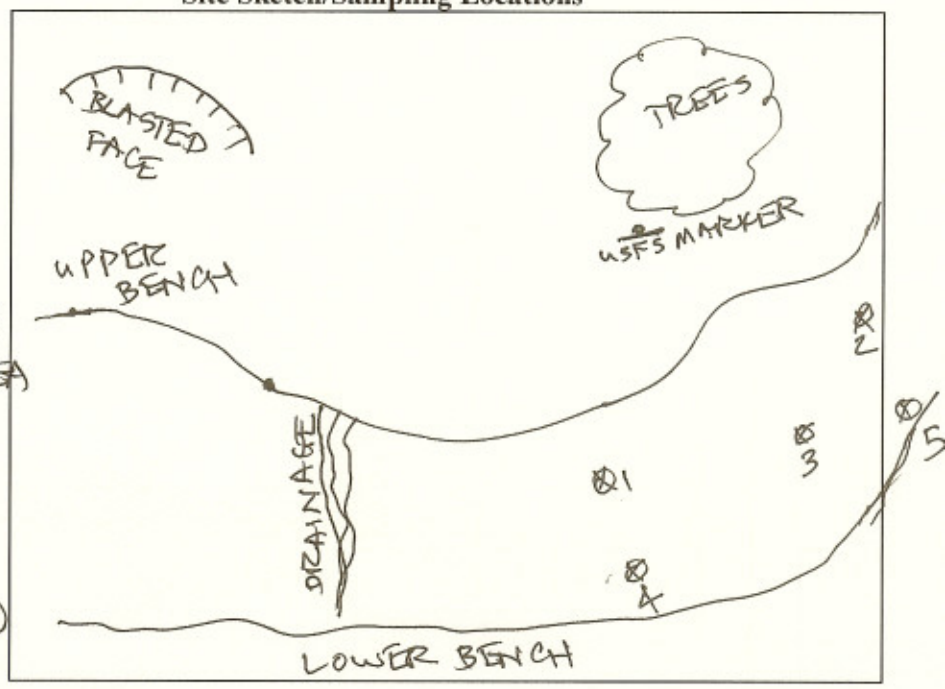
General Site Location: BETWEEN UPPER & LOWER BENCH - EASTERN DUMP AREA

Current Conditions/Weather: PARTLY CLOUDY - BREEZE

Sampling Method: GRAB

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
	4-24-04	1005	0-6"	SEG DIRECTLY	GY/BR SILTY VF SAND
SS 1:					(25% SNT); ABD
SS 2:					WASTE BY FENCE, FE
SS 3:					STAINING; LOOSE;
SS 4:					MOIST
SS 5:					
SS 6:					
SS 7:					

Soil/Mine-Waste Sampling Form

Sample No.: SEGMENT 5

Mine Site: FIREFLY

Claim No.:

Date: 04-24-04

Sampler(s): JCF

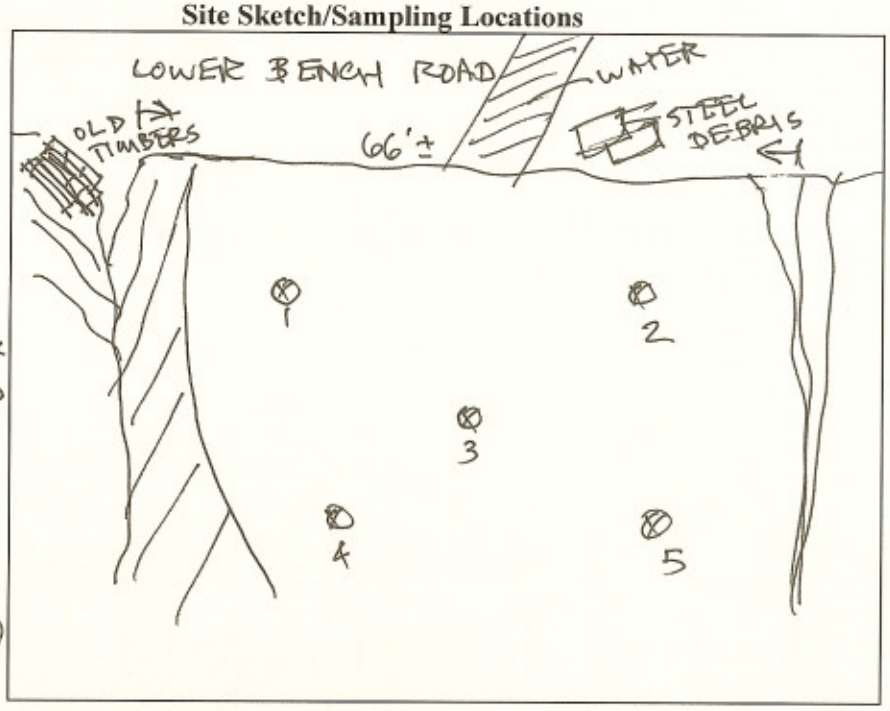
General Site Location: DOWNHILL OF LOWER BENCH - WESTMOST AREA OF DUMP

Current Conditions/Weather: CLOUDY - BREEZE - TRACE SLEET

Sampling Method: GRAB

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
	4-24-04	1020	0-6"	SEE DIAGRAM	DK GRY/BRN SILTY
SS 1:					VF SAND (20% SILT)
SS 2:					WASTE RX FRAGS, LOOSE,
SS 3:					MOIST
SS 4:					
SS 5:					
SS 6:					
SS 7:					

Soil/Mine-Waste Sampling Form

Sample No.: SEGMENT 6

Mine Site: FIREFLY

Claim No.:

Date: 04-24-04

Sampler(s): JCF

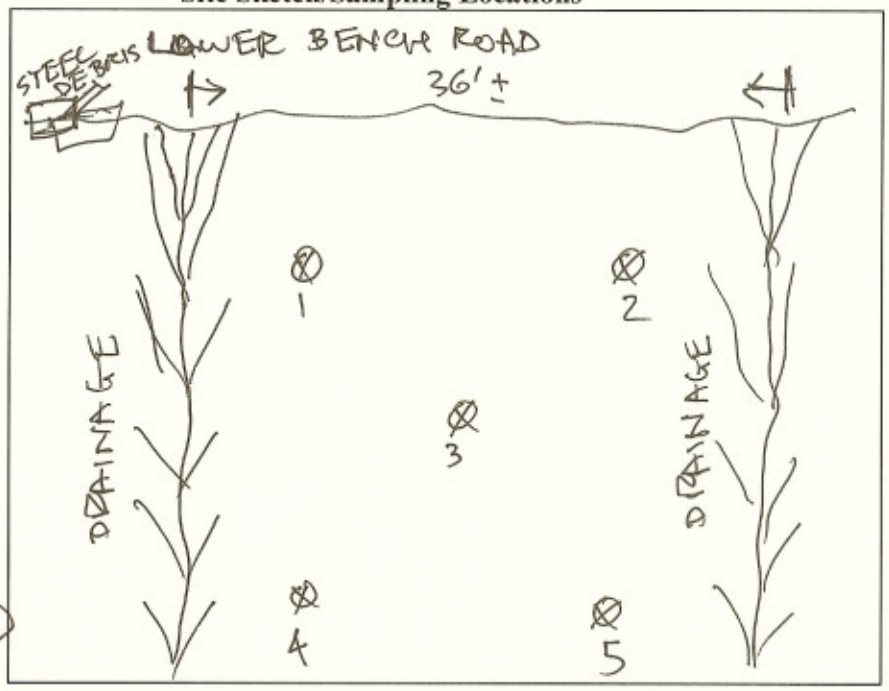
General Site Location: DOWNHILL OF LOWER BENCH ROAD

Current Conditions/Weather: CLOUDY – BREEZE – TRACE SLEET

Sampling Method: GRAB

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
	4-24-04	1045	0-6"	SEE DIAGRAM	DK GRY/BRN SILTY
SS 1:					VF SAND (35% SILT)
SS 2:					ABD WASP BY FLOWS;
SS 3:					SOME FE STAINING;
SS 4:					LOOSE; MOIST
SS 5:					
SS 6:					
SS 7:					

Soil/Mine-Waste Sampling Form

Sample No.: SEGMENT 7

Mine Site: FIRE FLY

Claim No.:

Date: 04-24-04

Sampler(s): JCF

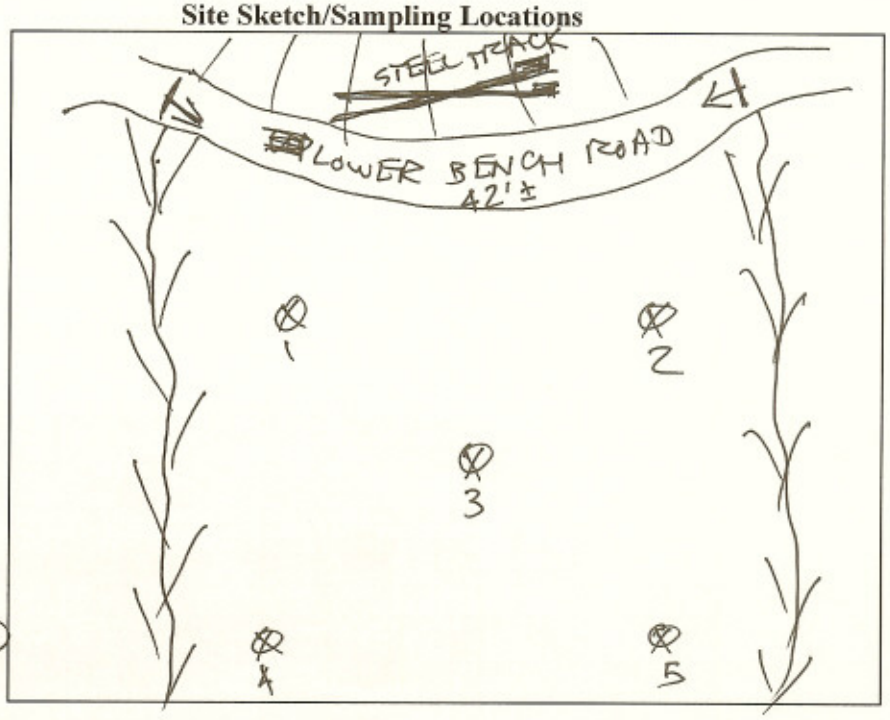
General Site Location:

Current Conditions/Weather: PARTLY CLOUDY – BREEZE

Sampling Method: GRAB

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
	4.24.04	1110	0.6"	SEE DIAGRAM	Reddish to dark brn
SS 1:					silty vf sand
SS 2:					(25% silt); waste
SS 3:					rx frags; fe staining;
SS 4:					loose; moist
SS 5:					
SS 6:					
SS 7:					

Soil/Mine-Waste Sampling Form

Sample No.: SEGMENT 8

Mine Site: FIREFLY

Claim No.:

Date: 04-24-04

Sampler(s): JCF

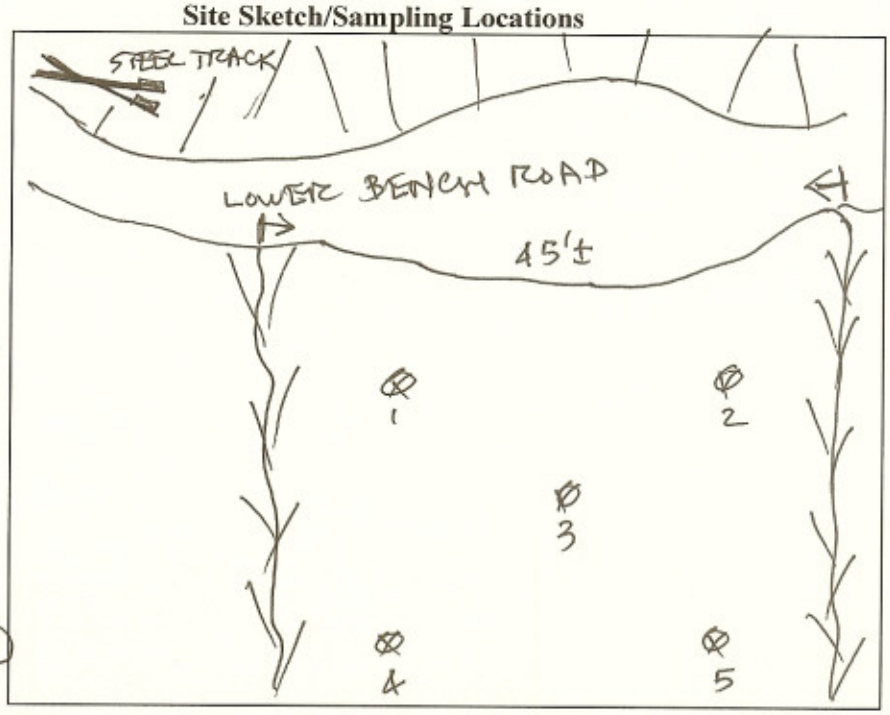
General Site Location: DOWNHILL OF LOWER BENCH ROAD

Current Conditions/Weather: CLOUDY - BREEZE

Sampling Method: GRAB

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
	4.24.04	1145	0-6"	SEE DIAGRAM	DK RD/BR TO DK
SS 1:					GRY/BRN SILTY VC
SS 2:					SAND. (30% SILT)
SS 3:					WASTE RX FRAG'S;
SS 4:					SOME GR STAINING;
SS 5:					LOOSE; MOIST
SS 6:					[DUPLICATE 6]
SS 7:					

Soil/Mine-Waste Sampling Form

Sample No.: SEGMENT 9

Mine Site: FIRE FLY

Claim No.:

Date: 04-24-04

Sampler(s): JCF

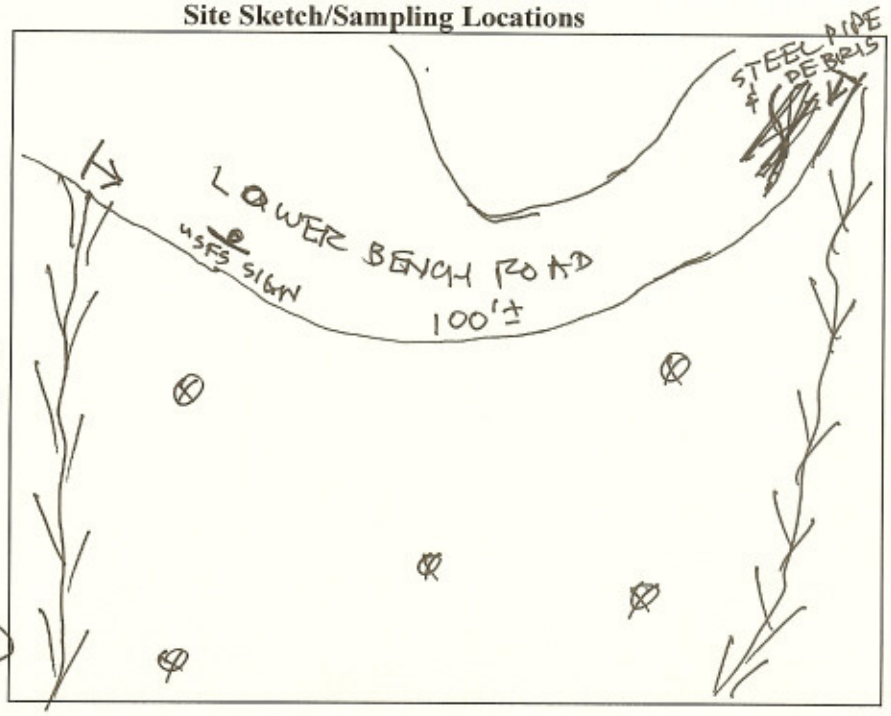
General Site Location: DOWNHILL OF LOWER BENCH RD - EASTMOST AREA OF DUMP

Current Conditions/Weather: CLEAR - CALM

Sampling Method: GRAB

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
	4-24-04	1220	0-6	SEE DIAGRAM	GRY/BRN SILTY VF
SS 1:					SAND (30% SILT)
SS 2:					WASTE RX FRAG'S; LOOSE;
SS 3:					MOIST
SS 4:					
SS 5:					[DUPLICATE 7]
SS 6:					
SS 7:					

Soil/Mine-Waste Sampling Form

Sample No.: FF SED 1

Mine Site: FIREFLY

Claim No.:

Date: 4-26-04

Sampler(s): BDI/JCF

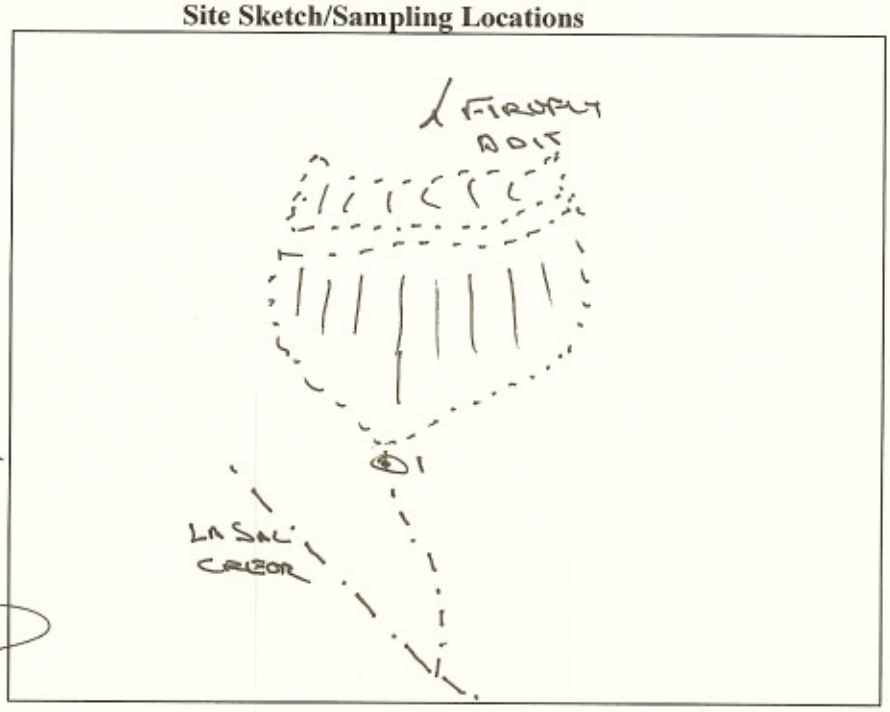
General Site Location: EPHEMERAL DRAINAGE UP

Current Conditions/Weather: CLEAR/WARM

Sampling Method: GRAB

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
	4-26-04	1620	0-60"	SEE DIAGRAM ABOVE	LT RD/BR SILTY F-UP
SS 1:					SAND w/ 25% SILT,
SS 2:					LOOSE, DRY
SS 3:					
SS 4:					
SS 5:					
SS 6:					
SS 7:					

Soil/Mine-Waste Sampling Form

Sample No.: FF-SED 2

Mine Site: FIREFLY

Claim No.:

Date: 4-26-04

Sampler(s): BDS/JCF

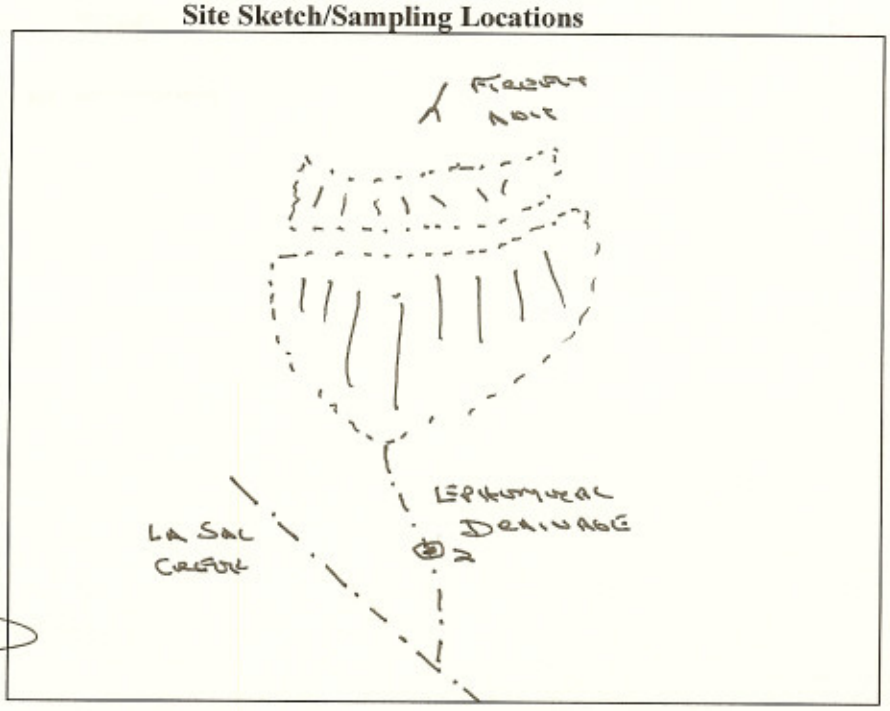
General Site Location: LEPHUMERAL DRAINAGE - APPROX MIDPOINT

Current Conditions/Weather: CLEAR/WARM

Sampling Method: GRAB

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
	4-26-04	1640	0-6"	SEE DIAGRAM ABOVE	LT RD/OR SILTY
SS 1:					FINE SAND W/ 30%
SS 2:					SILT; SOME FE STAINING;
SS 3:					LOOSE; DRY
SS 4:					
SS 5:					
SS 6:					
SS 7:					

Soil/Mine-Waste Sampling Form

Sample No.: FF SED3

Mine Site: FIRE ALT

Claim No.:

Date: 4-26-04

Sampler(s): BOS

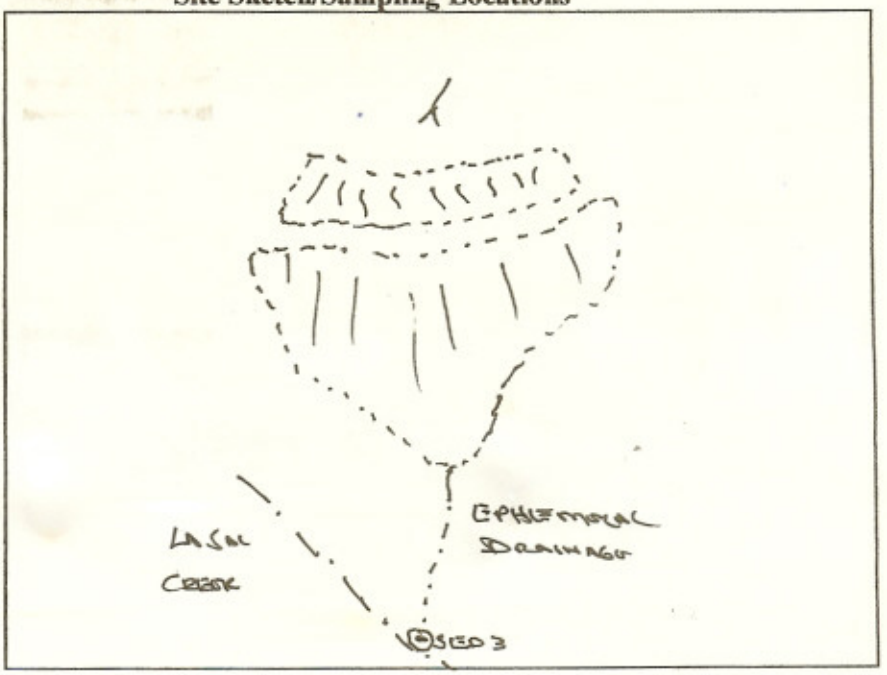
General Site Location: EPHEMERAL DRAINAGE; ABOVE CONFLUENCE

Current Conditions/Weather: CLEAR/WARM

Sampling Method: GRAB

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

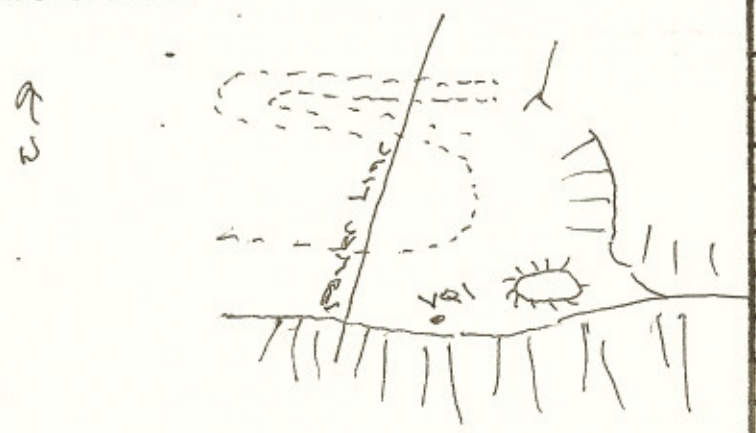
Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
	4-26-04	1715	0-6"	SEE DIAGRAM ABOVE	RD/BR SILTY FINE
SS 1:					SAND; 20% SILT;
SS 2:					FE STAINING ON SAND
SS 3:					GRAINS; LOOSE;
SS 4:					SATURATED
SS 5:					
SS 6:					
SS 7:					

FIELD LOG OF BORING

SHEET 1 OF 1

LOCATION OF BORING:



PROJECT: VQ1	BORING NO.
	TOTAL DEPTH:
JOB NO.:	LOGGED BY: HGW
PROJ. MGR.:	EDITED BY:
DRILLING CONTRACTOR: DA SMITH	
DRILL RIG TYPE: TRACK HSA	
DRILLERS NAME: RACE D.	
SAMPLING METHODS: SPLIT SPOON	
HAMMER WT.:	DROP:
STARTED, TIME: 1210	DATE: 4.21.04
COMPLETED, TIME: 1245	DATE: 4.21.04
BORING DEPTH (ft.) 7	
CASING DEPTH (ft.)	
WATER DEPTH (ft.)	
TIME:	
DATE:	
BACKFILLED, TIME:	DATE: BY:
SURFACE ELEV.:	DATUM:
CONDITIONS:	

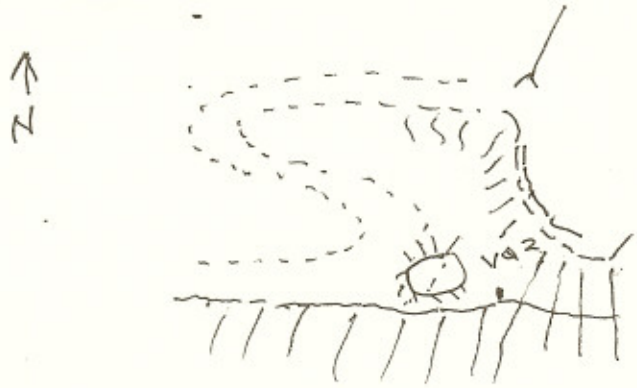
SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)				DEPTH IN FEET	GRAPHIC LOG	
										DUP 2		0-6" RO/BR SILTY SAND (SM) ABD RX FRAG SHANS LOOSE, DRY [DUP 2 COLLECTED]
										1		
										2		2-4 OY/BR SILTY SAND (SM) W/ WHITE RX FRAG TO ~~3.5~~ 2.5; RO VF-F SILTY SAND (SM); RO SS FRAG PLUGGY SHOE
		5 4	40%							3		
		4 8								4	NATIVE	SS RX PLUGGED SHOE - MINIMAL RECOVERY
		8 11	5%							5		5-7 RO/BR CLAYEY SAND (SC) W/ 40% CLAY W/ SOME ST RX FRAG'S; SAND F-VF (NATIVE)
		8 9	95%							6		
		10 14								7	TD	
										8		
										9		
										10		

FF7

FIELD LOG OF BORING

SHEET 1 OF 2

LOCATION OF BORING:



PROJECT: VQ2	BORING NO.
	TOTAL DEPTH:
JOB NO.:	LOGGED BY:
PROJ. MGR.:	EDITED BY:
DRILLING CONTRACTOR: DA Smith	
DRILL RIG TYPE: Track HSA	
DRILLERS NAME: Robert D.	
SAMPLING METHODS: Split Spoon / Grab	
HAMMER WT.:	DROP:
STARTED, TIME: 1350	DATE: 4-21-04
COMPLETED, TIME: 1420	DATE: 4-21-04
BORING DEPTH (ft.)	19'
CASING DEPTH (ft.)	
WATER DEPTH (ft.)	
TIME:	
DATE:	
BACKFILLED, TIME:	DATE: BY:
SURFACE ELEV.:	DATUM:
CONDITIONS:	

SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)				DEPTH IN FEET	GRAPHIC LOG	
								GRAB				0-6" GY/BK SILTY SAND (SM) GY/BR SILT DK GY/BK VF SAND 4"-6"; SF(S) FRAGMENTS
										1		
										2		2-4 DK GY SILTY SAND (SM); 15% SILT F-VF SAND; SOME IRON STAINING; SF(S)
		2 2	80%							3		RY FRAGMENTS, LOOSE, DRY
		2 2								4		4-6 SAME
		2 2	75%							5		
		3 2								6		6-8 SAME EXCEPT BECOMES MOIST
		2 2	80%							7		
		3 4								8		SS ROCK PLUGGING SPOON (5% RECOVERY)
		3 4	5%							9		RECOVERED MATERIAL SAME AS ABOVE [INSUFFICIENT SAMPLE FOR ANALYSIS] WILL COLLECT NEXT 2' INTERVAL
		4 5								10		10-12 SAME
		1	60%									

FF7

FIELD LOG OF BORING (CONTINUED)

SHEET 2 OF 2

PROJECT	NO	BORING NO
VQ2		

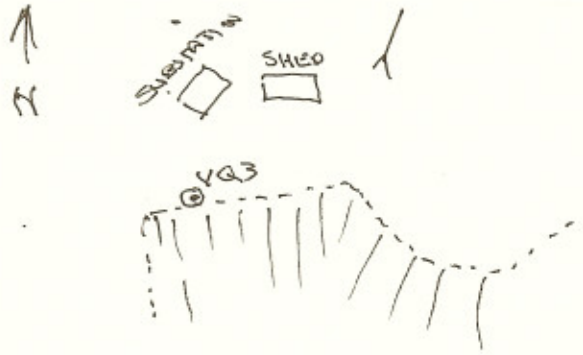
DEPTH	TYPE	BLOWS	DRIVEN	REC'V'D	COND	D.RATE				DEPTH	GRAPHIC LOG	
		5								11		
		4										
		6								12		12-14; SAME AS ABOVE; LACKS GY/VI ST FRAGMNT
		5		50%								PLUGGED SHOE & LIMITED RECOVERY
		4								13		
		2										
		3								14		
		3		80%								14-15 SAME AS ABOVE
		2								15		
		2		60%								15-17 SAME AS ABOVE
		2										
		3								16		
		4										
		2								17		
		2										RO/ST SANDY CLAY (CL); 20% VF SAND
										18	NATIVE	SOME ST/SI FRAGMNTS & ROCK CHIPS,
		3										MOIST
		3								19	TD	
										20		
										21		
										22		
										23		
										24		
										25		
										26		
										27		
										28		
										29		
										30		

done

FIELD LOG OF BORING

SHEET ____ OF ____

LOCATION OF BORING:



PROJECT: VQ3	BORING NO.
	TOTAL DEPTH:
JOB NO.:	LOGGED BY:
PROJ. MGR.:	EDITED BY:
DRILLING CONTRACTOR: DA Smith	
DRILL RIG TYPE: Track HSA	
DRILLERS NAME: Rory D.	
SAMPLING METHODS: Split Spoon	
HAMMER WT.:	DROP:
STARTED, TIME: 1450	DATE: 4-21-04
COMPLETED, TIME: 1510	DATE: 4-21-04
BORING DEPTH (ft.)	3'
CASING DEPTH (ft.)	
WATER DEPTH (ft.)	
TIME:	
DATE:	
BACKFILLED, TIME:	DATE: BY:
SURFACE ELEV.:	DATUM:
CONDITIONS:	

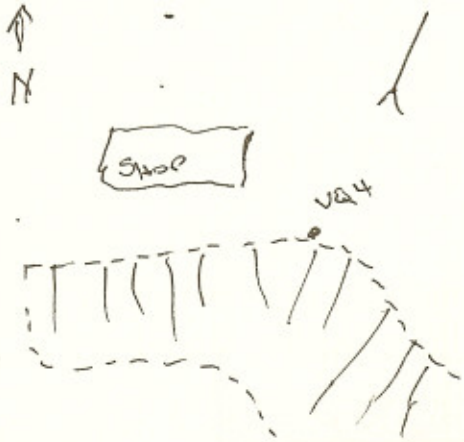
SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)				DEPTH IN FEET	GRAPHIC LOG	
												0-6" GY/BR SILTY SAND (SM) W/ 30% SILT;
										1		VF SAND W/ ST/SI RX FENG'S, FE STAINING IN
												ARMS, LOOSE, DRY
		1	100%							2	NATIVE	2-3: ~~2-2~~ RD/BR CLAYEY SAND (SC)
		2										W/ 30% 40% CLAY [NATIVE]
										3	TD	
										4		
										5		
										6		
										7		
										8		
										9		
										10		

FF7

FIELD LOG OF BORING

SHEET ____ OF ____

LOCATION OF BORING:



PROJECT: VQ4	BORING NO.
	TOTAL DEPTH:
JOB NO.:	LOGGED BY:
PROJ. MGR.:	EDITED BY:
DRILLING CONTRACTOR: DA Smith	
DRILL RIG TYPE: Track 1454	
DRILLERS NAME: Roger D.	
SAMPLING METHODS: Split Spoon / Grab	
HAMMER WT.:	DROP:
STARTED, TIME: 1545/15	DATE: 4-21-04
COMPLETED, TIME: 1530	DATE:
BORING DEPTH (ft.)	4
CASING DEPTH (ft.)	
WATER DEPTH (ft.)	
TIME:	
DATE:	
BACKFILLED, TIME:	DATE: BY:
SURFACE ELEV.:	DATUM:
CONDITIONS:	

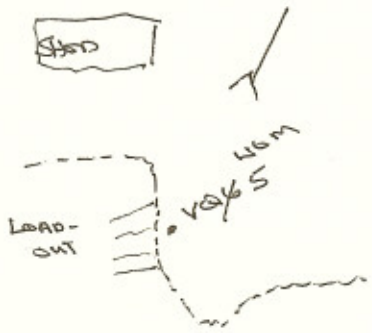
SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)				DEPTH IN FEET	GRAPHIC LOG	
												0-6" 6Y/8R SILTY SAND (SM); 25% VF SAND ADD. CLASTS OF BK SAND (VF GRAINED); SOME GRAINS ALSO STAINED GH/YW, LOOSE, DRY; ROOTS IN SOIL UPPER 2"
										1		
										2		2-2.5 6Y SILTY SAND (SM); 30% SILT W/ WHITE RX FRAGMENTS; VF SAND, LOOSE MOIST
		5										2.5-4.0 RP/8R CLAYEY SAND (SC); 40% CLAY; F. GRAINED SAND [NATIVE]
		9								3	NATIVE	
		9										
		11								4	TD	NOTE: SAMPLES COLLECT FOR ANALYSIS FROM 2.5-3.0 BUT MAY BE INSUFFICIENT FOR ANALYSIS
										5		
										6		
										7		
										8		
										9		
										10		

FF7

FIELD LOG OF BORING

SHEET 1 OF 1

LOCATION OF BORING:



PROJECT: LGM VQ65	BORING NO.
	TOTAL DEPTH:
JOB NO.:	LOGGED BY: WGM
PROJ. MGR.:	EDITED BY:
DRILLING CONTRACTOR: DA SMITH	
DRILL RIG TYPE: TRACK HSA	
DRILLERS NAME: TRAY D	
SAMPLING METHODS: SPLIT SPOON / GRAB	
HAMMER WT.:	DROP:
STARTED, TIME: 1545	DATE: 4-21-04
COMPLETED, TIME: 1600	DATE: 4-21-04
BORING DEPTH (ft.)	2'
CASING DEPTH (ft.)	
WATER DEPTH (ft.)	
TIME:	
DATE:	
BACKFILLED, TIME:	DATE: BY:
SURFACE ELEV.:	DATUM:
CONDITIONS:	

SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)				DEPTH IN FEET	GRAPHIC LOG	
		2 5						GRAB		DMP3		0-6" 64/BC SILTY SAND (SM); 30% SILT; 4C
		7 4								1	NATIVE	SAND; SOME WASTE RX FRAG; POSSIBLE NATIVE AT 6" WILL DRIVE 2' TO CONFIRM
												0.5-2.0 RO/BC CLAYEY SAND; 30% CLAY
										2	TD	F-VF SAND W/ PEBBLES [NATIVE]
										3		[DMP 3 AT 0-6"]
										4		
										5		
										6		
										7		
										8		
										9		
										10		

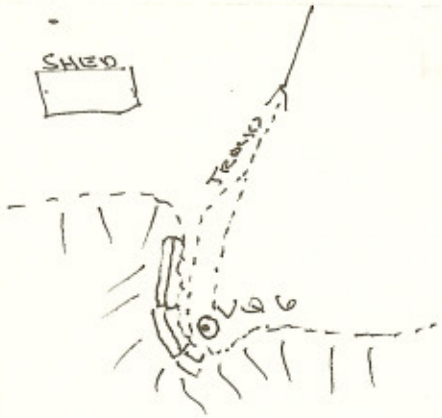
WGM

FF7

FIELD LOG OF BORING

SHEET 1 OF 2

LOCATION OF BORING:



PROJECT: VQ6	BORING NO.
	TOTAL DEPTH:
JOB NO.:	LOGGED BY: WGM
PROJ. MGR.:	EDITED BY:
DRILLING CONTRACTOR: DA SMITH	
DRILL RIG TYPE: TRACK HSA	
DRILLERS NAME: R. DICKINSON	
SAMPLING METHODS: SPLIT SPOON / CORING	
HAMMER WT.:	DROP:
STARTED, TIME: 1625	DATE: 11-21-04
COMPLETED, TIME:	DATE:
BORING DEPTH (ft.)	
CASING DEPTH (ft.)	
WATER DEPTH (ft.)	
TIME:	
DATE:	
BACKFILLED, TIME:	DATE: BY:
SURFACE ELEV.:	DATUM:
CONDITIONS:	

SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)				DEPTH IN FEET	GRAPHIC LOG	
								CORING				0-6 DK BR SILTY SAND (SM); 30% SILT CLASTS OF BK F SAND, LOOSE, DRY
										1		
										2	NATIVE	2-3 RD/BR CLAYEY SAND (SC); 30% CLAY NATIVE MATERIAL
		3 4	90%							3		3-4 GY SILTY SAND (SM) 40% SILT, VF SAND
		5 7										SOME LIMONITE STAINING ON SAND GRAINS
		3 4	90%							4		4-6 SAME EXCEPT BECOMES DK GY/BR
		4 7								5		
		3 4	30%							6		6-8 SAME; SS BX FRAG IN LOGGED SHOB LIMITED RECOVERY
		5 4								7		
		3 3	95%							8		8-9 SAME EXCEPT COLOR TO LT YH/BR W/ LIMONITE STAIN. FROM 9-10'
		5 3								9		9-10 SAME
		3	95%							10		10-12 SAME COLOR TO LT GY/BR

FF7

FIELD LOG OF BORING (CONTINUED)

SHEET 3 OF 3

PROJECT	NO	BORING NO
VQ6		

DEPTH	TYPE	BLOWS	DRIVEN	REC'V'D	COND	D.RATE				DEPTH	GRAPHIC LOG	
		5								11		SAMPLE MIXED W/ NATIVE MATERIAL 10-10.5
		2										
		2								12		12-14 SAME
		3		30%								HIT SS ROCK ALMOST BY AT 12.5-13 OR 13'
		11								13		PREVENTING FURTHER RECOVERY
		11										
		7								14		END OF DAY - WILL RESUME IN AM
		3		50%								14-14.5 SAME
		3										14.5-15 RD/BR STIFF CLAYEY SAND W/ 40% CLAY [NATIVE
		4								15		
		6										
		7		75%						16		16-18; 16-17 SAME NATIVE
		6										
		7								17		17-18 GY/GN CLAYEY SAND; 40% CLAY; VF SAND,
		9										ALSO SS FRAGS 17-17.5, MOIST
		5		70%						18		~~19-20~~ 18-18.5 RD/BR NATIVE MATERIAL
		4										19-20 GY/BR SILTY SAND (SM); ≈ 50% ALT W/ SS FRAGS
		3		70%						19		19-21 SAME WITH 4" ZONE OF GY/GN SANDY CLAY
		3										AT 19.5 AND COLOR TO YW/BR (LIMONITE STAIN)
		3								20		FROM 20-21
		4										
		3		75%						21		21-23 SAME COLOR TO DK/GY BR AT 22.5'
		3										
		4								22		
		3										
		6		90						23		23-24 GY/BR CLAYEY SAND; 30% CLAY;
		7										10% SILT, RX FRAGS; MOIST
		8		20%						24		24-26 HIT SS RX PLUGGED SHOE
		7								25		SILTY Y/BR VF SILTY SAND, LIM STAINED
		7										
		6								26		
		7		10%								26-28 SAME SS RX PLUGGED SHOE
		7								27		LIMITED RECOVERY
		7										
		6										
		6		8%						28		28-30 SAME
		6										
		5		8%						29		
		5										
										30	TD	

FIELD LOG OF BORING

SHEET ____ OF ____

LOCATION OF BORING:

PROJECT: VQ7	BORING NO.
	TOTAL DEPTH:
JOB NO.:	LOGGED BY:
PROJ. MGR.:	EDITED BY:
DRILLING CONTRACTOR: DA SMITH	
DRILL RIG TYPE: TEX HSA	
DRILLERS NAME: RAON D	
SAMPLING METHODS: SP COKA 3	
HAMMER WT.:	DROP:
STARTED, TIME: 1330	DATE: 4-22-04
COMPLETED, TIME: 1340	DATE: 4-22-04

BORING DEPTH (ft.)	2		
CASING DEPTH (ft.)			
WATER DEPTH (ft.)			
TIME:			
DATE:			

BACKFILLED, TIME: DATE: BY:

SURFACE ELEV.: DATUM:

CONDITIONS:

SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)				DEPTH IN FEET	GRAPHIC LOG	
												0-6 10YR CLAYEY SAND (SC) w/30% CLAY, F-VF SAND; ABD ROOTS
										1	NATIVE	DROVE SAMPLE TO 2'; SOME NATIVE SOIL; HIT VOID AT 1.5'
										2	TO	(CONNECTS TO HOLE FORMED BY DRAINAGE
										3		
										4		
										5		
										6		
										7		
										8		
										9		
										10		

FF7

FIELD LOG OF BORING

SHEET ____ OF ____

LOCATION OF BORING:

PROJECT: DQ8	BORING NO.
	TOTAL DEPTH:
JOB NO.:	LOGGED BY:
PROJ. MGR.:	EDITED BY:
DRILLING CONTRACTOR: DA SMITH	
DRILL RIG TYPE: TRUCK HSA	
DRILLERS NAME: ROBERT D.	
SAMPLING METHODS: GRAB / SPLIT SPOON	
HAMMER WT.:	DROP:
STARTED, TIME: 1350	DATE: 4-22-04
COMPLETED, TIME: 1405	DATE: 4-22-04
BORING DEPTH (ft.)	2
CASING DEPTH (ft.)	
WATER DEPTH (ft.)	
TIME:	
DATE:	
BACKFILLED, TIME:	DATE: BY:
SURFACE ELEV.:	DATUM:
CONDITIONS:	

SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)				DEPTH IN FEET	GRAPHIC LOG	
		5										0-6 RD/BL CLAY SAND (SC) NATIVE
		5								1		W/ SOME WASTE & FRAGMENTS
		6										DROVE SAMPLE TO 2'
		7								2	TD	NATIVE TO TD
										3		
										4		
										5		
										6		
										7		
										8		
										9		
										10		

FF7

FIELD LOG OF BORING

SHEET 1 OF 2

LOCATION OF BORING:

PROJECT: VQ 9	BORING NO.
	TOTAL DEPTH:
JOB NO.:	LOGGED BY:
PROJ. MGR.:	EDITED BY:
DRILLING CONTRACTOR: DR Smith	
DRILL RIG TYPE: Trac Hsa	
DRILLERS NAME: Rick D.	
SAMPLING METHODS: Split Spoon	
HAMMER WT.:	DROP:
STARTED, TIME: 1425	DATE: 4-22-04
COMPLETED, TIME: 1450	DATE: 4-22-04
BORING DEPTH (ft.)	10 12
CASING DEPTH (ft.)	
WATER DEPTH (ft.)	
TIME:	
DATE:	
BACKFILLED, TIME:	DATE: BY:
SURFACE ELEV.:	DATUM:
CONDITIONS:	

SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)				DEPTH IN FEET	GRAPHIC LOG	
												Augers to 8'
										1		
										2		
										3		
										4		
										5		
										6		
										7		
										8		
		4 5	5½									* 8-10 Drove Brass Liners
										9		for Geotech (Poor Recovery)
		9 4										
		3								10		Liners collect 10'-12' (5 liners total; 1 empty)

WJ Recovery

FF7

FIELD LOG OF BORING (CONTINUED)

SHEET 2 OF 2

PROJECT	NO	BORING NO
VQ9		

DEPTH	TYPE	BLOWS	DRIVEN	REC'V'D	COND	D.RATE				DEPTH	GRAPHIC LOG
		2							X	1	
		2							X		
		3								2	Fa
										3	
										4	
										5	
										6	
										7	
										8	
										9	
										0	
										1	
										2	
										3	
										4	
										5	
										6	
										7	
										8	
										9	
										0	

Soil/Mine-Waste Sampling Form

Sample No.: VQ SEGMENT NO.1

Mine Site: VANADIUM QUEEN MINE

Claim No.:

Date: 4-22-04

Sampler(s): PSI,

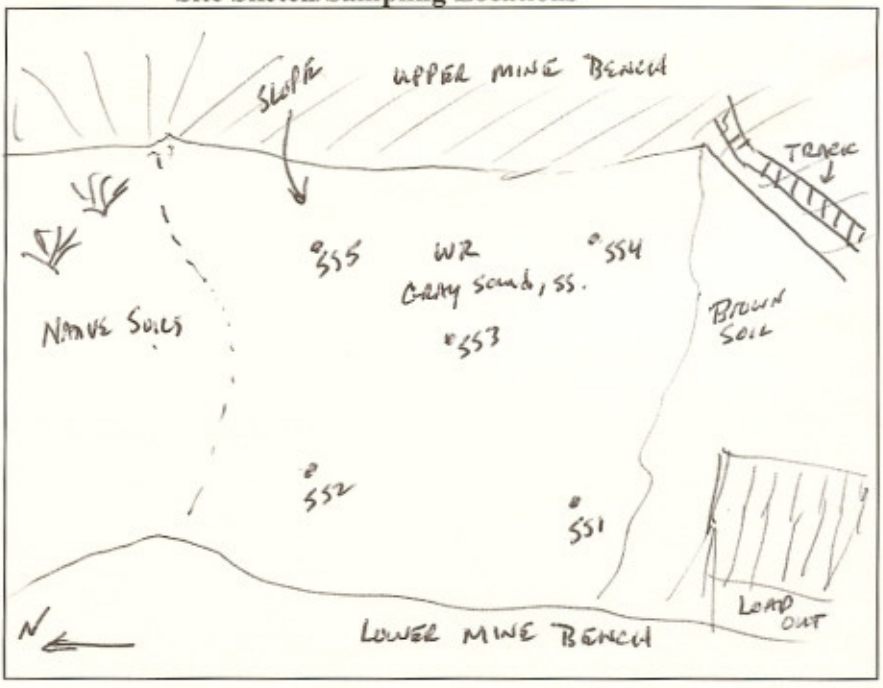
General Site Location: ~1 mi S. of HIWAY 46, & 2 mi E of Old LA SAL

Current Conditions/Weather: OVERCAST, COLD, LT. RAIN, SNOW

Sampling Method: HAND TOOLS

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
					WASTEROCK: MED GRAY, FN, V. FN SAND
SS 1:	4-22-04	1410	0-6"	BOTTOM RT.	MOIST, w/ MINOR < 10%
SS 2:	4-22-04	1410	0-6"	BOTTOM LFT.	SS GRVL, COBBLES,
SS 3:	4-22-04	1410	0-6"	CENTER	USUALLY < 1cm ϕ.
SS 4:	4-22-04	1410	0-6"	UPPER RT	
SS 5:	4-22-04	1410	0-6"	UPPER LFT.	
SS 6:					
SS 7:					

Soil/Mine-Waste Sampling Form

Sample No.: VQ SEGMENT 3

Mine Site: VANADIUM QUEEN MINE

Claim No.:

Date: 4-22-04

Sampler(s): PSI

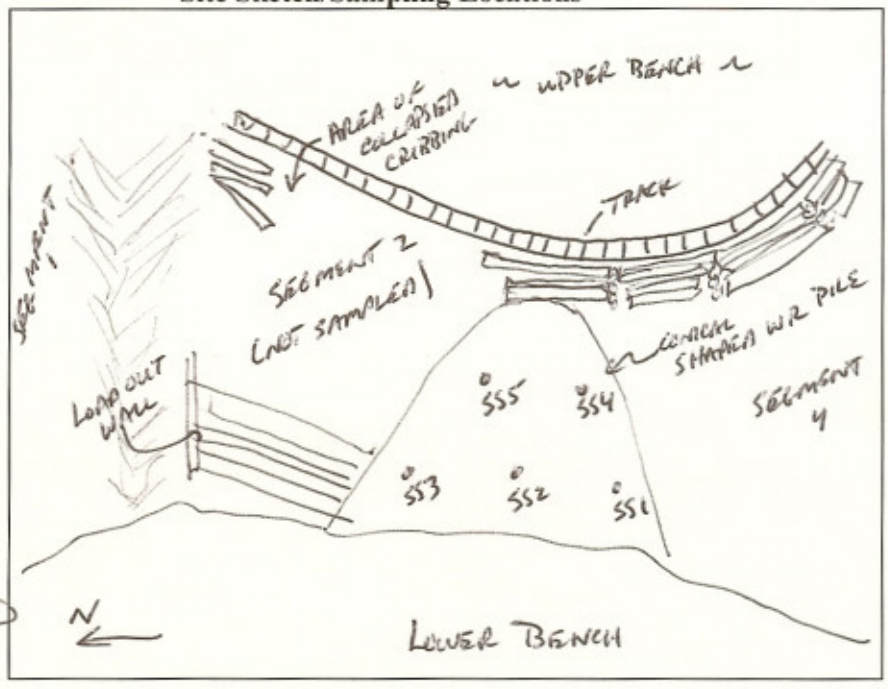
General Site Location: ~1 mi N OF HWY 46, & 2 mi E OF OLD LA SAL

Current Conditions/Weather: OVERCAST, COLD, LT. RAIN, SNOW

Sampling Method: HAND TOOLS

Sample Type (circle one): Discrete **Composite**

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
					WASTEROCK:
SS 1:	4-22-04	14:34	0-6"	BOTTOM RT.	MD GRAY, V. FN. SAND
SS 2:	4-22-04	14:34	0-6"	BOTTOM CENTER	W/ ~15% MULTI COLORED
SS 3:	4-22-04	14:34	0-6"	BOTTOM LFT	GRVL (≤ 1/2"), MOIST.
SS 4:	4-22-04	14:34	0-6"	TOP RT	GRVL IS SS AND MUDST;
SS 5:	4-22-04	14:34	0-6"	TOP LFT	≤ 1cm ϕ W/ SOME
SS 6:					2-3 cm ϕ.
SS 7:					

Soil/Mine-Waste Sampling Form

Sample No.: VQ. SEGMENT 4

Mine Site: VANADIUM QUEEN MINE

Claim No.:

Date: 4-22-04

Sampler(s): PSI

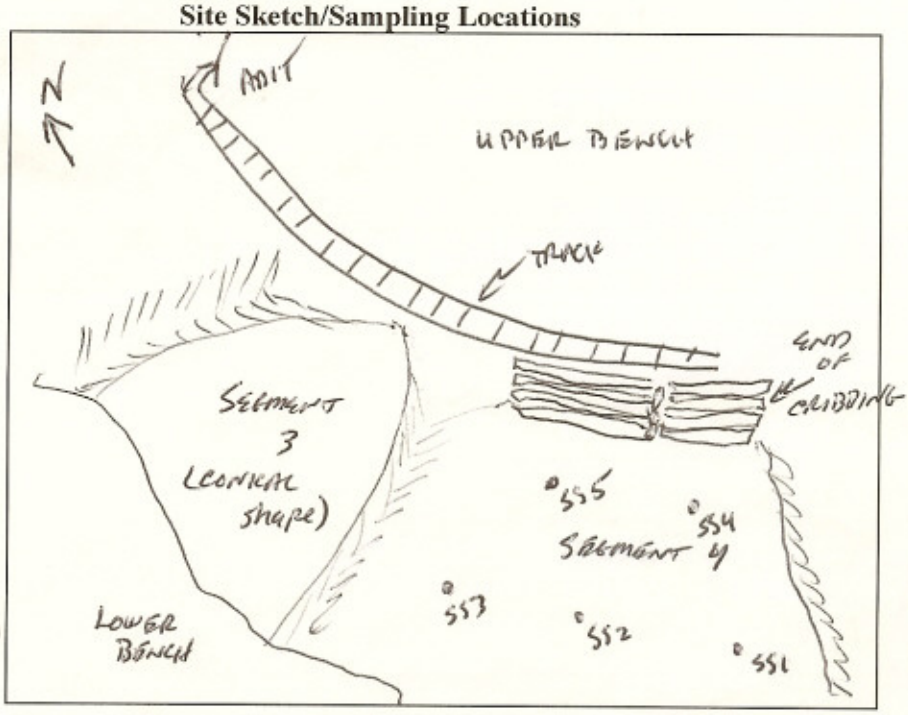
General Site Location: ~1 mi N OF UTAH HWY 46 & ~2 mi E OF OLD LASAL

Current Conditions/Weather: OVERCAST, COLD, LT, INT. RAIN, SNOW

Sampling Method: HAND TOOLS

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
					MINE WASTEROCK:
SS 1:	4-22-04	15:38	0-6"	LWR RT ON SLOPE	MED, LT GRAY, V.FN
SS 2:	↓	↓	↓	LWR CENTER "	GRND SAND, W/ SANDST
SS 3:				LWR LFT "	GRVL, MUDSTONE GRVL,
SS 4:				UPPER RT "	(≤ 10%), MOIST,
SS 5:				UPPER LFT "	SOME LT RED BWN
SS 6:					IN COLOR.
SS 7:	WASTEROCK OF SEGMENT 4 ~~and~~ IS BELOW AND NEAR END OF				
	CRIBBING & TRACK ON UPPER BENCH. SEGMENT 4 FORMS SLIGHT				
	BREAK IN SLOPE AT TOE, DISTINGUISHING ITSELF FROM SEGMENTS				
	5 AND 6 BELOW.				

Soil/Mine-Waste Sampling Form

Sample No.: VQ SEGMENT 5

Mine Site: VANADIUM QUEEN MINE

Claim No.:

Date: 4-22-04

Sampler(s): JCF

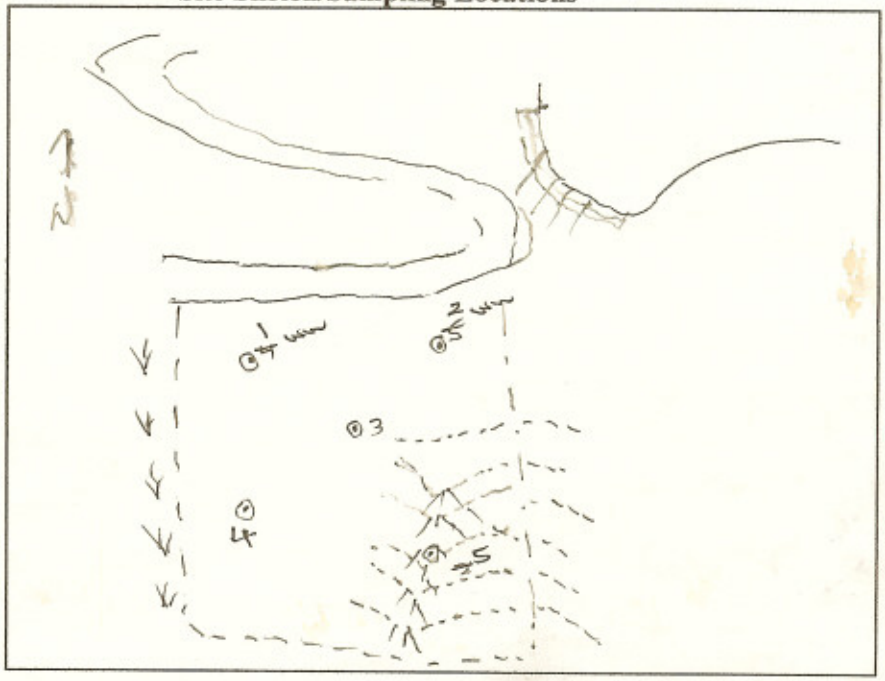
General Site Location: ~1 mi N OF UTAH HWY 46, ~2 mi E OF OLD LASAL

Current Conditions/Weather: OVERCAST COLD, LT. SNOW

Sampling Method: HAND TOOLS

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
SS 1:	4-22-04			UP LFT	GM/BR SILTY SAND (SM)
SS 2:				UP RT	30% SILT; F-MF SAND,
SS 3:				CENTER	SOME SS/ST WASTE ROCK
SS 4:				LOW LFT	FRAGMENTS, LOOSE,
SS 5:				LOW RT	MOIST
SS 6:					
SS 7:					

Soil/Mine-Waste Sampling Form

Sample No.: VQ SEGMENT 6

Mine Site: VANADIUM QUEEN MINE

Claim No.:

Date: 4-22-04

Sampler(s): JCF

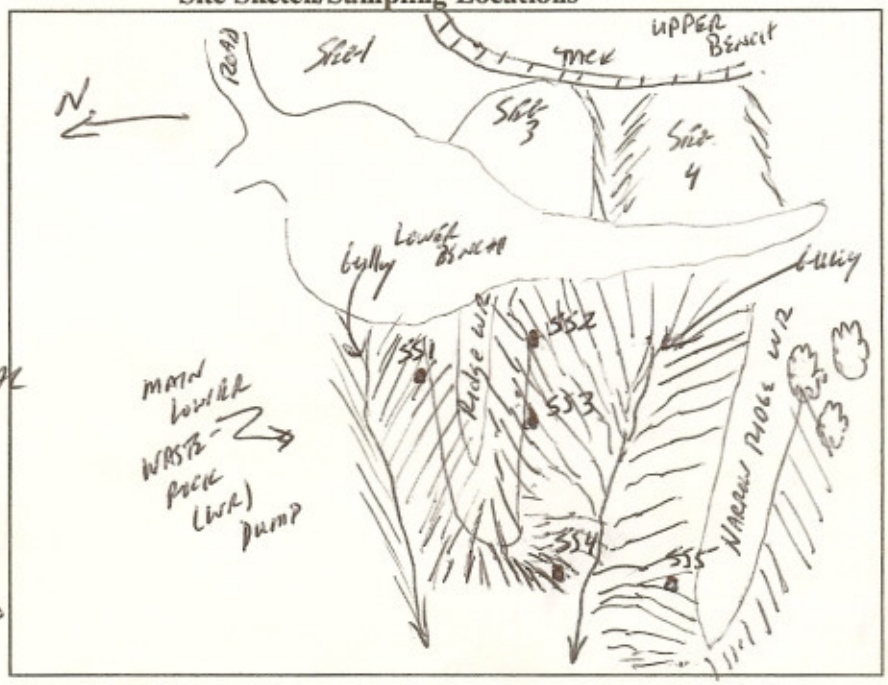
General Site Location: ~1 MILE N OF WORK HIGHWAY 46; ~2 MILES E OF OLD LASAL

Current Conditions/Weather: OVERCAST COLD, SNOWING

Sampling Method: HAND TOOLS

Sample Type (circle one): Discrete **Composite**

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
	4-22-04	1545			MINE WASTEROCK: LT TO MED GRAY V. FN.
SS 1:			0-6"	UPPER LFT (N RIDGE)	SAND SAND, W/ 10-15%
SS 2:			0-6"	UPPER RT "	SS GRVL (≥ 1"ø),
SS 3:			0-6"	CENTER "	OTHER MULTICOLORED GVL.
SS 4:			0-6"	LOWER LFT "	MOIST, UNCONSOLIDATED
SS 5:			0-6"	LOWER RT (S RIDGE)	
SS 6:					
SS 7:	SEGMENT 6 CONSISTS OF S PORTION OF LOWER WASTE ROCK				
	PILE DISSECTED BY AT LEAST TWO MAIN EROSIONAL GULLIES				

Soil/Mine-Waste Sampling Form

Sample No.: VQ SEG 7

Mine Site: VANADIUM QUEEN

Claim No.:

Date: 4-22-04

Sampler(s): HGM

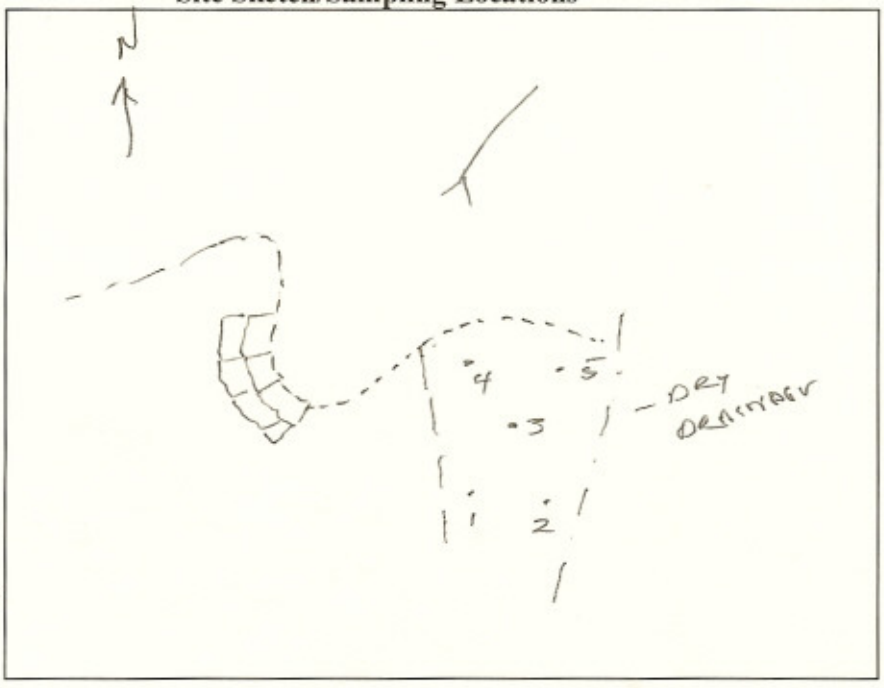
General Site Location: EAST BOTTOM OF DUMP (REFUSE AREA)

Current Conditions/Weather: SNOWING

Sampling Method: GRAB

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
	4-22-04	1540			
SS 1:			0-6	SEE DIAGRAM	RD/BR SILTY CLAYEY
SS 2:			0-6		VF-F SAND (JM)
SS 3:			0-6		W/ 30% CLAY, 10%
SS 4:			0-6		SILT, MOSTLY NATIVE
SS 5:			0-6		W/ SOME ZONES OF
SS 6:					WASTE ROCK SANDS
SS 7:					(ESP. SS 4 & SS 5)

Soil/Mine-Waste Sampling Form

Sample No.: VQ - SHOP

Mine Site: VANADIUM QUEEN

Claim No.:

Date: 4-22-04

Sampler(s): WOM / PS

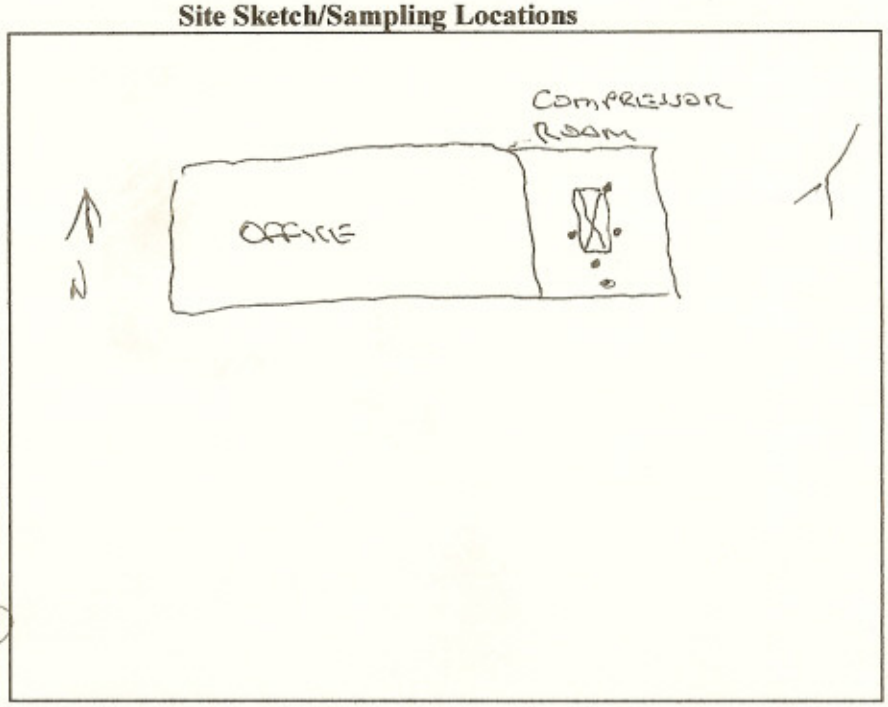
General Site Location:

Current Conditions/Weather: COLD; CLOUDY

Sampling Method:

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
	4-22-04	1500	0 - 1"		
SS 1:				SEE DIAGRAM	BRN TO RD/BL SANDY
SS 2:					SILT (ML); W/ 2%
SS 3:					VF SAND - SAMPLE
SS 4:					TAKEN FROM DISCOLORED
SS 5:					STAINING AREAS
SS 6:					
SS 7:					

Soil/Mine-Waste Sampling Form

Sample No.: VQ SED 1

Mine Site: VANADIUM QUEEN

Claim No.:

Date: 4-27-04

Sampler(s): WGM

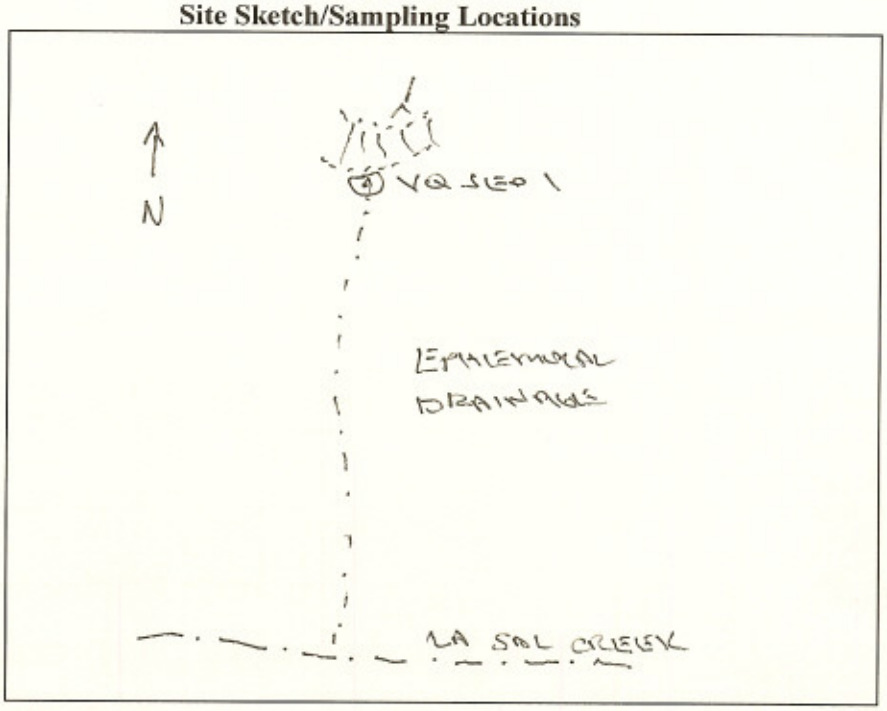
General Site Location: EPHEMERAL DRAINAGE - UP

Current Conditions/Weather: VERY WARM

Sampling Method: GRAB

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
	4-27-04	1122	0-6"	SEE DIAGRAM	RD/BR VF-F SAND
SS 1:					(<10% SILT); FE
SS 2:					STAINING ON SAND
SS 3:					LOOSE; DRY
SS 4:					
SS 5:					[DUPLICATE 8]
SS 6:					
SS 7:					

Soil/Mine-Waste Sampling Form

Sample No.: VQ SED 2

Mine Site: VANADIUM QUEEN

Claim No.:

Date: 4-27-04

Sampler(s): LEON

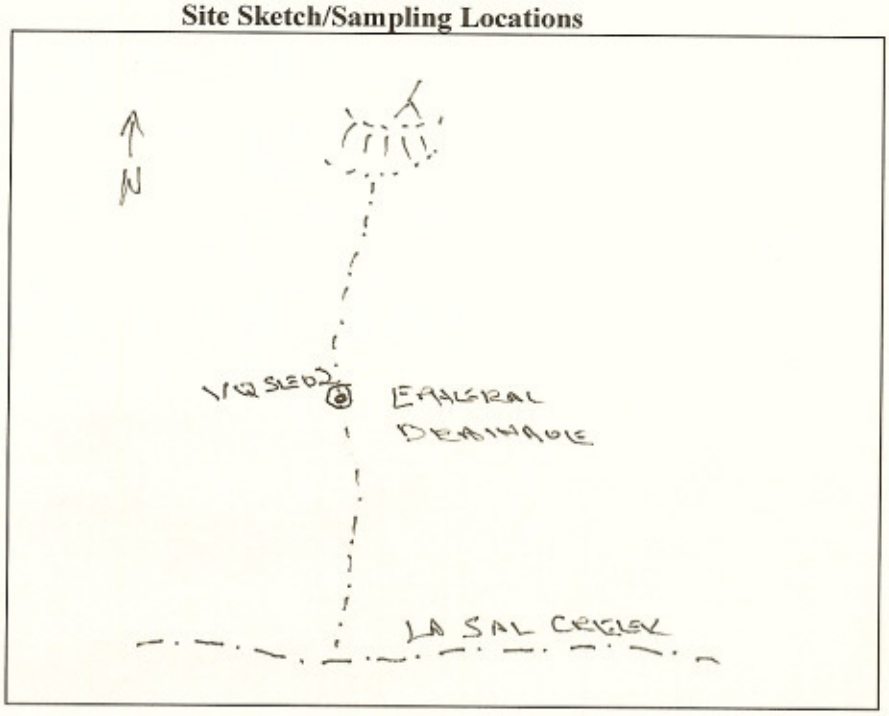
General Site Location: EPHEMERAL DRAINAGE - APPROX. MIDPOINT

Current Conditions/Weather: CLOUDY / WARM

Sampling Method: GRAB

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
	4-27-04	1140	0-6"	SEE DIAGRAM	RO/BR SILTY VF SAND
SS 1:					(25% SILT); FE
SS 2:					STAINING ON SAND
SS 3:					GRAINS; LOOSE; DRY
SS 4:					
SS 5:					
SS 6:					
SS 7:					

Soil/Mine-Waste Sampling Form

Sample No.: VQ SED 3

Mine Site: VANADIUM QUEEN

Claim No.:

Date: 4-27-04

Sampler(s): WSM

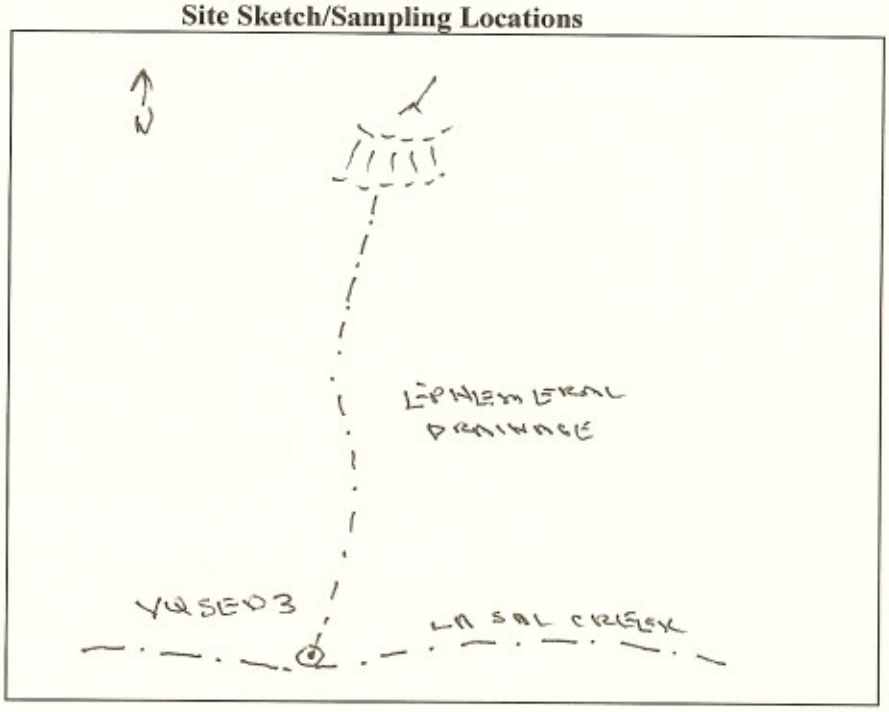
General Site Location: EPHEMERAL DRAINAGE, IMMEDIATELY ABOVE CONFLUENCE W/ LA SAL CREEK

Current Conditions/Weather: CLEAR / WARM

Sampling Method: GRAB

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

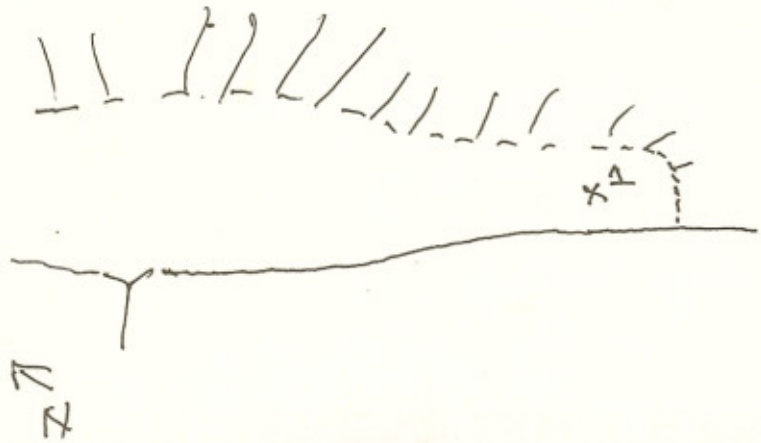
Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
	4-27-04	1155	0-6"	SEE DIAGRAM	RED/BR TO GRY/BRN
SS 1:					SILTY VF SAND
SS 2:					(30% SILT); FE &
SS 3:					SOME LIMONITE STAINING
SS 4:					ON SAND GRAINS;
SS 5:					LOOSE; DRY
SS 6:					
SS 7:					

FIELD LOG OF BORING

SHEET 1 OF 1

LOCATION OF BORING:



PROJECT: BLUE CAP 1 LA SAL CREEK	BORING NO.
	TOTAL DEPTH: 10'
JOB NO.:	LOGGED BY: HGW
PROJ. MGR.: HGW	EDITED BY:
DRILLING CONTRACTOR: DA SMITH	
DRILL RIG TYPE: TRUCK	
DRILLERS NAME: ROCK D.	
SAMPLING METHODS: SPLIT SPOON	
HAMMER WT.:	DROP:
STARTED, TIME: 1150	DATE: 4-19-04
COMPLETED, TIME:	DATE:
BORING DEPTH (ft.)	10'
CASING DEPTH (ft.)	
WATER DEPTH (ft.)	
TIME:	
DATE:	
BACKFILLED, TIME:	DATE: BY:
SURFACE ELEV.:	DATUM:
CONDITIONS:	

SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)				DEPTH IN FEET	GRAPHIC LOG	
												0-36" - RD/BC VF SILTY SAND (SM) 20% SILT LOOSE DRY
										1		2'6" GRAY ~~BROWN~~ F-VF SAND (SM) 10% SILT
										2		
		3 5										6YR/BC (SM) SILTY SAND; F-VF SAND 30% SILT; ~~2-3'~~ 3'-4' WW 6YR/6N CL SANDY CLAY
										3		SAND V.F. STIFF, MOIST
		7 4								4		
										5		ANALYTICAL SAMPLE
												· ~~COMPOSITE~~ WW 3-4 AND 8-9
										6		
												- ~~PRIORITIZE~~ ANALYSIS FOR 8-9
										7		
										8		8-9 6YR/BC SILTY SAND (SM) ABD. ROCK FRAGMENTS; SILT 25%; MOIST
		11 5										
		5 17								9	NATIVE	NATIVE AT 9'
										10		TD = 10'

FF7

FIELD LOG OF BORING

SHEET 1 OF 1

LOCATION OF BORING:

PROJECT: Blue Cap 2	BORING NO.
	TOTAL DEPTH: 6'
JOB NO.:	LOGGED BY:
PROJ. MGR.:	EDITED BY:
DRILLING CONTRACTOR:	
DRILL RIG TYPE:	
DRILLERS NAME:	
SAMPLING METHODS:	
HAMMER WT.:	DROP:
STARTED, TIME: 1235	DATE: 4-19-04
COMPLETED, TIME: 1305	DATE: 4-19-04
BORING DEPTH (ft.)	6'
CASING DEPTH (ft.)	
WATER DEPTH (ft.)	
TIME:	
DATE:	
BACKFILLED, TIME:	DATE: BY:
SURFACE ELEV.:	DATUM:
CONDITIONS:	

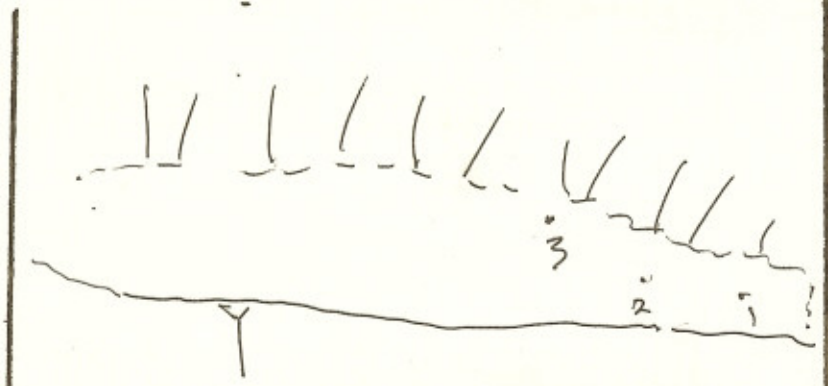
SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)				DEPTH IN FEET	GRAPHIC LOG	
												0-6" Gy/Br SM SILTY SAND; SAND F-VF; SILT 30%; ABD. WASTE ROCK FRAGS; LOOSE, MOIST
										1		APPROX. 3' OF RD/BR F-C SAND OVERLIES WASTE
										2		ROCK; RD/BR SAND ~~REMOVED FOR SAMPLE~~
		18 19										2'-3' Gy/Gn CL SILTY CLAY; 30% SILT
										3		LOW PLASTICITY; MOIST; ABD. WASTE ROCK FRAGS
		11 8										3-3.5 Yw/Br VF-F SILTY SAND SM
										4		3.5-4 RD/Br SILTY SAND (SM) VF-F SAND
		8 5										4-4.5 Yw/Br VF-F SILTY SAND (30% SILT) DRY
										5		
		5 4										
										6		TD AT 6'
										7		SAMPLE @ 2-4.5'
										8		
										9		
										10		

FF7

FIELD LOG OF BORING

SHEET 1 OF 3

LOCATION OF BORING:



PROJECT: Bldg Grp 3	BORING NO.
	TOTAL DEPTH:
JOB NO.:	LOGGED BY: WLM
PROJ. MGR.:	EDITED BY:
DRILLING CONTRACTOR: DA Smith	
DRILL RIG TYPE: Track	
DRILLERS NAME: D. Dickerson	
SAMPLING METHODS: Split Spoon	
HAMMER WT.:	DROP:
STARTED, TIME: 1320	DATE: 4-19-04
COMPLETED, TIME:	DATE:

BORING DEPTH (ft.)	7		
CASING DEPTH (ft.)			
WATER DEPTH (ft.)			
TIME:			
DATE:			

BACKFILLED, TIME: DATE: BY:

SURFACE ELEV.: DATUM:

CONDITIONS:

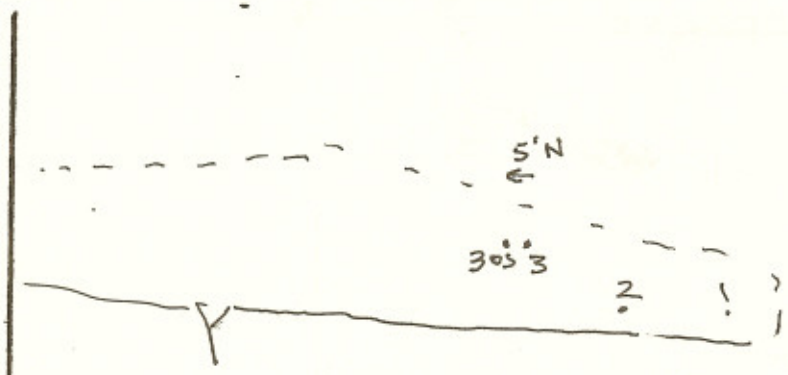
SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)				DEPTH IN FEET	GRAPHIC LOG	
												0-6" Ro/Br (SM) Silty Sand; Sand
										1		VF-F Grained; 20% silt; Abd Gy/Br
												Water Rx (SS) Fragments; Vegetation
										2		At Ground Surface (Grasses)
		3										2-3 Ro/Br (SM) Silty Sand; Sand
		2								3		F-VF; silt 30%; Loose, moist w/Rx Frag's
		1										3-4 Yw/Br (SM) Silty Sand; Sand F-Grained;
		2								4		Silt >50% w/Gy/Gn Water Rx Frag's; moist
		2										4-6 (60% Recovery) Gy/Br (SM) Silty
		2								5		Sand (30% silt); Abd. Water Rx Frag's
		3										Loose; moist
		6								6		
		11										6-6.5' Hit Boulder (Refusal) will try to drill thru
												No sample 6-7';
										7	TD Rep Rock	Refusal at 7'; will move 5' North
										8		and Redrill
										9		
										10		

FF7

FIELD LOG OF BORING

SHEET 2 OF 3

LOCATION OF BORING:



PROJECT: BLNE CAP 3 5' OFFSET	BORING NO.
	TOTAL DEPTH:
JOB NO.:	LOGGED BY:
PROJ. MGR.:	EDITED BY:
DRILLING CONTRACTOR:	
DRILL RIG TYPE: HSA (TRACK)	
DRILLERS NAME: ROLLER D.	
SAMPLING METHODS: SPLIT SPOON	
HAMMER WT.:	DROP:
STARTED, TIME:	DATE:
COMPLETED, TIME:	DATE:
BORING DEPTH (ft.) 14	
CASING DEPTH (ft.)	
WATER DEPTH (ft.)	
TIME:	
DATE:	
BACKFILLED, TIME:	DATE: BY:
SURFACE ELEV.:	DATUM:
CONDITIONS:	

SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)				DEPTH IN FEET	GRAPHIC LOG	
												AUGER TO 6' TO BYPASS OBSTRUCTION
										1		
										2		
										3		
										4		
										5		
										6		
		5										40% RECOVERY 6'-8' (SHALE ROCK IN SHOE
		2								7		64/BC SILTY SAND (SM); F-GRAINED SAND
		1										30% SILT W/ ABD. WASTE BY FRAG'S
		2								8		MOVE
		2										ROCK IN SHALE - NO RECOVERY 8'-10'
		2										
		3								9		
		4										
		2								10		10-12 (70% RECOVERY) 10-11 64/BC F SILTY

FF7

FIELD LOG OF BORING (CONTINUED)

SHEET 3 OF ~~2~~ 3

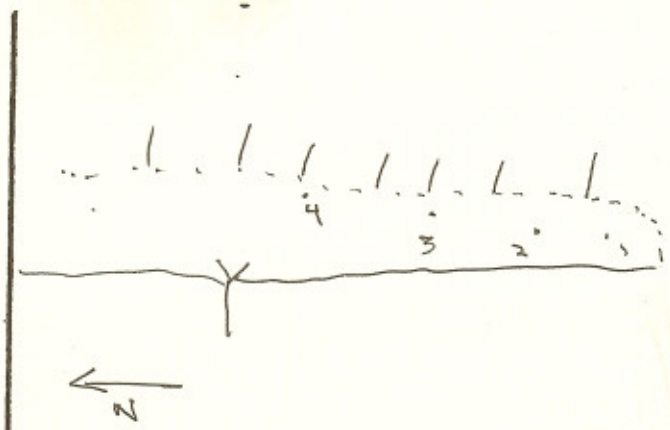
DEPTH	TYPE	BLOWS	DRIVEN	REC'V'D	COND	D.RATE				DEPTH	GRAPHIC LOG	PROJECT	NO	BORING NO
												Blue Cap 3		
		2								11		Sand w/ wave ripples		
		5										11-11.5 RD/BR sandy clay (CL) moist		
		11										11.5-12 RD/BL F silty sand (SM)		
		5								12	Native	12-14 (60% Brown); RD/BL native		
		6										soil (FF) (CL) sandy clay		
		7								13		(15% VF-F sand; stiff, moist		
		7												
										14	TD			
										15				
										16				
										17				
										18				
										19				
										20				
										1				
										2				
										3				
										4				
										5				
										6				
										7				
										8				
										9				
										0				

PPA

FIELD LOG OF BORING

SHEET 1 OF 2

LOCATION OF BORING:



PROJECT: BLUE CAP 4	BORING NO.
	TOTAL DEPTH:
JOB NO.:	LOGGED BY: HOW
PROJ. MGR.:	EDITED BY:
DRILLING CONTRACTOR: DB SONITE	
DRILL RIG TYPE: TRACK 1454	
DRILLERS NAME: R. DICKERSON	
SAMPLING METHODS: SPLIT SPOON	
HAMMER WT.:	DROP:
STARTED, TIME: 1445	DATE: 4.19.04
COMPLETED, TIME:	DATE:
BORING DEPTH (ft.) 29.5'	
CASING DEPTH (ft.)	
WATER DEPTH (ft.)	
TIME:	
DATE:	
BACKFILLED, TIME:	DATE: BY:
SURFACE ELEV.:	DATUM:
CONDITIONS:	

SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)				DEPTH IN FEET	GRAPHIC LOG	
												0-6" GY/BR SANDY CLAY (CL); 35% VF SAND AND SOME RD/BR SILTY SAND (SM) MOIST; FEW RX FRAGMENTS
										1		
										2		
		3 3										YW/BR SILTY SAND (SM) VF-F SAND; 35% SILT; ABD. WHITE RX FRAGMENTS SOME BY/GW SS. FRAGMENTS LOOSE, MOIST (60% RECOVERY)
		3 2								3		
		2 2				BRASS LINERS		4.33		4		4'-6' BRASS LINER SAMPLES COLLECT 4.33-6.0 (5 LINERS)
		2 2								5		
		2 2								6		6-8 (80% RECOVERY) GY/BR SILTY SAND (SM); 30% SILT; F-VF SAND; SOME WHITE RX FRAG'S (25%) LOOSE, MOIST
		3 4								7		
		3 2								8		8-10 (80% RECOVERY) SAME AS ABOVE
		2 3								9		
		4								10		10-12 (50% RECOVERY) 10-11 GY/BR

FF7

FIELD LOG OF BORING (CONTINUED)

SHEET 2 OF 2

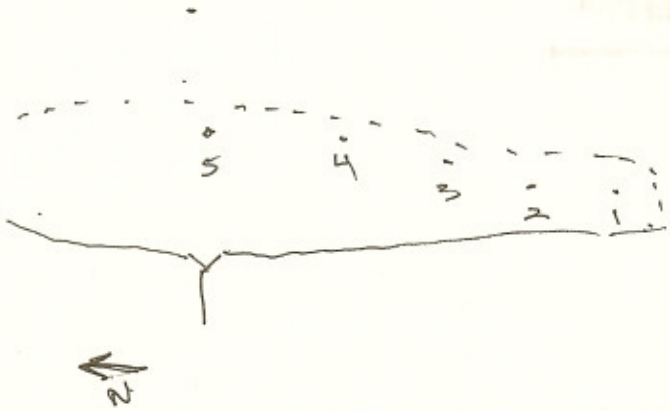
PROJECT	NO	BORING NO
BLUE CAP 4		

DEPTH	TYPE	BLOWS	DRIVEN	REC'V'D	COND	D.RATE				DEPTH	GRAPHIC LOG	
		3								11		CLAYEY SAND (SC) 40% VF SAND w/
		3										SOME GRN SILTSTONE FRAGMNTS
		4								12		
		3										12-13.5 GY/BR (SM) SILTY SAND, 25% SILT; VFSAND
		2								13		w/ ABD. SS & SILTSTONE RX FRAGMNTS;
		4										LOOSE, MOIST
		2								14		13.5-14 GW/BR VF SILTY SAND (25% SILT) w/ GY R
		2										14-16 (95% RECOVERY) GY TO DK GY SILTY
		2								15		SAND; 30% SILT; VF-F SAND; ABD
		3										GY/GRN SILTSTONE ROCK FRAGMNTS; LOOSE,
		4								16		MOIST
		5										16-18 (50% RECOVERY) 16.-16.5 SAME
		4								17		16.5-17 GW/BR SILTY SAND w/ ABD GY/GRN SILTSTONE
		4										FRAGMNTS; ROCK PLUGGING SHOW AT 17'.
		3								18		NO SAMPLE 17-18
		4										GY/BR SILTY SAND (SM) ~~14'-19'~~ w/ ABD. SS & SILTSTONE
		2								19		FRAGMNTS; HEAVY FLOW SAND 18-18.25' AND ~~18.5'~~ 19'
		3										20; SILT CONTENT INCREASES TO 40% 19.5-20
		4										LOOSE, MOIST
		3								20		20-20.5 FRACTURED/BROKEN SILTSTONE ROCK
		3										20.5-21.5 RO/BR CLAYEY SAND (SC); 35% CLAY
		4								21		VF SAND; LOOSE, MOIST
		6										NO RECOVERY 21.5-22
		4								22		22-22.5 GY SANDSTONE ROCK FRAGMNTS AND
		4										FINE-GRAINED SAND (ROCK PLUGGING SHOW AT 22.5'
		5								23		NO RECOVERY 22.5-24
		7										
		3								24		24-26 (95% RECOVERY) GY/BRN SILTY
		3										SAND; 30% SILT; VF-F SAND, LOOSE, MOIST
		3								25		SOME SILTSTONE/SS RX FRAGS
		2										25.5-26 RO/BR VF SAND w/ ~~20%~~ 30% SILT (SM)
		3								26		26-28 (90% RECOVERY) SAME w/ ABD.
		3										SS / SILTSTONE ROCK FRAGMNTS
		2								27		
		3										
		2								28		28-28.5 SAME
		2										
										29		28.5-29.5 RO/BR SANDY CLAY ~~CLAYEY SAND (SC)~~; 40%
		13										~~CLAY~~; VF SAND w/ SOME ORGANIC MATTER
										30		TD SANDSTONE ROCK PLUGGING SHOW AT 29.5'

FIELD LOG OF BORING

SHEET 1 OF 2

LOCATION OF BORING:



PROJECT: BWG CAP 5	BORING NO.
	TOTAL DEPTH:
JOB NO.:	LOGGED BY:
PROJ. MGR.:	EDITED BY:
DRILLING CONTRACTOR: DA SMITH	
DRILL RIG TYPE: TRUCK MSA	
DRILLERS NAME: R. DICKINSON	
SAMPLING METHODS: SPLIT SPOON	
HAMMER WT.:	DROP:
STARTED, TIME: 1120	DATE: 4-20-04
COMPLETED, TIME: 1330	DATE: 4-20-04
BORING DEPTH (ft.)	24'
CASING DEPTH (ft.)	
WATER DEPTH (ft.)	
TIME:	
DATE:	
BACKFILLED, TIME:	DATE: BY:
SURFACE ELEV.:	DATUM:
CONDITIONS:	

SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)				DEPTH IN FEET	GRAPHIC LOG	
										DUP 1		0-6" [DUPLICATE DUP-1] CONCRETE
										1		0-2" RO/BL SILTY F-VF SAND SM DRY
												2-6" GY/BRN SILTY SAND (SM) W/ 30% SILT
										2		AND ABD. SILTSTONE & SS FRAGMNTS, DRY
		2 1										2-3.5 GY/BL SILTY SAND (SM); 30% SILT,
										3		LOOSE, MOIST
		2 2										3.5-4.0 GRN ~~BRN~~ SANDY CLAY (CL) W/ 20% VF SAND MOIST
										4		W/ SOME SLAYSTONE FRAGMNTS
		2 1										4-6 (68% RECOVERY); 4-4.5 SAME
										5		4.5-6.0 GRN/GRY CLAYEY SAND (SC)
		1 2										W/ 30% GN CLAY; F-VF SAND; SOME
										6		SS FRAGMNTS; MOIST.
		1 1		60%								6-6.5 SAME
										7		6.5-~~7.5~~ 8.0 GY/BRN SILTY SAND (SM)
		2 3										25% SILT; F SAND, LOOSE, MOIST
										8		
		2 2		75%								8-9 RO/BR SANDY CLAY (CL) W/ 30% VF SAND
										9		PLASTIC; W/ ABD ST/SS FRAGMNTS; MOIST
		3 2										9-10 GY/GN SILTY/CLAYY SAND (SM) W/ 30% SILT;
										10		40% CLAY; ABD. ST & SS RX FRAGMNTS; MOIST
		2		50%								SAME W/ 2" ZONE 10.5' OF RO/BR SILTY SAND

FF7

Blue Cap 5

FIELD LOG OF BORING (CONTINUED)

SHEET 2 OF 2

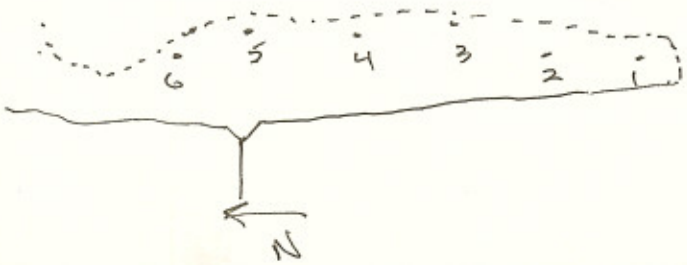
DEPTH	TYPE	BLOWS	DRIVEN	REC'V'D	COND	D.RATE				DEPTH	GRAPHIC LOG	PROJECT	NO	BORING NO
												Blue Cap 5		
		1	-							11		Same		
		1 2												
		3 3	75%							12		12-14 Gy/Brn silty sand (SM) w/ 20% silt		
										13		vf sand; w/ abd ss/s fragments		
		3 3										minor Fe_2O_3 staining on sand grains		
										14		Loose, moist		
		4 5	60%									14-15 Same		
										15		15-17; 15-15.5 same		
		5 5	75%									15.5-17 Lt Gry/Brn silty sand (SM); 15% silt		
										16		f sand, abd Gy/Grn ss rock fragments		
		5 5										Loose moist		
										17		17-18 same		
		4 4	75%											
										18		18-19 Dk Gy/Brn silty sand (SM) w/ 20% silt		
		7 7										abd limonite stain w/ abd specks of blk (orgt?) material		
										19		19-20 Gy/Br silty sand (SM) w/ 30% silt		
		9 7	75%									f-vf sand w/ Gry/Brn st flakes		
										20		20-20.5 Gn/Br (SM) 10% silt; f-sand		
		6 7												
										21		20.5-21 Rd/Br sandy clay (CL) w/ 10% v.f sand		
		46 47	90%									21-22 Rd/Br vf-f sand w/ 10% silt; some		
										22		Rd/Br clay (CL); trace organics; random pebbles		
		6 6	25%									22-22.5 same		
										23		Rock plugged shoe - no further samples		
		5 4										recovery		
										24				
										25		Note: native soil material first encountered at ~10'; additional suspected waste rock encountered 10-20.5' w/ native soil at 20.5		
										26		∴ it is suspected that native soil mixes w/ waste rock in the 10-20.5' interval		
										27				
										28				
										29				
										30				

Drilling TD

FIELD LOG OF BORING

SHEET 1 OF

LOCATION OF BORING:



PROJECT: BLUE CAP 6	BORING NO.
	TOTAL DEPTH:
JOB NO.:	LOGGED BY: WOW
PROJ. MGR.:	EDITED BY:
DRILLING CONTRACTOR: DA SMITH	
DRILL RIG TYPE: TRACK HSA	
DRILLERS NAME: ROBERT D.	
SAMPLING METHODS: SPLIT SPOON	
HAMMER WT.:	DROP:
STARTED, TIME: 1415	DATE: 4-20-04
COMPLETED, TIME: 1430	DATE: 4-20-04
BORING DEPTH (ft.) 6'	
CASING DEPTH (ft.)	
WATER DEPTH (ft.)	
TIME:	
DATE:	
BACKFILLED, TIME:	DATE: BY:
SURFACE ELEV.:	DATUM:
CONDITIONS:	

SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)				DEPTH IN FEET	GRAPHIC LOG	
												0-6 RD/BY SILTY SAND (SM) 30% SILT; SOME 64 SILTS & LOESS, DRY; SOME Fe2O3 STAINING ON SAND GRAINS
										1		
										2		2-4 RD/BY CLAYEY SAND (SC) 41/40% CLAY MOIST
		3 2		90%								
		1 2								3		
		3 3		100						4	NOTING	4-6 SAME
		2 4								5		
										6	TD	
										7		
										8		
										9		
										10		

FF7

Soil/Mine-Waste Sampling Form

Sample No.: BCWR SEG 1

Mine Site: BLUE CAP MINE

Claim No.:

Date: 4-19-04

Sampler(s): JCF, BDS

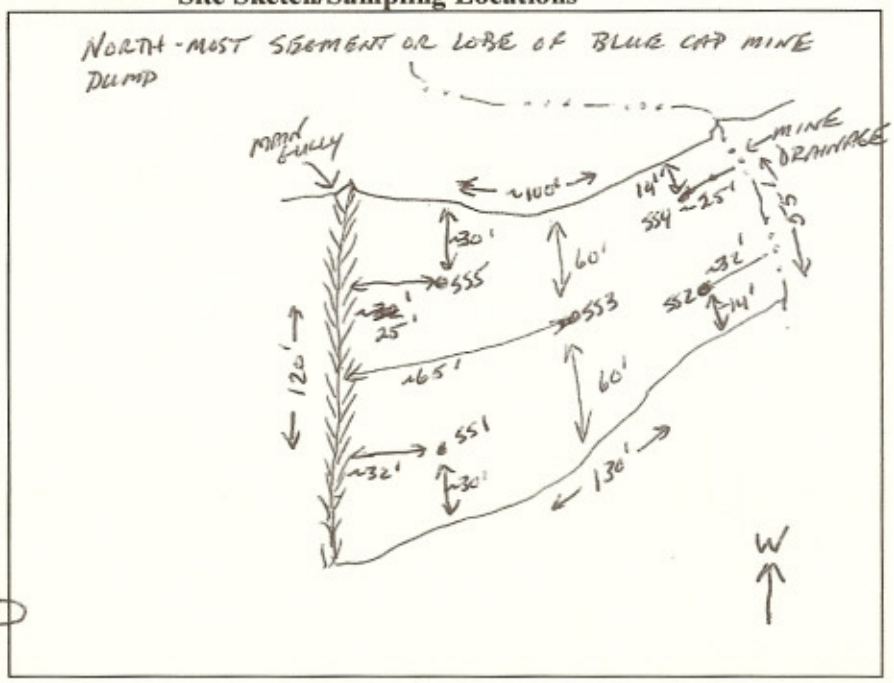
General Site Location: 1 mi N UTAH HIWAY 46, 3 mi E OF OLD LASAL

Current Conditions/Weather: PARTLY SUNNY, COOL, WINDY/GUSTS

Sampling Method: HAND TOOLS

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
SS 1:	4-19-04		0-6"	SE	GRAVELLY SAND
SS 2:	4-19-04		0-6"	NE	GRVL. SAND
SS 3:	4-19-04		0-6"	CENTER	GRVL. SAND
SS 4:	4-19-04		0-6"	NW	GRVL SAND
SS 5:	4-19-04		0-6"	SW	GRVL SAND
SS 6:					
SS 7:	WASTEROCK IS MOSTLY MED-FINE GRND SAND, SANDSTONE GRVL.				
	COBBLES				

Soil/Mine-Waste Sampling Form

Sample No.: BCWR Seg 2

Mine Site: BLUE CAP MINE

Claim No.:

Date: 4-19-04

Sampler(s): JCF, BDS

General Site Location: 1 MI N OF CORTEZ HIWAY 46, 3 MI E OF OLD LA SAL

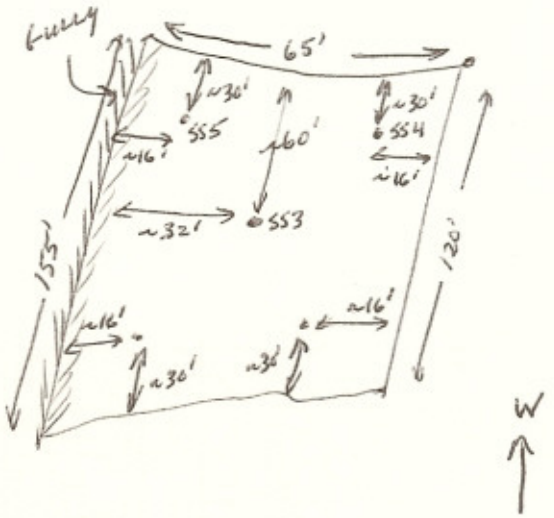
Current Conditions/Weather: PARTLY SUNNY, COOL, WINDY / GUSTS

Sampling Method: HAND TOOLS

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations

BLUE CAP MINE DUMP 2ND SEGMENT FROM NORTH



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
SS 1:	4-19-04		0-6"	SE	
SS 2:	4-19-04		0-6"	NE	
SS 3:	4-19-04		0-6"	CENTER	
SS 4:	4-19-04		0-6"	NW	
SS 5:	4-19-04		0-6"	SW	
SS 6:					
SS 7:					

Soil/Mine-Waste Sampling Form

Sample No.: BCWR SEG 3

Mine Site: BLUE CAP MINE

Claim No.:

Date: 4-19-04

Sampler(s): JCF, BDS

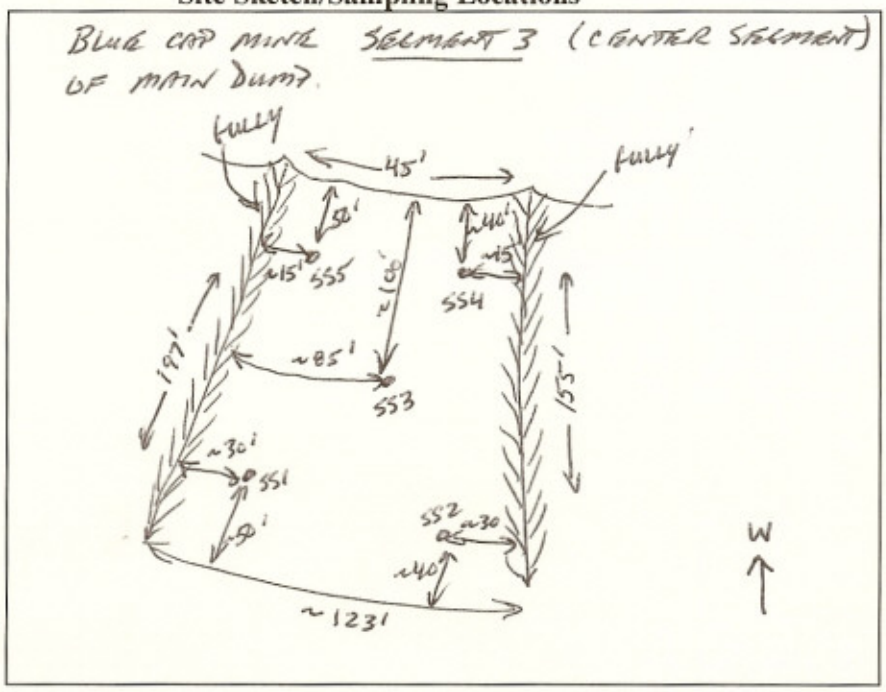
General Site Location: ~1 MI N OF UTAH HIGHWAY 46, ~3 MI E OF OLD LA SAL

Current Conditions/Weather: PARTLY SUNNY, COOL, WINDY/GUSTY

Sampling Method: HAND TOOLS

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
SS 1:	4-19-04		0-6"		
SS 2:	4-19-04		0-6"		
SS 3:	4-19-04		0-6"		
SS 4:	4-19-04		0-6"		
SS 5:	4-19-04		0-6"		
SS 6:					
SS 7:					

Soil/Mine-Waste Sampling Form

Sample No.: BCWR SEG 4

Mine Site: BLUE CAP MINE

Claim No.:

Date: 4-19-04

Sampler(s): JCF, BDS

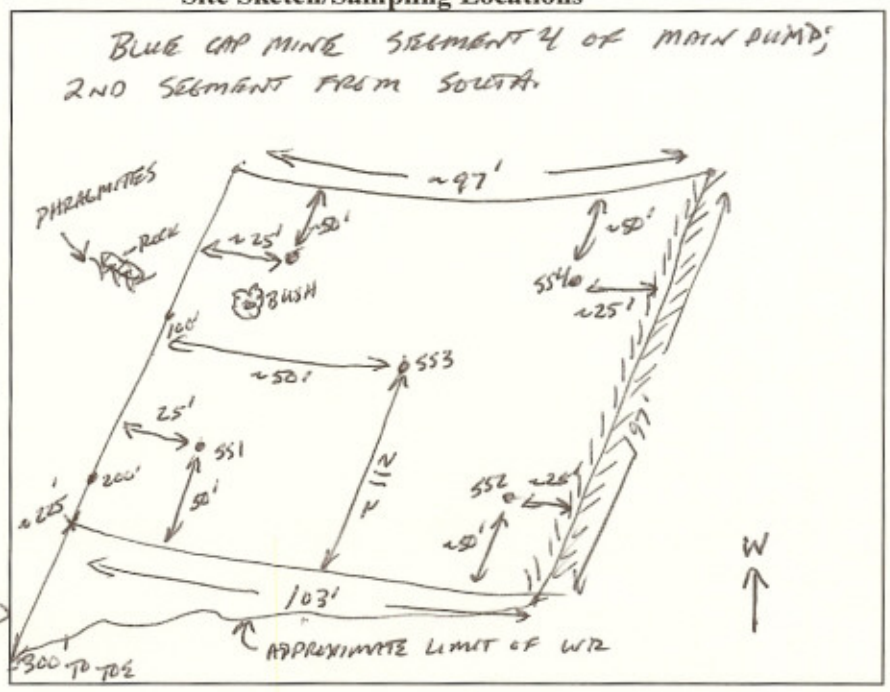
General Site Location: ~1 MI N OF UTAH HIWAY 46, ~3 MI E OF OLD LA SAL

Current Conditions/Weather: PARTLY SUNNY, COOL, WINDY/GUSTS

Sampling Method: HAND TOOLS

Sample Type (circle one): Discrete (Composite)

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
SS 1:	4-19-04	1555	0-6"		
SS 2:	4-19-04	1555	0-6"		
SS 3:	4-19-04	1555	0-6"		
SS 4:	4-19-04	1555	0-6"		
SS 5:	4-19-04	1555	0-6"		
SS 6:					
SS 7:	"BCWR SEG 6" IS DUPLICATE OF "BCWR SEG 4"				

Soil/Mine-Waste Sampling Form

Sample No.: BC WR SEG 5

Mine Site: BLUE CAP MINE

Claim No.:

Date: 4-19-04

Sampler(s): JCF, BDS

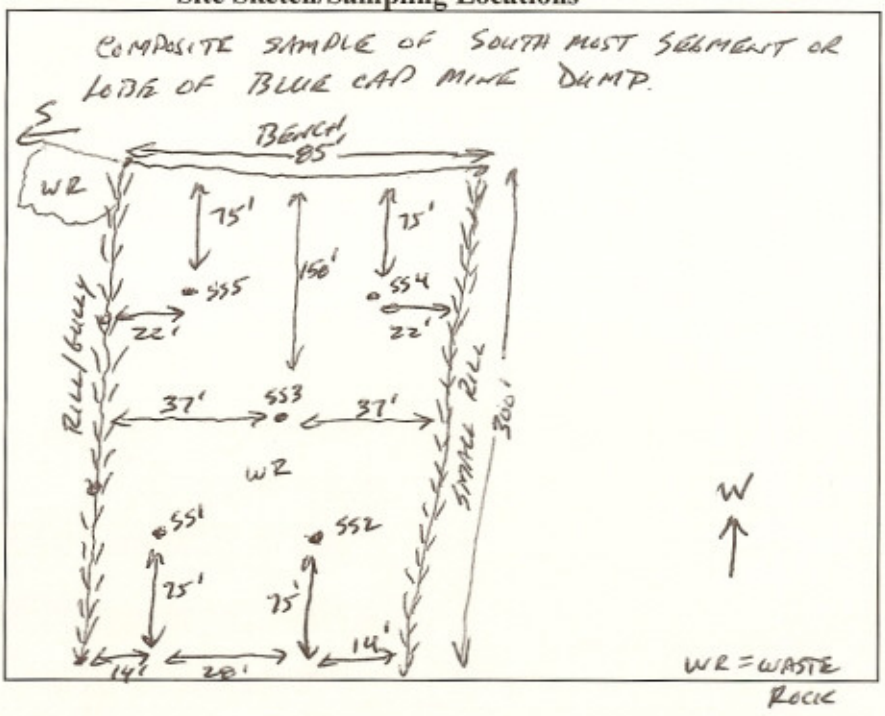
General Site Location: ~1 mi N OF UTAH HIWAY 46, ~3 MI E OF OLD LA SAL

Current Conditions/Weather: PARTLY SUNNY, COOL, WINDY/GUSTS

Sampling Method: HAND TOOLS

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
SS 1:	4-19-04	1630	0-6"	SE	
SS 2:	4-19-04	1630	0-6"	NE	
SS 3:	4-19-04	1630	0-6"	CENTER	
SS 4:	4-19-04	1630	0-6"	NW	
SS 5:	4-19-04	1630	0-6"	SW	
SS 6:					
SS 7:					

Soil/Mine-Waste Sampling Form

Sample No.: BLUE CAP SHOP

Mine Site: BLUE CAP

Claim No.:

Date: 4-27-04

Sampler(s): WGM

General Site Location: INSIDE SHOP

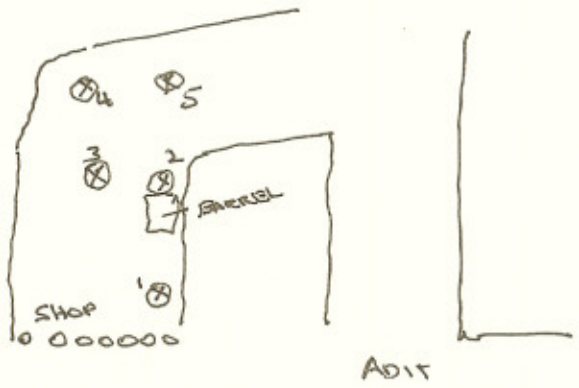
PORTAL - STAINED ZONES ON FLOOR

Current Conditions/Weather: CLEAR/WARM

Sampling Method: GRAB

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

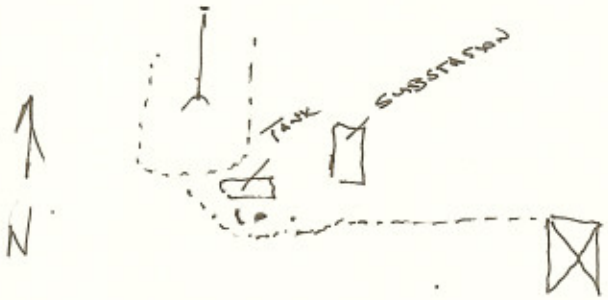
Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
	4-27-04	1255	0-2"		
SS 1:	↓	↓	↓	SEE DIAGRAM ABOVE	DK RD/BR - BK/BRN
SS 2:				↓	SILT F SAND; PETRO
SS 3:					ODOR
SS 4:					
SS 5:					
SS 6:					
SS 7:					

FIELD LOG OF BORING

SHEET ____ OF ____

LOCATION OF BORING:



PROJECT: BLACK HAT 1	BORING NO.
	TOTAL DEPTH:
JOB NO.:	LOGGED BY: WEM
PROJ. MGR.:	EDITED BY:
DRILLING CONTRACTOR: DA SOILTEK	
DRILL RIG TYPE: TRACK HSA	
DRILLERS NAME: TR. DICKWOOD	
SAMPLING METHODS: SPLIT SPOON	
HAMMER WT.:	DROP:
STARTED, TIME: 1455	DATE: 4-20-04
COMPLETED, TIME: 1545	DATE: 4-20-04
BORING DEPTH (ft.)	14
CASING DEPTH (ft.)	
WATER DEPTH (ft.)	
TIME:	
DATE:	
BACKFILLED, TIME:	DATE: BY:
SURFACE ELEV.:	DATUM:
CONDITIONS:	

SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)				DEPTH IN FEET	GRAPHIC LOG	
		3 3 4 4										0-6" LT/BRN SILTY SAND (SM) 30% SILT, LOOSE, DRY
										1		
		3 2		95%						2		2-3.5 LT RD/BRN SILTY SAND (SM) W/ 25%
										3		SILT, LOOSE; SOME WOOD OR FRAG, MOIST
		2 2										SAND VF
										4		3.5-4.0 SAME EXCEPT COLOR TO LT YW/BRN
		2 1		95%								4-5 LT RD/BR SILTY SAND (SM) W/ 30% SILT
												LIMONITE STAINING ON SAND GRAINS AND ST/SS FRAGMENTS, LOOSE, DRY
		1 1								5		5-6 LT GT/GW SM W/ 40% SILT AND VF SAND
												ABD. ST/SS FRAGMENTS; LOOSE, MOIST
		1 1		5%						6		6-8 SAME
										7		
		1 2										
		1 1		80%						8		8-10 SAME EXCEPT COLOR TO LT BR/BRN
												AND LIMONITE STAINING ON SAND GRAINS
		2 1								9		
		1		95%						10		10-12 SAME

FF7

FIELD LOG OF BORING (CONTINUED)

SHEET 2 OF 2

PROJECT	NO	BORING NO
BLACK HAT 1		

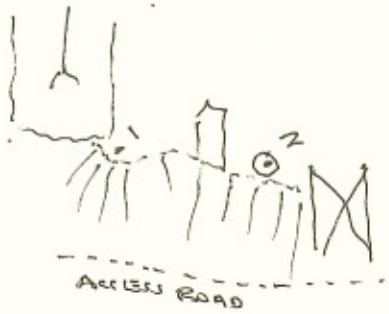
DEPTH	TYPE	BLOWS	DRIVEN	REC'V'D	COND	D.RATE				DEPTH	GRAPHIC LOG	
		1								11		
		1										
		1										
		3		90%						12		12-13 6"/8" SILT SAND (SM) w/ 40% SILT
		2										ABD 6" SILTSTONE FRAGMENTS, LOOSE, MOIST
		1								13	NATIVE	NATIVE SOIL RED/OR CLAYEY SAND (SC) w/
		3										40% CLAY, LOOSE, MOIST
										14	TD	
										15		
										16		
										17		
										18		
										19		
										20		
										1		
										2		
										3		
										4		
										5		
										6		
										7		
										8		
										9		
										0		

WOM

FIELD LOG OF BORING

SHEET 1 OF ___

LOCATION OF BORING:



PROJECT: BLACK HAT 2	BORING NO.
	TOTAL DEPTH:
JOB NO.:	LOGGED BY:
PROJ. MGR.:	EDITED BY:
DRILLING CONTRACTOR: DA SMITH	
DRILL RIG TYPE: TRAK HSA	
DRILLERS NAME: ROGER D.	
SAMPLING METHODS: SPLIT SPOON	
HAMMER WT.:	DROP:
STARTED, TIME: 1552	DATE: 4-20-04
COMPLETED, TIME: 1645	DATE: 4-20-04
BORING DEPTH (ft.)	8'
CASING DEPTH (ft.)	
WATER DEPTH (ft.)	
TIME:	
DATE:	
BACKFILLED, TIME:	DATE: BY:
SURFACE ELEV.:	DATUM:
CONDITIONS:	

SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)				DEPTH IN FEET	GRAPHIC LOG	
												0-6" RD/BR VF SILTY SAND (SM) 10% SILT, ROOTS, DRY
										1		
										2		2-3' RD/BR SILTY SAND (SM) 30% SILT BECOMES YW/BR @ 3' W/ LIMONITE STAINING,
		7 5		90%								LOOSE, DRY W/GY ST FRAG'S; SAND F-VF
		3 6								3		3-4 DK GY/BR SM; 30% SILT, SAND F-VF W/ ABD GY
												ST FRAGMNTS, LOOSE, MOIST W/LIMONITE STAINING
		9 8		50%						4		4-5 SAME
										5		~~SS~~ ROCK PLUGGED SHOE-NO RECOVERY 5'-6'
		4 7										
										6		DRILL STEM DEFLECTED OFF BOULDER; MOVED 3' WEST TO AVOID & REDRILLED
		3 1		75%								6-7.5. SAME
										7		
		1 3									NATIVE	RD/BR CLAYEY SAND (SC) TO RD/BR SAND NVAL 8'
										8	TD	
										9		
										10		

FF7

Soil/Mine-Waste Sampling Form

Sample No.: BLACK HAT DUMP 1

Mine Site: BLACK HAT

Claim No.:

Date: 4-14-04

Sampler(s): WOM

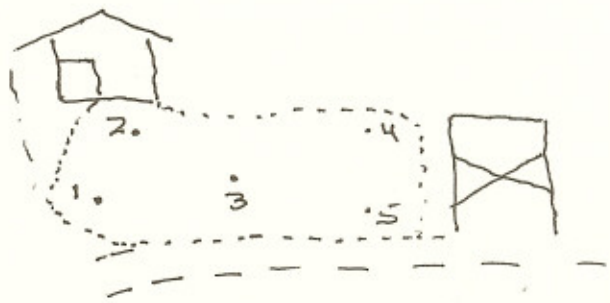
General Site Location: UPPER DUMP (ABOVE ACCESS ROAD)

Current Conditions/Weather: CLEAR BRIGHT

Sampling Method: GRAB

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
SS 1:	4-14-04	1230	0-6"	SEE DIAGRAM ABOVE	GY/BR (SM) SILTY
SS 2:	"	"	0-6"		SAND; F-VF GRAINED,
SS 3:	"	"	0-6"		30% SILT, ~~SOME~~ ASD WOM
SS 4:	"	"	0-6"		WASTE ROCK (SS) FRAGMENTS
SS 5:	"	"	0-6"		LOOSE, MOIST
SS 6:					
SS 7:					

Soil/Mine-Waste Sampling Form

Sample No.: BLACK HAT DUMP 2

Mine Site: BLACK HAT

Claim No.:

Date: 4-14-04

Sampler(s): WGM

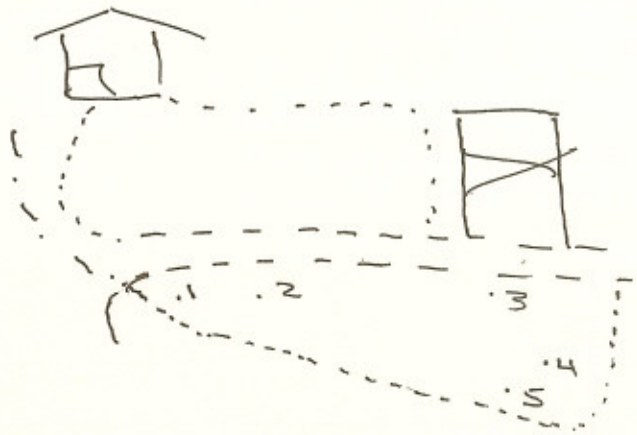
General Site Location: PORTION OF DUMP BELOW ACCESS RD

Current Conditions/Weather: CLOUDY, BREEZY

Sampling Method: GRAB

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
SS 1:	4-14-04	1310	0-6"	SEE DIAGRAM ABOVE	GY/BR SILTY SAND (SM); SAND VF-F GRAINED; SILT 30% ADD WASTE-ROCK (US) FRAGS; SUBSAMPLES 4 & 5 CONSIST OF GY VF SAND; LOOSE; MOIST
SS 2:	↓	↓	↓	↓	
SS 3:					
SS 4:					
SS 5:					
SS 6:					
SS 7:					

Soil/Mine-Waste Sampling Form

Sample No.: SP SEG1

Mine Site: ST. PATRICK

Claim No.:

Date: 4-27-04

Sampler(s): WBM/JCF

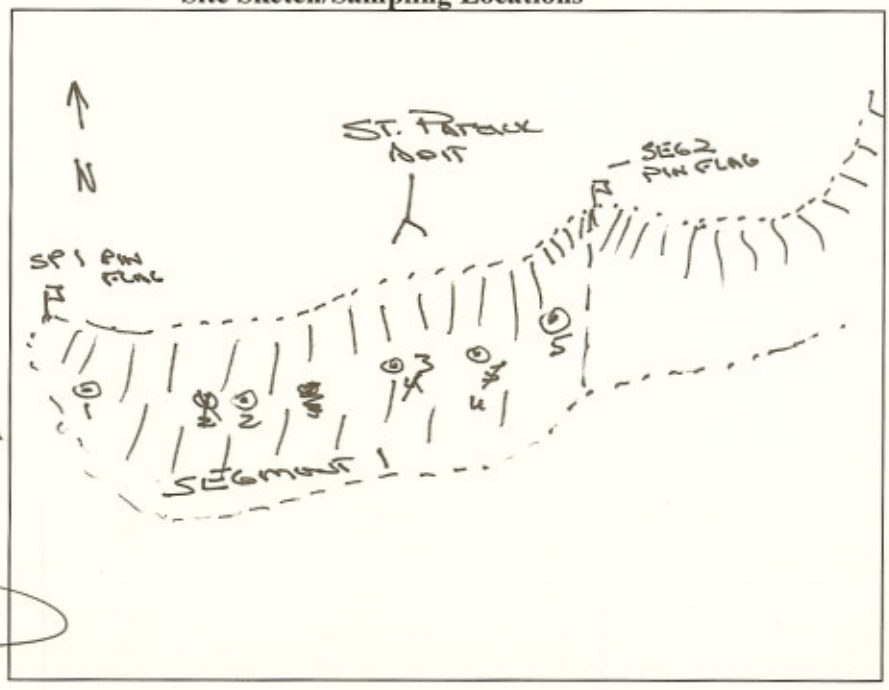
General Site Location: WESTERN HALF OF LINEAR DUMP FEATURE

Current Conditions/Weather: CLEAR, WARM

Sampling Method: CORING

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
	4-27-04	1430	0-6"		
SS 1:	↓	↓	↓	SEE DIAGRAM ABOVE	SILT VF SAND W/ 30%
SS 2:				↓	SILT; BED WASTE RX
SS 3:					CLAYS; LOOSE, DRY
SS 4:					SS 1: BLY/BR
SS 5:					SS 2 BN/BLK
SS 6:					SS3 GY/BRN
SS 7:					SS 4: LT YW/BR
					SS 5: LT BR/BR

DUPLICATE 9 COLLECTED

Soil/Mine-Waste Sampling Form

Sample No.: SP SEG 2

Mine Site: ST. PATRICK

Claim No.:

Date: 4-27-04

Sampler(s): KGM / JCF

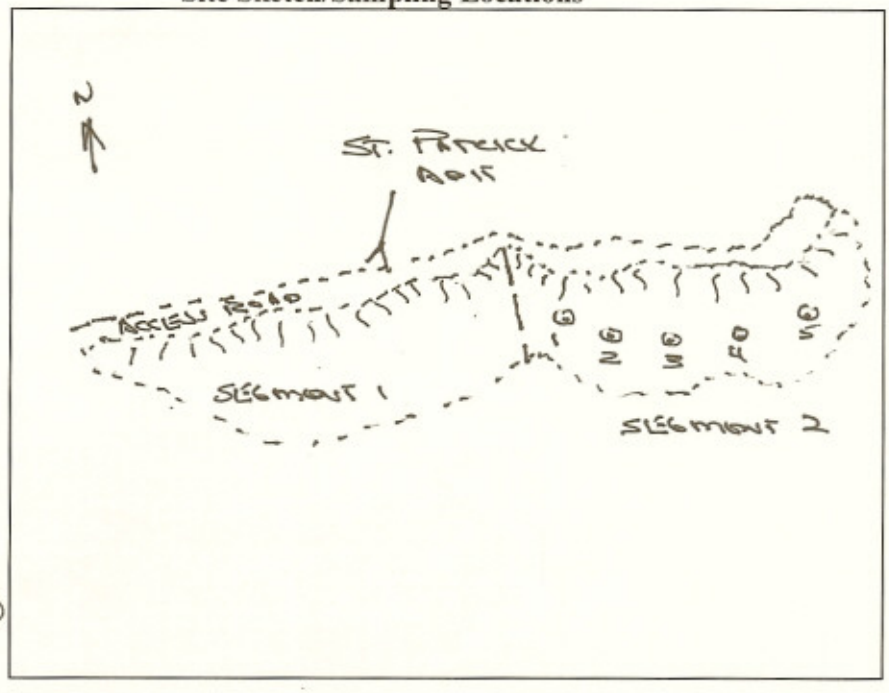
General Site Location: EASTERN HALF OF LINEAR DUMP FEATURE

Current Conditions/Weather: CLEAR; WARM

Sampling Method: GRAB

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
	4-27-04	1440 1450	0-6"	SEE DIAGRAM ABOVE	
SS 1:	↓	↓	↓	↓	6Y/BR TO LT YW/BR
SS 2:					SILTY V.F. SAND
SS 3:					(30% SILT); LOOSE;
SS 4:					MOIST; ABO WASTE
SS 5:					RK CLAST); SOME LIM.
SS 6:					STAINING ON SAND
SS 7:					GRAINS

SURFACE WATER

Surface-Water Monitoring Field Form

Station ID: FIREFLY ADIT	**Date:** 4-20-04	**Observer:** BD Smith
Location: FIREFLY MINE	**Start Time:** 1258	**Sampling**
Site Description: MINE DRAINAGE AT	**End Time:** ~1340	**Team:** BDS
PORTAL, W/IN 1 FT STEEL GATE		**Lead Signature:** BD Smith
Project: LA SAL CREEK	**Instruments:**	**Date:** 04/20/04

Sampling Information

Surface-water Type: stream / lake / pond / spring / seep / mine drainage / NPDES outfall / other: _____

Sampling Location: bank / wading / boat / bridge / other: _____

Sampling Site: pool / riffle / eddy / backwater / open / channel / braided / other: _____

Stream/Channel/Pool Width: 3 ft/m **Mean Depth**: ~.1 ft/m

Water Color: clear / brown / green / blue / grey / other: _____

Weather: SKY- clear / scattered / broken / cloudy / overcast. PRECIP- none / light / mod. / heavy / snow / rain
WIND- calm / breeze / gusty / moderate / strong / est. wind speed/direction: _____ / _____
TEMP- cold / cool / mild / warm / hot / est. air temperature: ~16.3 Comments: _____

Field Measurements

Parameter	Units	Reading	Time	Instrument	Comments
Air Temp	°C	16.3	1315	THERM.	
Water Temp	°C	10.7	1315	pH 10	
pH	s.u.	8.44	1315	pH 10	
Conductivity	µS/cm	393	1315	pH 10	
DO	mg/L	7.09	1316	DO 310	@ 10.7°C, 63.8 %
ORP	RmV	57.4	1316	pH 310	
Alkalinity	mg/L				
Turbidity	n.t.u.				
Discharge	ft^3/s, L/s, gpm		NO KNICK PT	~ 1-2 GPM	ESTIMATE
Stage ht.	ft, m				
GPS Coordinates					
Measurement: In situ or container					
Number and types of filters used:	1, .45µ				

Surface-Water Monitoring Form

Station ID: FIREFLY ADIT	**Date:** 10-11-04	**Observer:** BDS
Location: FIREFLY-PYGMY MINE	**Start Time:** 1620	**Sampling**
Site Description: DRAINAGE CHANNEL	**End Time:** 1656	**Team:** BDS
~3 FT OUTSIDE OF PORTAL STEEL GATE		**Lead Signature:** BD Smith
Project: LA SAL CREEK	**Instruments:**	**Date:** 10 / 11 / 04

Sampling Information

Surface-water Type: stream / lake / pond / spring / seep / mine drainage / NPDES outfall / other:

Sampling Location: bank / wading / boat / bridge / other:

Sampling Site: pool / riffle / eddy / backwater / open channel / braided / other: V. LOW FLOW CHANNEL

Stream/Channel/Pool Width: 2-3 ft/m **Mean Depth:** 0.2 ft/m

Water Color: clear / brown / green / blue / grey / other:

Weather: SKY- clear / scattered / broken / cloudy / overcast. PRECIP- none / light / mod. / heavy / snow / rain
WIND- calm / breeze / gusty / moderate / strong / est. wind speed/direction: /
TEMP- cold / cool / mild / warm / hot / est. air temperature: 16.8 Comments:

Field Measurements

Parameter	Units	Reading	Time	Instrument	Comments
Air Temp	°C	16.8	1622	THERM.	
Water Temp	°C	11.5	1622	10	
pH	s.u.	8.21	1622	10	
Conductivity	µS/cm	402	1622	10	
DO	mg/L	6.18	1623	DO 310	56.8% @ 11.6°C
ORP	RmV	84.9	1623	pH 310	↑ 85.5 in 20 sec
Alkalinity	mg/L				
Turbidity	n.t.u.				
Discharge	ft^3/s, L/s, gpm				ESTIMATE 1-2 GPM
Stage ht.	ft, m				
GPS Coordinates	UTM 12S 0666200, 4244312 ACC: 27 FT; 6431' ABSL				
Measurement: In situ or container					
Number and types of filters used: 1, 0.45µ		SAMPLE @ 1655			

Surface-Water Monitoring Field Form

Station ID: FIREFLY DRAINAGE	**Date:** 4-20-04	**Observer:** BDS
Location: FIRE FLY MINE	**Start Time:** 1155	**Sampling**
Site Description: EMANATION AT TOE OF	**End Time:** ~1240	**Team:** BDS
UPPER-MOST DUMP BELOW ADIT		**Lead Signature:** BD Smith
Project: LA SAL CREEK	**Instruments:**	**Date:** 4 / 20 / 04

Sampling Information

Surface-water Type: stream / lake / pond / spring / seep / mine drainage / NPDES outfall / other: _____

Sampling Location: bank / wading / boat / bridge / other: SMALL EMANATION POINT

Sampling Site: pool / riffle / eddy / backwater / open / channel / braided / other: V. SMALL POOL W/ SMALL FLOW

Stream/Channel/Pool Width: .5 ft/m **Mean Depth**: .15 ft/m

Water Color: clear / brown / green / blue / grey / other: _____

Weather: SKY- clear / scattered / broken / cloudy / overcast. PRECIP- none / light / mod. / heavy / snow / rain
WIND- calm / breeze / gusty / moderate / strong / est. wind speed/direction: _____ / _____
TEMP- cold / cool / mild / warm / hot / est. air temperature: _____ Comments: _____

Field Measurements

Parameter	Units	Reading	Time	Instrument	Comments
Air Temp	°C	15°C	1227	THERM.	
Water Temp	°C	8.9	1215	pH 10	
pH	s.u.	8.61	1215	pH 10	
Conductivity	µS/cm	395	1215	pH 10	
DO	mg/L	8.06	1226	DO 310	71.2% → 70.8% @ 9.5°C
ORP	RmV	108.3	1226	pH 310	
Alkalinity	mg/L				
Turbidity	n.t.u.				
Discharge	ft^3/s, L/s, gpm	NO KNICK PT, ~ ≤ 1 gpm			ESTIMATED @ 1 gpm
Stage ht.	ft, m				
GPS Coordinates					
Measurement: In situ or container					
Number and types of filters used: 1, .45µ					

Surface-Water Monitoring Field Form

Station ID: FIREFLY DRAINAGE	**Date:** 10-11-04	**Observer:** BDS
Location: FIREFLY - DYLONY MINE	**Start Time:** 1715	**Sampling**
Site Description: MINE DRAINAGE	**End Time:** 1810	**Team:** BDS
FROM TOE OF UPPER DUMP ONTO LOWER BENCH		**Lead Signature:** Brian D. Smith
Project: LA SAL CREEK	**Instruments:**	**Date:** 10 / 11 / 04

Sampling Information

Surface-water Type: stream / lake / pond / spring / seep / mine drainage / NPDES outfall / other: TOE OF UP. DUMP

Sampling Location: bank / wading / boat / bridge / other:

Sampling Site: pool / riffle / eddy / backwater / open / channel / braided / other: Hand dug

Stream/Channel/Pool Width: .5 ft/m **Mean Depth:** .4 Hand Dug ft/m

Water Color: clear / brown / green / blue / grey / other:

Weather: SKY- clear / scattered / broken / cloudy / overcast. PRECIP- none / light / mod. / heavy / snow / rain
WIND- calm / breeze / gusty / moderate / strong / est. wind speed/direction: /
TEMP- cold / cool / mild / warm / hot / est. air temperature: 15°C Comments:

Field Measurements

Parameter	Reading	Time	Instrument	Comments
Air Temp °C	15°C	1730	THERM	
Water Temp °C	12.0	1730	10	
pH (s.u.)	7.99	1730	10	
Conductivity (µmhos/cm)	460	1730	10	
DO (mg/L)	6.65	1730	DO310	61.4% @ 11.8°C
Eh (mV)	86.5	1730	pH 310	
Alkalinity (mg/L)				
Turbidity (n.t.u.)				
Discharge (ft3/s, gpm)				(measured/estimated)
Gage ht. (ft)				

GPS UTM 12S 0666228, 4244298 ACC = 20' ELEV = 6556 FT

Measurement: In Situ or Container Sample @ 1805

Number and type of filters used: 1, 0.45µ

Surface-Water Monitoring Field Form

Station ID: FIREFLY SPRING NO. 1	**Date:** 4-26-04	**Observer:** BS
Location: E OF FIREFLY-PYGMY MINE	**Start Time:** 1230	**Sampling**
Site Description: V. SMALL SPRING ON	**End Time:** 1316	**Team:** BDS, JCF
WOODED/BRUSHY SLOPE ~400' E OF FIREFLY MINE		**Lead Signature:** BD Smith
Project: LA SAL CREEK	**Instruments:**	**Date:** 4/26/04

Sampling Information

Surface-water Type: stream / lake / pond / spring / seep /mine drainage / NPDES outfall / other: _____

Sampling Location: bank / wading / boat / bridge / other: _____

Sampling Site: pool / riffle / eddy / backwater / open / channel / braided / other: _____

Stream/Channel/Pool Width: ~1.0 ft/m **Mean Depth**: .2 ft/m HAD to Hand dig small "pool" to put instruments in

Water Color: clear / brown / green / blue / grey / other: _____

Weather: SKY- clear / scattered / broken / cloudy / overcast. PRECIP- none / light / mod. / heavy / snow / rain
WIND- calm / breeze / gusty / moderate / strong / est. wind speed/direction: _____ / _____
TEMP- cold / cool / mild / warm / hot / est. air temperature: _____ Comments: _____

Field Measurements

Parameter	Units	Reading	Time	Instrument	Comments
Air Temp	°C	24.9	1237	THERM.	
Water Temp	°C	11.0	1243	pH 10	
pH	s.u.	8.47	1243	pH 10	
Conductivity	µS/cm	470	1243	pH 10	
DO	mg/L	8.31	1242	DO 316	74.9% @ 10.8
ORP	RmV	116.1	1242	pH 316	
Alkalinity	mg/L				
Turbidity	n.t.u.				
Discharge	ft^3/s, L/s, gpm				≤ 1 gpm ESTIMATED
Stage ht.	ft, m				
GPS Coordinates	UTM 5066324, 4244388 25' ACC. ELEV = 6548'				
Measurement: In situ or container	Sampled @ 1300-1316				
Number and types of filters used:	1, 0.45µ				

Surface-Water Monitoring Field Form

Station ID: FIREFLY SPRING 1	**Date:** 10-14-04	**Observer:** BDS
Location: V. SMALL SPRING ~300 FT NE FIREFLY MINE	**Start Time:** 1640	**Sampling**
Site Description: ON N SLOPE OF LA SAL CREEK ~300' NE OF FIREFLY MINE	**End Time:** 1755	**Team:** BDS
		Lead Signature: BD. Smith
Project: LA SAL CREEK	**Instruments:**	**Date:** 10 / 14 / 04

Sampling Information

Surface-water Type: stream / lake / pond / spring / seep /mine drainage / NPDES outfall / other: _____

Sampling Location: bank / wading / boat / bridge / other: _____

Sampling Site: pool / riffle / eddy / backwater / open / channel / braided / other: _____

Stream/Channel/Pool Width: <1 ft/m **Mean Depth**: <0.1 ft/m

Water Color: clear / brown / green / blue / grey / other: _____

Weather: SKY- clear / scattered / broken / cloudy / overcast. PRECIP- none / light / mod. / heavy / snow / rain
WIND- calm / breeze / gusty / moderate / strong / est. wind speed/direction: _____ / _____
TEMP- cold / cool / mild / warm / hot / est. air temperature: 14.1 Comments: _____

Field Measurements

Parameter	Units	Reading	Time	Instrument	Comments
Air Temp	°C	14.1	1645	THERM.	
Water Temp	°C	11.8	1646	10	11.7
pH	s.u.	8.48	1646	10	
Conductivity	µS/cm	475	1646	10	
DO	mg/L	8.35	1646	DO 310	77.5% @ 12.0 °C
ORP	RmV	104.2	1646	PH 310	Climbing slowly.
Alkalinity	mg/L				
Turbidity	n.t.u.				
Discharge	ft^3/s, L/s, gpm				ESTIMATE ≤1 GPM
Stage ht.	ft, m				
GPS Coordinates	UTM 12S 0666326; 4244381; ACC=26 FT; ELEV. = 6511 FT				
Measurement: In situ or container		Sample at 1710			
Number and types of filters used:	1. 0.45µ				

Surface-Water Monitoring Field Form

Station ID: FIREFLY SPRINGS NO.2	**Date:** 4-26-04	**Observer:** BDS
Location: FIREFLY - Pygmy Mine	**Start Time:** 1007 (MMB)	**Sampling**
Site Description: SMALL RILL ~600'	**End Time:**	**Team:** BDS
E of FIREFLY MINE ON WOODED SLOPE; 1/2 mi N. of Hwy 46		**Lead Signature:** BD Smith
Project: LA SAL CREEK	**Instruments:**	**Date:** 4 / 26 / 04

Sampling Information

Surface-water Type: stream / lake / pond / (spring) / seep / mine drainage / NPDES outfall / other: _____

Sampling Location: (bank) / wading / boat / bridge / other: Dug small "pool" to set instruments in, pump etc.

Sampling Site: pool / riffle / eddy / backwater / open / (channel) / braided / other: _____

Stream/Channel/Pool Width: ~1.0 (ft)/m **Mean Depth**: 0.2 (ft)/m

Water Color: (clear) / brown / green / blue / grey / other: _____

Weather: SKY- (clear) / scattered / broken / cloudy / overcast. PRECIP- (none) / light / mod. / heavy / snow / rain
WIND- calm / (breeze) / gusty / moderate / strong / est. wind speed/direction: _____ / _____
TEMP- cold / cool / (mild) / warm / hot / est. air temperature: _____ Comments: _____

Field Measurements

Parameter	Units	Reading	Time	Instrument	Comments
Air Temp	°C	19.9	1128 m.		Instruments in @ 1108
Water Temp	°C	10.3	1118	pH 10	
pH	s.u.	8.23	1118	pH 10	
Conductivity	µS/cm	400	1118	pH 10	
DO	mg/L	8.49	1119	DO 310	75.2% @ 10.0°C
ORP	RmV	50.9	1119	pH 310	
Alkalinity	mg/L				
Turbidity	n.t.u.				
Discharge	ft^3/s, L/s, gpm				ESTIMATE 1-2 gpm.
Stage ht.	ft, m				
GPS Coordinates	UTM S. 0666395,	E4244438 ACC: 25 FT ELEV = ~6494'			
Measurement: In situ or container		Sample @ 1135 - 1200			
Number and types of filters used:	1, .45µ				

Surface-Water Monitoring Field Form

Station ID: FIREFLY SPRING-2	**Date:** 10-14-04	**Observer:** BDS
Location: NE OF FIREFLY-DYGMY MINE	**Start Time:** 1526	**Sampling**
Site Description: SMALL SPRING IN	**End Time:** 1615	**Team:** BDS
DENSE VEG COVER ~ 1/4 MILE NE OF FIREFLY MINE ON N. SLOPE		**Lead Signature:** BD Smith
Project: LA SAL CREEK	**Instruments:**	**Date:** 10 / 14 / 04

Sampling Information

Surface-water Type: stream / lake / pond / spring / seep /mine drainage / NPDES outfall / other:

Sampling Location: bank / wading / boat / bridge / other: "Bank"

Sampling Site: pool / riffle / eddy / backwater / open / channel / braided / other: Had to hand-dig pocket pool in channel to take parameters and pump sample

Stream/Channel/Pool Width: <.5 ft/m **Mean Depth**: <0.1 ft/m

Water Color: clear / brown / green / blue / grey / other:

Weather: SKY- clear / scattered / broken / cloudy / overcast. PRECIP- none / light / mod. / heavy / snow / rain
WIND- calm / breeze / gusty / moderate / strong / est. wind speed/direction: /
TEMP- cold / cool / mild / warm / hot / est. air temperature: 19.7 Comments:

Field Measurements

Parameter	Units	Reading	Time	Instrument	Comments
Air Temp	°C	19.7	1534	THERM	
Water Temp	°C	13.0	1537		TEMP TO. 12.9°C
pH	s.u.	8.19	1537		SPRING IS IN V. MINOR RILL ONLY 1-2 FT DEEP AND 1' WIDE
Conductivity	µS/cm	385	1537		
DO	mg/L	7.87	1537		74.6 % @ 12.8 °C
ORP	RmV				
Alkalinity	mg/L				ORP & OTHER PROBES BECAME COVERED BY 1 INCH SAND - ORP READ NEGATIVE, REMOVED SAND AND ORP READ +48 ↑
Turbidity	n.t.u.				
Discharge	ft^3/s, L/s, gpm				FLOW: ESTIMATE 1 GPM
Stage ht.	ft, m				
GPS Coordinates	UTM 12 S 0666396; 4244433; ACC = 21 FT; ELEV. = 6474 FT				
Measurement: In situ or container			Water Sample @ 1555		
Number and types of filters used: 1, 0.45					

Surface-Water Monitoring Field Form

Station ID: VQ ADIT	**Date:** 4-21-04	**Observer:** BAS
Location: Vanadium Queen Mine	**Start Time:** 1325	**Sampling**
Site Description: EMANATION POINTS IN GROUND (BUBBLING-SAND) ~27 FT FROM PORTAL CANOPY	**End Time:** 1405	**Team:** BAS, JCF
		Lead Signature: BA Smith
Project: LA SAL CREEK	**Instruments:**	**Date:** 4 / 21 / 04

Sampling Information

Surface-water Type: stream / lake / pond / spring / seep / mine drainage / NPDES outfall / other: _____

Sampling Location: bank / wading / boat / bridge / other: _____

Sampling Site: pool / riffle / eddy / backwater / open / channel / braided / other: _____

Stream/Channel/Pool Width: 0.3 ft/m **Mean Depth**: 0.1 ft/m

Water Color: clear / brown / green / blue / grey / other: _____

Weather: SKY- clear / scattered / broken / cloudy / overcast. PRECIP- none / light / mod. / heavy / snow / rain
WIND- calm / breeze / gusty / moderate / strong / est. wind speed/direction: _____ / _____
TEMP- cold / cool / mild / warm / hot / est. air temperature: _____ Comments: _____

Field Measurements

Parameter	Units	Reading	Time	Instrument	Comments
Air Temp	°C	~16.4	1350		
Water Temp	°C	5.5	1335	pH 10	
pH	s.u.	8.64	1335	pH 10	
Conductivity	µS/cm	477	1335		
DO	mg/L	8.45	1347	DO 310	@ 6.1°C, 68.2%
ORP	RmV	62.7	1347	pH 310	slowly climbing → 65.1 after 10 min
Alkalinity	mg/L				
Turbidity	n.t.u.				
Discharge	ft^3/s, L/s, gpm			FLOW ESTIMATED TO BE 1-2 GPM	
Stage ht.	ft, m				
GPS Coordinates	S 0667596		4244854	Acc: 15 FT	
Measurement: In situ or container			Sampled @ 1400		
Number and types of filters used:	1, 0.45µ		Duplicate sample is "VQ MINE" @ 1440		

Surface-Water Monitoring Field Form

Station ID: VQ ADIT	**Date:** 10-18-04	**Observer:** BDS
Location: VANADIUM QUEEN MINE	**Start Time:** 1240	**Sampling**
Site Description: AT PORTAL INSIDE	**End Time:** 1330	**Team:** BDS
CRIBBING AND OPEN-TOPPED CANOPY*		**Lead Signature:** BD Smith
Project: LA SAL CREEK	**Instruments:**	**Date:** 10 / 18 / 04

Sampling Information

Surface-water Type: stream / lake / pond / spring / seep / (mine drainage) / NPDES outfall / other:

Sampling Location: (bank) / wading / boat / bridge / other:

Sampling Site: pool / riffle / eddy / backwater / open / (channel) / braided / other: SMALL CHANNEL AT TAIL OF FLOODED MINE FLOOR THAT FORMS POOL.

Stream/Channel/(Pool) Width: ~6. (ft)/m **Mean Depth:** .3-.5 (ft)/m

Water Color: (clear) / brown / green / blue / grey / other:

Weather: SKY- clear / scattered / (broken) / cloudy / overcast. PRECIP- (none) / light / mod. / heavy / snow / rain
WIND- calm / breeze / (gusty) / moderate / strong / est. wind speed/direction: /
TEMP- cold / (cool) / mild / warm / hot / est. air temperature: 13.0° Comments:

Field Measurements

Parameter	Reading	Time	Instrument	Comments
Air Temp °C	13.0	1248		
				*THIS LOCATION IS DIFFERENT
Water Temp °C	7.7	1246		FROM SAMPLE COLLECTED IN
				SPRING '04, JUST OUTSIDE OF
pH (s.u.)	8.02	1246		CANOPY. FLOW AT SPRING 04
				LOCATION IS V. DIFFUSE AND
Conductivity (µmhos/cm)	480	1246		EXTREMELY SHALLOW w/ RUSHES.
DO (mg/L)	8.08	1246		67.2% @ 7.6°C
Eh (mV)	138.7	1247		↑ increasing slightly
Alkalinity (mg/L)				
Turbidity (n.t.u.)				
Discharge (ft3/s, gpm)				(measured/(estimated)) ~1 gpm
Gage ht. (ft)				

GPS: UTM 12S 0667597 ; 4244854; ACC = 41 FT ; ELEV: = 6585 FT

Measurement: (In Situ) or Container Water Sample @

Number and type of filters used: 1; 0.45µm

Surface-Water Monitoring Field Form

Station ID: VQ DRAINAGE 1	**Date:** 4-21-04	**Observer:** BDS
Location: VANADIUM QUEEN MINE	**Start Time:** 1205	**Sampling**
Site Description: MINE DRAINAGE FLOWING	**End Time:**	**Team:** BDS
FROM PORTAL AREA DOWN BENCH ACCESS ROAD & ROAD V-DITCH		**Lead Signature:** BD Smith
Project: LA SAL CREEK	**Instruments:**	**Date:** 4 / 21 / 04

Sampling Information

Surface-water Type: stream / lake / pond / spring / seep / mine drainage / NPDES outfall / other: _____

Sampling Location: bank / wading / boat / bridge / other: KNICK PT OF MINE DRAINAGE INTO V DITCH

Sampling Site: pool / riffle / eddy / backwater / open / channel / braided / other: _____

Stream/Channel/Pool Width: 0.2 ft/m **Mean Depth**: < .05 ft/m

Water Color: clear / brown / green / blue / grey / other: _____

Weather: SKY- clear / scattered / broken / cloudy / overcast. PRECIP- none / light / mod. / heavy / snow / rain
WIND- calm / breeze / gusty / moderate / strong / est. wind speed/direction: _____ / _____
TEMP- cold / cool / mild / warm / hot / est. air temperature: 12.7 Comments: _____

Field Measurements

Parameter	Units	Reading	Time	Instrument	Comments
Air Temp	°C	12.7	1215	THERM.	
Water Temp	°C	13.0	1214	pH 10	
pH	s.u.	9.11	1214	pH 10	
Conductivity	µS/cm	473	1214	pH 10	
DO	mg/L	6.69	1215	DO 310	63.7% @ 13.2°C
ORP	RmV	58.5	1213	pH 310	
Alkalinity	mg/L				
Turbidity	n.t.u.				
Discharge	ft^3/s, L/s, gpm				MINIMAL FLOW. 900 ml/MIN
Stage ht.	ft, m				+ SOME UNCAPTURED FLOW;
GPS Coordinates	S 0667559 4244871 ACC. 14 FT.				PROBABLY ~1 L/MIN.
Measurement: In situ or container			CAPTURED FLOW IN 1 L BEAKER IN SMALL KNICK PT.		
Number and types of filters used:	1, 0.45µ				

Surface-Water Monitoring Field Form

Station ID: VQ DRAINAGE 1 **Date:** 10-18-04 **Observer:** BDS
Location: VANADIUM QUEEN MINE **Start Time:** 1127 **Sampling**
Site Description: MINE DRAINAGE **End Time:** **Team:** BDS
CHANNEL AT POINT WHERE CHANNEL LEAVES ROAD INTO DITCH **Lead Signature:** BD Smith
Project: LA SAL CREEK **Instruments:** **Date:** 10 / 18 / 04

Sampling Information

Surface-water Type: stream / lake / pond / spring / seep / mine drainage / NPDES outfall / other:

Sampling Location: bank / wading / boat / bridge / other:

Sampling Site: pool / riffle / eddy / backwater / open channel / braided / other: SMALL 1' FALL

Stream/Channel/Pool Width: ≤ 1.0 ft/m **Mean Depth:** ≤ 0.05 ft/m

Water Color: clear / brown / green / blue / grey / other:

Weather: SKY- clear / scattered / broken / cloudy / overcast. PRECIP- none / light / mod. / heavy / snow / rain
WIND- calm / breeze / gusty / moderate / strong / est. wind speed/direction: /
TEMP- cold / cool / mild / warm / hot / est. air temperature: 13.0 Comments:

Field Measurements

Parameter	Reading	Time	Instrument	Comments
Air Temp °C	13.0	1155		
Water Temp °C	10.2	1134	10	
pH (s.u.)	8.23	1134	10	
Conductivity (µmhos/cm)	478	1134	10	
DO (mg/L)	7.72	1134	DO 310	69.1% @ 10.4°C
Eh (mV)	91.1	1134	PH 310	
Alkalinity (mg/L)				
Turbidity (n.t.u.)				
Discharge (ft3/s, gpm)				measured/estimated) measured 1.5L/min + ~.5L/min (NOT CAPTURED) = 2L/min ≡ .5GPM
Gage ht. (ft)				

GPS) UTM 12 S 0667555; 4244872; ACC = 18FT; ELEV = 6541 FT
Measurement: In Situ or Container FLOW THROUGH 1L BEAKER (COLLECT/READ SIMULTANEOUSLY)
Number and type of filters used: 1, 0.45µ Water Sample @

Surface-Water Monitoring Field Form

Station ID: VQ SPRING NO. 1	**Date:** 4-28-04	**Observer:** BDS
Location: VANADIUM QUEEN MINE	**Start Time:** 12 05	**Sampling**
Site Description: SPRING LOCATED ~1/4	**End Time:**	**Team:** BDS
MILE DOWNSLOPE AND E OF MINE DUMP		**Lead Signature:** B.D. Smith
Project: LA SAL CREEK	**Instruments:**	**Date:** 4 / 28 / 04

Sampling Information

Surface-water Type: stream / lake / pond / spring / seep /mine drainage / NPDES outfall / other: _____

Sampling Location: bank / wading / boat / bridge / other: Several days before sampling, dug small depression for instruments and tubing to pump sample

Sampling Site: pool / riffle / eddy / backwater / open / channel / braided / other: _____

Stream/Channel/Pool Width: 0.5-1.0 ft/m **Mean Depth**: <.1 TO .2 ft/m

Water Color: clear / brown / green / blue / grey / other: _____

Weather: SKY- clear / scattered / broken / cloudy / overcast. PRECIP- none / light / mod. / heavy / snow / rain
WIND- calm / breeze / gusty / moderate / strong / est. wind speed/direction: _____ / _____
TEMP- cold / cool / mild / warm / hot / est. air temperature: _____ Comments: _____

Field Measurements

Parameter	Units	Reading	Time	Instrument	Comments
Air Temp	°C	26.7	1256		
Water Temp	°C	11.4	1214	pH 10	
pH	s.u.	8.10	1214	pH 10	
Conductivity	µS/cm	401	1215	pH 10	
DO	mg/L	8.53	1214	DO 310	77.5% @ 11.2°C
ORP	RmV	59.2	1215	pH 310	
Alkalinity	mg/L				
Turbidity	n.t.u.				
Discharge	ft^3/s, L/s, gpm				ESTIMATE 1 gpm
Stage ht.	ft, m				
GPS Coordinates	UTM: 5 0667518 4244591 ACC: 16 FT, ELEV = 6337'				
Measurement: In situ or container		Sample at 1235 - 1255			
Number and types of filters used:	1, .45µ				

Surface-Water Monitoring Field Form

Station ID: VQ SPRING NO. 1	**Date:** 10-15-04	**Observer:** BDS
Location: DOWNSLOPE VQ MINE	**Start Time:** 1308	**Sampling**
Site Description: ON N SLOPE LA SAL	**End Time:** ~ 1345	**Team:** BDS
CREEK ~ 1/4 mi DOWNHILL FROM VANADIUM QUEEN MINE		**Lead Signature:** BD Smith
Project: LA SAL CREEK	**Instruments:**	**Date:** 10 / 15 / 04

Sampling Information

Surface-water Type: stream / lake / pond / ~~spring~~ / seep /mine drainage / NPDES outfall / other:

Sampling Location: bank / wading / boat / bridge / other: V. MINOR RILL CHANNELING SPRING FLOW

Sampling Site: pool / riffle / eddy / backwater / open / ~~channel~~ / braided / other:

Stream/Channel/Pool Width: ~1 ft/m **Mean Depth:** << 0.1 ft/m

Water Color: clear / brown / green / blue / grey / other:

Weather: SKY- clear / scattered / broken / cloudy / overcast. PRECIP- none / light / mod. / heavy / snow / rain
WIND- calm / breeze / gusty / moderate / strong / est. wind speed/direction: /
TEMP- cold / cool / mild / warm / hot / est. air temperature: 26.1 Comments:

Field Measurements

Parameter	Reading	Time	Instrument	Comments
Air Temp °C	26.1	1335	THERM.	Hand dug small pocket
				pool to insert instruments
Water Temp °C	13.4	1313	10	and pump. LET sediment
				clear with flow.
pH (s.u.)	8.20	1313	10	Spring has willow growth here
				but is a v. small channel
Conductivity (µmhos/cm)	381	1313	10	like VQ SPG. NO. 2.
DO (mg/L)	7.79	1313	DO 310	75.5% @ 13.8 °C
Eh (mV)	103.7	1313	pH 310	
Alkalinity (mg/L)				
Turbidity (n.t.u.)				
Discharge (ft3/s, gpm)				(measured/estimated) ≤ 1 GPM
Gage ht. (ft)				

GPS: UTM 12S 0667515; 4244594; ACC = 20 FT; ELEV = 6333 FT

Measurement: In Situ or Container Water Sample @ 1330

Number and type of filters used:

Surface-Water Monitoring Field Form

Station ID: VQ SPRING NO. 2	**Date:** 4-26-04	**Observer:** BAS
Location: VANADIUM QUEEN MINE	**Start Time:** 1415	**Sampling**
Site Description: V. SMALL SEEPING	**End Time:** 1450	**Team:** BAS, JCF
SPRING IN RILL IN BROAD-HUMMOCKY TERRAIN S. OF MINE ~½ mi		**Lead Signature:**
Project: LA SAL CREEK	**Instruments:**	**Date:** / /

Sampling Information

Surface-water Type: stream / lake / pond / spring / seep /mine drainage / NPDES outfall / other: THIS SPRING SAMPLED BY INSTALLING PLASTIC PERF-

Sampling Location: bank / wading / boat / bridge / other: ORATED BUCKET IN DUG HOLE TO COLLECT SUFFICIENT WATER

Sampling Site: pool / riffle / eddy / backwater / open / channel / braided / other:

Stream/Channel/Pool Width: 0.8 ft/m **Mean Depth:** < .05 ft/m

Water Color: clear / brown / green / blue / grey / other:

Weather: SKY- clear / scattered / broken / cloudy / overcast. PRECIP- none / light / mod. / heavy / snow / rain
WIND- calm / breeze / gusty / moderate / strong / est. wind speed/direction: /
TEMP- cold / cool / mild / warm / hot / est. air temperature: Comments:

Field Measurements

Parameter	Reading	Time	Instrument	Comments
Air Temp °C	25.8	1424	THERM.	
Water Temp °C	14.5	1422	pH 10	
pH (s.u.)	7.72	1422	pH 10	
Conductivity (µmhos/cm)	269	1422	pH 10	
DO (mg/L)	5.47	1423	DO 310	53.6% @ 14.1°C
Eh (mV)	87.6	1423	pH 310	increasing to 91.2 @ 1425
Alkalinity (mg/L)				
Turbidity (n.t.u.)				
Discharge (ft3/s, gpm)				(measured/estimated) 4025 gpm
Gage ht. (ft)				

Sampled @ 1430 – 1450 GPS: UTM S. 0667576 4244408 Alt: 35'

Measurement: In Situ or Container in place of flow.

Number and type of filters used: 1, 0.45µ

Surface-Water Monitoring Field Form

Station ID: VQ SPRING NO. 2	**Date:** 10-15-04	**Observer:** BDS
Location: Downgradient of VQ mine	**Start Time:** 1157	**Sampling**
Site Description: V. small channel-	**End Time:** 1248	**Team:** BDS
Bill on gentle slope ~ 500 FT NW-W of Clarey Residence		**Lead Signature:** BD Smith
Project: LA SAL CREEK	**Instruments:**	**Date:** 10 / 15 / 04

Sampling Information

Surface-water Type: stream / lake / pond / spring / seep /mine drainage / NPDES outfall / other:

Sampling Location: bank / wading / boat / bridge / other: PERFORATED BUCKET

Sampling Site: pool / riffle / eddy / backwater / open / channel / braided / other: PERFORATED BUCKET

Stream/Channel/Pool Width: 0.8 ft/m **Mean Depth:** ~ ≤ 1.0 ft/m Grasses dense here over ~ 60 FT² area.

Water Color: clear / brown / green / blue / grey / other:

Weather: SKY- clear / scattered / broken / cloudy / overcast. PRECIP- none / light / mod. / heavy / snow / rain
WIND- calm / breeze / gusty / moderate / strong / est. wind speed/direction: /
TEMP- cold / cool / mild / warm / hot / est. air temperature: 22.9 Comments:

Field Measurements

Parameter	Reading	Time	Instrument	Comments
Air Temp °C	22.9	1206	THERM.	
Water Temp °C	10.2	1204	10	This spring was modified last SPRING of 2004 TO PROVIDE Volume to Sample by installing a perforated bucket along emanation "channel" Flow is not perceptable. Algae-moss growth within bucket
pH (s.u.)	7.41	1204	10	
Conductivity (µmhos/cm)	276	1204	10	
DO (mg/L)	3.82	1205	DO 310	34.0 % @ 10.1 °C
Eh (mV)	149.9	1205	pH 310	
Alkalinity (mg/L)				
Turbidity (n.t.u.)				
Discharge (ft3/s, gpm)				(measured/estimated) ≤ 1 GPM
Gage ht. (ft)				

GPS: UTM 12S 0667578; 4244419; ALT ≈ 17 FT; ELEV. 6216

Measurement: In Situ or Container Sample @ 1230

Number and type of filters used: 1, 0.45µ

Surface-Water Monitoring Field Form

Station ID: VQ SPRING N03	**Date:** 4-23-04	**Observer:** JDS
Location: SPRING AT BASE OF RIDGE N. SIDE LA SAL CREEK	**Start Time:** 1425	**Sampling**
Site Description: ON SMALL TERRACE	**End Time:** 1510	**Team:** SDS, JCF
AT TOE OF HILL & 10' N OF LA SAL CK - 2-3' SHALLOW POOL w/ Veg.		**Lead Signature:** B A Smith
Project: LA SAL CREEK	**Instruments:**	**Date:** 4 / 23 / 04

Sampling Information

Surface-water Type: stream / lake / pond / spring / seep /mine drainage / NPDES outfall / other: _____

Sampling Location: bank / wading / boat / bridge / other: _____

Sampling Site: pool / riffle / eddy / backwater / open / channel / braided / other: _____

Stream/Channel/Pool Width: ~1.0 ft/m **Mean Depth**: <.2 ft/m

Water Color: clear / brown / green / blue / grey / other: _____

Weather: SKY- clear / scattered / broken / cloudy / overcast. PRECIP- none / light / mod. / heavy / snow / rain
WIND- calm / breeze / gusty / moderate / strong / est. wind speed/direction: _____ / _____
TEMP- cold / cool / mild / warm / hot / est. air temperature: _____ Comments: _____

Field Measurements

Parameter	Units	Reading	Time	Instrument	Comments
Air Temp	°C	17.5°C			
Water Temp	°C	12.3°C	1431		
pH	s.u.	~~8.04~~	~~1431~~		FALLING TO 7.89 @ 1432
		7.61	1437		
Conductivity	µS/cm	425	1431		
DO	mg/L	3.52	1431		32.8% @ 12.4°C
ORP	RmV	~~3.52~~	~~1431~~		~~32.8% @ 12.4°C~~
		111.6	1432		
Alkalinity	mg/L				
Turbidity	n.t.u.				
Discharge	ft^3/s, L/s, gpm				ESTIMATE 2 GPM
Stage ht.	ft, m				
GPS Coordinates					
Measurement: In situ or container					
Number and types of filters used:					

Surface-Water Monitoring Field Form

Station ID: V6 SPRING NO. 3	**Date:** 10-15-04	**Observer:** BDS
Location: ON LA SAL CREEK	**Start Time:** 1052	**Sampling**
Site Description: SPRING ON N. SIDE	**End Time:** ~ 1140	**Team:** BDS
LA SAL CREEK ~ 1/4 mi E OF RILEY RESIDENCE		**Lead Signature:** BD Smith
Project: LA SAL CREEK	**Instruments:**	**Date:** 10 / 15 / 04

Sampling Information

Surface-water Type: stream / lake / pond / spring / seep /mine drainage / NPDES outfall / other:

Sampling Location: bank / wading / boat / bridge / other: Diffuse-flow over ~3' wide area "Water cress" phreatophytes

Sampling Site: pool / riffle / eddy / backwater / open channel / braided / other:

Stream/Channel/Pool Width: ~ 3 (ft)/m **Mean Depth**: < 0.1 (ft)/m

Water Color: clear / brown / green / blue / grey / other:

Weather: SKY- clear / scattered / broken / cloudy / overcast. PRECIP- none / light / mod. / heavy / snow / rain
WIND- calm / breeze / gusty / moderate / strong / est. wind speed/direction: /
TEMP- cold / cool / mild / warm / hot / est. air temperature: 14°C Comments:

Field Measurements

Parameter	Units	Reading	Time	Instrument	Comments
Air Temp	°C	14.0	1108	THERM.	
Water Temp	°C	12.7	1100	10	
pH	s.u.	7.60	11.00	10	
Conductivity	µS/cm	383	1100	10	
DO	mg/L	3.15	1101	DO 310	29.6% @ 12.6°C
ORP	RmV	172.2	1101	pH 310	
Alkalinity	mg/L				
Turbidity	n.t.u.				
Discharge	ft^3/s, L/s, gpm				ESTIMATE · 5 GPM.
Stage ht.	ft, m				
GPS Coordinates	UTM 12 S 0667509; 4244276; ACC = 21FT; ELEV = 6090 FT				
Measurement: In situ or container		Water Sample @ 1115			
Number and types of filters used:	1, 0.45µ				

Surface-Water Monitoring Field Form

Station ID: BLUE CAP ADIT	**Date:** 4-14-04	**Observer:** BDS
Location: UTM12 S 0669451 4245006	**Start Time:** 1413	**Sampling**
Site Description: MINE DRAINAGE	**End Time:** 1500	**Team:** BDS
JUST INSIDE ADIT (AT PORTAL)		**Lead Signature:**
Project: LA SAL CREEK	**Instruments:**	**Date:** 4 / 14 / 04

Sampling Information

Surface-water Type: stream / lake / pond / spring / seep / mine drainage / NPDES outfall / other: _____

Sampling Location: bank / wading / boat / bridge / other: _____

Sampling Site: pool / riffle / eddy / backwater / open / channel / braided / other: _____

Stream/Channel/Pool Width: ~1.0 (MAIN Channel) ft/m **Mean Depth:** ≤0.1 ft/m

Water Color: clear / brown / green / blue / grey / other: _____

Weather: SKY- clear / scattered / broken / cloudy / overcast. PRECIP- none / light / mod. / heavy / snow / rain
WIND- calm / breeze / gusty / moderate / strong / est. wind speed/direction: _____ / _____
TEMP- cold / cool / mild / warm / hot / est. air temperature: _____ Comments: _____

Field Measurements

Parameter	Reading	Time	Instrument	Comments
Air Temp °C	~17.3°	1415		
Water Temp °C	6.1	1418	pH 10	
pH (s.u.)	8.21	1418	pH 10	
Conductivity (µmhos/cm)	515µS	1418	pH 10	
DO (mg/L) *	8.83	1419	DO 310	70.2 %, 5.6°C THIS INSTR
Eh (mV)	72.1	1419	pH 310	
Alkalinity (mg/L)				
Turbidity (n.t.u.)				
Discharge (ft3/s, gpm)	Flow is perceptible but low.			(measured/estimated) ~ AS AT BLUE CAP DRAINAGE SITE
Gage ht. (ft)				

* Set @ 6000 FT ABMSL - See Calibration data.

Measurement: In Situ or Container

Number and type of filters used: 1, 0.45 micron.

Surface-Water Monitoring Field Form

Station ID: BLUE CAP ADIT	**Date:** 10-13-04	**Observer:** BDS
Location: BLUE CAP MINE	**Start Time:** 1134	**Sampling**
Site Description: PORTAL OF BLUE CAP MINE	**End Time:** 1230	**Team:** BDS
		Lead Signature: BD Smith
Project: LA SAL CREEK	**Instruments:**	**Date:** 10 / 13 / 04

Sampling Information

Surface-water Type: stream / lake / pond / spring / seep / mine drainage / NPDES outfall / other: _____

Sampling Location: bank / wading / boat / bridge / other: BOARD SET ACROSS CHANNEL

Sampling Site: pool / riffle / eddy / backwater / open / channel / braided / other: _____

Stream/Channel/Pool Width: 5 ft/m **Mean Depth**: .1-.2 ft/m

Water Color: clear / brown / green / blue / grey / other: SLTLY BRWN FILM LOCALLY (ON SURFACE).

Weather: SKY- clear / scattered / broken / cloudy / overcast. PRECIP- none / light / mod. / heavy / snow / rain
WIND- calm / breeze / gusty / moderate / strong / est. wind speed/direction: _____ / _____
TEMP- cold / cool / mild / warm / hot / est. air temperature: 15.5 Comments: _____

Field Measurements

Parameter	Units	Reading	Time	Instrument	Comments
Air Temp	°C	15.5	1138	THERM	
Water Temp	°C	8.0	1146	10	
pH	s.u.	8.67	1146	10	
Conductivity	µS/cm	526	1146	10	
DO	mg/L	8.89	1147	DO 310	74.5% @ 7.7°C
ORP	RmV	151.4	1147	pH 310	
Alkalinity	mg/L				
Turbidity	n.t.u.				
Discharge	ft^3/s, L/s, gpm				ESTIMATE 1-2 GPM
Stage ht.	ft, m				
GPS Coordinates	UTM 12S 0669457; 4245004; ACC = 65 FT; ELEV = 6549 FT				
Measurement: In situ or container		Water Sample @ 1220			
Number and types of filters used: 1, 0.45µ					

Surface-Water Monitoring Field Form

Station ID: BLUE CAP DRAINAGE	**Date:** 4-14-04	**Observer:** BDS
Location: BLUE CAP MINE	**Start Time:** 1217	**Sampling**
Site Description: MINE DRAINAGE JUST AT BROW OF MINE BENCH	**End Time:**	**Team:** BDS
		Lead Signature:
Project: LA SAL CREEK	**Instruments:**	**Date:** 4 / 14 / 04

Sampling Information

Surface-water Type: stream / lake / pond / spring / seep / mine drainage / NPDES outfall / other:

Sampling Location: bank / wading / boat / bridge / other: UTM 5 0669458 4245 037 GPS ACC. TO 37'

Sampling Site: pool / riffle / eddy / backwater / open / channel / braided / other:

Stream/Channel/Pool Width: 0.5 ft/m **Mean Depth:** < 0.1 ft/m

Water Color: clear / brown / green / blue / grey / other:

Weather: SKY- clear / scattered / broken / cloudy / overcast. PRECIP- none / light / mod. / heavy / snow / rain
WIND- calm / breeze / gusty / moderate / strong / est. wind speed/direction: /
TEMP- cold / cool / mild / warm / hot / est. air temperature: Comments:

Field Measurements

Parameter	Reading	Time	Instrument	Comments
Air Temp °C	19.7°C	1224	THERMOMETER	
Water Temp °C	9.5°C	1224	pH 10	9.7 w/ THERMOMETER
pH (s.u.)	8.37	1224	pH 10	
Conductivity (µmhos/cm)	505	1224	pH 10	
DO (mg/L)	9.38	1225	DO 310	9.1°C, 81.3% sat
Eh (mV)	67.6	1225	pH 310	
Alkalinity (mg/L)				
Turbidity (n.t.u.)				
Discharge (~~ft3/s, gpm~~)	① 1.485, ② 1.1	8.015, ③ 950 ml	17.20 sec.	(measured/estimated) Ave = 3.025E-3 cfs
Gage ht. (ft)				
Measurement: In Situ or Container			Samples collected @ 1230, 1247, 1250	
Number and type of filters used: 1, 0.45 micron			Duplicate Sample here called "WILLOW SPRING" Sampled @ 1315	

Surface-Water Monitoring Field Form

Station ID: BLUE CAP DRAINAGE	**Date:** 10-12-04	**Observer:** BDS
Location: BLUE CAP MINE	**Start Time:** 1754	**Sampling**
Site Description: MINE DRAINAGE	**End Time:** 1830	**Team:** BDS
ON BROW KNOCK PT OF MAIN DUMP		**Lead Signature:** BD Smith
Project: LA SAL CREEK	**Instruments:**	**Date:** 10 / 12 / 04

Sampling Information

Surface-water Type: stream / lake / pond / spring / seep / mine drainage / NPDES outfall / other:

Sampling Location: bank / wading / boat / bridge / other:

Sampling Site: pool / riffle / eddy / backwater / open / channel / braided / other: SMALL 10-INCH FALLS COLLECT IN BEAKER AND MEASURE

Stream/Channel/Pool Width: .5-.9 ft/m **Mean Depth**: ≤ 0.1 ft/m

Water Color: clear / brown / green / blue / grey / other:

Weather: SKY- clear / scattered / broken / cloudy / overcast. PRECIP- none / light / mod. / heavy / snow / rain
WIND- calm / breeze / gusty / moderate / strong / est. wind speed/direction: /
TEMP- cold / cool / mild / warm / hot / est. air temperature: 14.5 Comments:

Field Measurements

Parameter	Units	Reading	Time	Instrument	Comments
Air Temp	°C	14.5	1754	THERM	COLLECT WATER IN BEAKER CONTINUOUSLY DURING MEASUREMENT - FLOW THROUGH
Water Temp	°C	9.0	1602	10	
pH	s.u.	8.59	1803	10	
Conductivity	µS/cm	514	1803	10	
DO	mg/L	8.16	1803	DO 310	70.4 @ 8.9°C
ORP	RmV	94.9	1803	pH 310	
Alkalinity	mg/L				1700ml/20.35 -
Turbidity	n.t.u.				
Discharge	ft^3/s, L/s, gpm				6.2 s/800 ml; 5.9 s/800 ml, 6.93/850 ml
Stage ht.	ft, m				
GPS Coordinates	UTM: 12 S 0669442; 4245033; ACC = 39FT; ELEV = 6518'				
Measurement: In situ or container		Sample @ 1820			
Number and types of filters used:	1; 0.45µ				

Surface-Water Monitoring Field Form

Station ID: LIONCYNCK-UP	**Date:** 4-13-2004	**Observer:**
UTM12 S0669524 **Location:** 4244995	**Start Time:** 1420	**Sampling**
Site Description: BELOW BLUE	**End Time:** 1445	**Team:** WGM/BDS/JCF
CAP DUMP		**Lead Signature:**
Project: LA SAL CREEK	**Instruments:**	**Date:** / /

Sampling Information

Surface-water Type: stream / lake / pond / spring / seep /mine drainage / NPDES outfall / other:

Sampling Location: bank / wading / boat / bridge / other:

Sampling Site: pool / riffle / eddy / backwater / open / channel / braided / other: APPROX. 4' FROM POOL INLET

Stream/Channel/Pool Width: 3 ft/m **Mean Depth:** 1.25 ft/m

Water Color: clear / brown / green / blue / grey / other: STAGNANT BDS 4/17/04

Weather: SKY- clear / scattered / broken / cloudy / overcast. PRECIP- none / light / mod. / heavy / snow / rain
WIND- calm / breeze / gusty / moderate / strong / est. wind speed/direction: /
TEMP- cold / cool / mild / warm / hot / est. air temperature: 70°F Comments:

Field Measurements

Parameter	Reading	Time	Instrument	Comments
Air Temp °C	18.5	1429	THERMOMETER	
Water Temp °C	11.3°	1429	10	11.5°C THERMOMETER
pH (s.u.)	8.33	1429	10	
Conductivity (µmhos/cm)	640	1429	10	
DO (mg/L) 69.0%	7.58	1429	310	10.9°C
Eh (mV)	81.7	1429	310	FLOW: 1,250ml 38 sec
Alkalinity (mg/L)				
Turbidity (n.t.u.)				
Discharge (ft3/s, gpm)				(measured/estimated) 1.48L/39 sec,
~~Gage ht. (ft)~~				1.4L/39. AVE = 0.0013 cfs

LOCATION IS ~100 FT UPSTREAM OF BLACK HAT SPG (CULVERT) TRIBUTARY

Measurement: In Situ or Container FLOW COMES & GOES IN COLLUVIUM / ALLUVIUM

Number and type of filters used: 1 .45 MICRON

Surface-Water Monitoring Field Form

Station ID: LyonCynCk UP	**Date:** 10-12-04	**Observer:** BDS
Location: Lyon Canyon Creek	**Start Time:** 1440	**Sampling**
Site Description: Lyon Canyon Creek	**End Time:** 1532	**Team:** BDS
Drainage immediately below Blue Cap Dump		**Lead Signature:** BD Smith
Project: LaSal Creek	**Instruments:**	**Date:** 10 / 12 / 04

Sampling Information

Surface-water Type: stream / lake / pond / spring / seep /mine drainage / NPDES outfall / other:

Sampling Location: bank / wading / boat / bridge / other: Pool immediately upst is 5'L x 4'W x .5-1'D

Sampling Site: pool / riffle / eddy / backwater / open / channel / braided / other: At tail end of pool

Stream/Channel/Pool Width: .5 (ft)/m **Mean Depth:** .5 (ft)/m

Sample in pool w/ barely visible flow

Water Color: clear / brown / green / blue / grey / other: Silty Brown/Grn

Weather: SKY- clear / scattered / broken / cloudy / overcast. PRECIP- none / light / mod. / heavy / snow / rain
WIND- calm / breeze / gusty / moderate / strong / est. wind speed/direction: /
TEMP- cold / cool / mild / warm / hot / est. air temperature: Comments:

Field Measurements

Parameter	Units	Reading	Time	Instrument	Comments
Air Temp	°C	19.5	1452	Therm	
Water Temp	°C	12.4	1450	10	
pH	s.u.	8.23	1450	10	
Conductivity	µS/cm	691	1450	10	
DO	mg/L	6.82	1451	DO 310	63.2% @ 12.2°C
ORP	RmV	107.7	1451	pH 310	
Alkalinity	mg/L				
Turbidity	n.t.u.				
Discharge	ft^3/s, L/s, gpm				15.3 s / 1L (twice)
Stage ht.	ft, m				
GPS Coordinates	UTM 12 S 0669531; 4244995; ACC = 18'; ELEV = 6419'				
Measurement: In situ or container		Water Sample @ 1515			
Number and types of filters used: 1, 0.45µ		Sediment Sample @ 1445 "LyonCynCkUP" over 20 ft reach - some above water surface due to recent flood event w/ deposited fines.			

Surface-Water Monitoring Field Form

Station ID: LIONCYNCK-DN1	**Date:** 4-13-2004	**Observer:**
Location: UTM 12 50669577 4244902	**Start Time:** 1330	**Sampling**
Site Description: LION CYN CREEK	**End Time:** 1410	**Team:** WGM/BOS/JCF
WESTBOUND OF CK CROSSING		**Lead Signature:**
Project: LA SAL CREEK	**Instruments:**	**Date:** / /

Sampling Information

Surface-water Type: (stream) / lake / pond / spring / seep /mine drainage / NPDES outfall / other:

Sampling Location: (bank) / wading / boat / bridge / other:

Sampling Site: pool / riffle / eddy / backwater / open / (channel) / braided / other: CHANNEL / POOL

Stream/Channel/Pool Width: 1.5 ft/m **Mean Depth:** 2 INCHES ft/m

Water Color: (clear) / brown / green / blue / grey / other:

Weather: SKY- (clear) / scattered / broken / cloudy / overcast. PRECIP- (none) / light / mod. / heavy / snow / rain
WIND- (calm) / breeze / gusty / moderate / strong / est. wind speed/direction: /
TEMP- cold / cool / mild / (warm) / hot / est. air temperature: Comments:

Field Measurements

Parameter	Reading	Time	Instrument	Comments
Air Temp °C	21.9	1342		
Water Temp °C	13.2	1342	10	
pH (s.u.)	8.89	1342	10	
Conductivity (µmhos/cm)	578	1342	10	
DO (mg/L) 76.3%	~~7~~ WGM 8.23	1342	310	13.3°C ON PROBE
Eh (mV)	46.5	1342	310	
				FLOW: 7.5 L / 17.6 SEC.
Alkalinity (mg/L)				9.0 L / 20.05 SEC
				8.5 L / 18.7 SEC
Turbidity (n.t.u.)				AVE = 0.0157 cfs
Discharge (ft3/s, gpm)			BUCKET	(measured/estimated)
Gage ht. (ft)				

Measurement: In Situ or Container

Number and type of filters used: 1 - 0.45 MICRON

Surface-Water Monitoring Field Form

Station ID: LYONCYNCKDN1	**Date:** 10-12-04	**Observer:** BDS
Location: LYON CANYON CREEK	**Start Time:** 1300	**Sampling**
Site Description: ~50' upstream of	**End Time:** ~1350	**Team:** BDS
WELL ACCESS ROAD CROSSES STREAM		**Lead Signature:** B.D. Smith
Project: LA SAL CREEK	**Instruments:**	**Date:** 10 / 12 / 04

Sampling Information

Surface-water Type: (stream) / lake / pond / spring / seep /mine drainage / NPDES outfall / other:

Sampling Location: (bank) / wading / boat / bridge / other:

Sampling Site: (pool) / riffle / eddy / backwater / open / channel / braided / other:

Stream/Channel/Pool Width: 2-6 (ft)/m **Mean Depth:** ~10-15 ~~ft/m~~ in.

Water Color: (clear) / brown / green / blue / grey / other: slightly green/brown

Weather: SKY- clear / (scattered) / broken / cloudy / overcast. PRECIP- (none) / light / mod. / heavy / snow / rain
WIND- calm / (breeze) / gusty / moderate / strong / est. wind speed/direction: /
TEMP- cold / cool / mild / (warm) / hot / est. air temperature: 16°C Comments:

Field Measurements

Parameter	Reading	Time	Instrument	Comments
Air Temp °C	16°C	1314	THERM	
Water Temp °C	13.3	1308	10	
pH (s.u.)	8.82	1308	10	
Conductivity (µmhos/cm)	593	1308	10	
DO (mg/L)	7.75	1309	DO 310	75.1% @ 13.1°C
Eh (mV)	64.8	1309	pH 310	
Alkalinity (mg/L)				
Turbidity (n.t.u.)				
Discharge (ft3/s, gpm)				(measured)/estimated) 5gal/1min 10sec
Gage ht. (ft)				ELEV ~6318 FT + ~2 gpm

GPS. UTM 12 S 0669582, 4244914 ACC ~22' Dup is called LYONCYNCK

Measurement: (In Situ) or Container Water Sample @ 1325, Duplicate @ 1350

Number and type of filters used: 1, 0.45µ; Sediment sample @ 1305, SOIL TAKE OVER 20' REACH

Surface-Water Monitoring Field Form

Station ID: LIONCYNCK - DN2	**Date:** 04-13-2004	**Observer:** JCF
Location: UTM 12 S0670074 4244503	**Start Time:** 1150	**Sampling**
Site Description: DOWNSTREAM	**End Time:** 1235	**Team:** JDS / KAM
SAMPLE AT PRIVATE PROP. BOUNDARY		**Lead Signature:**
Project: LA SAL CK	**Instruments:**	**Date:** / /

Sampling Information

Surface-water Type: stream / lake / pond / spring / seep /mine drainage / NPDES outfall / other:

Sampling Location: bank / wading / boat / bridge / other:

Sampling Site: pool / riffle / eddy / backwater / open / channel / braided / other:

Stream/Channel/Pool Width: 1.5 ft/m **Mean Depth:** 0.25 ft/m

Water Color: clear / brown / green / blue / grey / other:

Weather: SKY- clear / scattered / broken / cloudy / overcast. PRECIP- none / light / mod. / heavy / snow / rain
WIND- calm / breeze / gusty / moderate / strong / est. wind speed/direction: /
TEMP- cold / cool / mild / warm / hot / est. air temperature: 65° Comments:

Field Measurements

Parameter	Reading	Time	Instrument	Comments
Air Temp °C				
Water Temp °C	13.1	1155	10 SERIES	CONFIRMED W/ THERMOMETER
pH (s.u.)	8.35	1155	10 SERIES	
Conductivity (µmhos/cm)	280	1155	10 SERIES	
DO (mg/L) ~ 8.15 mg/L	77.5%	1155	310	
Eh (mV) (mV)	32.2	1155	310	
Alkalinity (mg/L)				
Turbidity (n.t.u.)				
Discharge (ft3/s, gpm)				(measured/estimated) SEE BACK OF FORM
Gage ht. (ft)				

Measurement: In Situ or Container CALIBRATED BUCKET
Number and type of filters used: 1 - 0.45 micron

Surface-Water Monitoring Field Form

Station ID: ~~LS SAL CRK DH2~~ LYONCYNCK DH2	**Date:** 10-12-04	**Observer:** BDS
Location: Lyon Canyon Creek	**Start Time:** 1145	**Sampling**
Site Description: ~60 FT? UPSTREAM	**End Time:** ~1240	**Team:** BDS
OF BLM-PRIVATE PROPERTY BOUNDARY, LOWER LYON CANYON CREEK		**Lead Signature:** BD Smith
Project: LA SAL CREEK	**Instruments:**	**Date:** 10 / 12 / 04

Sampling Information

Surface-water Type: stream / lake / pond / spring / seep /mine drainage / NPDES outfall / other:

Sampling Location: bank / wading / boat / bridge / other:

Sampling Site: pool / riffle / eddy / backwater / open / channel / braided / other:

Stream/Channel/Pool Width: 1.2 ft/m **Mean Depth:** ~.7 ft/m

Water Color: clear / brown / green / blue / grey / other:

Weather: SKY- clear / scattered / broken / cloudy / overcast. PRECIP- none / light / mod. / heavy / snow / rain
WIND- calm / breeze / gusty / moderate / strong / est. wind speed/direction: /
TEMP- cold / cool / mild / warm / hot / est. air temperature: 16°C Comments:

Field Measurements

Parameter	Reading	Time	Instrument	Comments
Air Temp °C	16°C	1156	THERM	
Water Temp °C	13.7	1156	10	
pH (s.u.)	8.29	1156	10	
Conductivity (µmhos/cm)	290	1156	10	
DO (mg/L)	8.43	1157	D6310	80.7% @ 13.4°C
Eh (mV)	16.2	1157	PH 310	DROPPING V. SLOWLY
Alkalinity (mg/L)				
Turbidity (n.t.u.)				
Discharge (ft3/s, gpm)				(measured/estimated) 3.2, 3.4, 3.65 / 5 gal
Gage ht. (ft)				

GPS: UTM 12 S 0670072, 4244499 ACC 20', ELEV ≈5981'

Measurement: In Situ or Container Sample @ 1200

Number and type of filters used: 1. 0.45µ Sed sample @ 1230

Surface-Water Monitoring Field Form

Station ID: BLACK HAT SPRING	**Date:** 04-14-04	**Observer:**
Location: UTM12 5066957O 4245044	**Start Time:** 1025	**Sampling**
Site Description: UPSTREAM OF	**End Time:** 1055	**Team:** BDS/WRM/JCF
CULVERT ~ 10' FROM CULVERT INLET		**Lead Signature:**
Project: LA SAL CREEK	**Instruments:**	**Date:** / /

Sampling Information

Surface-water Type: stream / lake / pond / (spring) / seep /mine drainage / NPDES outfall / other:

Sampling Location: (bank) / wading / boat / bridge / other:

Sampling Site: pool / riffle / eddy / backwater / open / (channel) / braided / other: AT SMALL FALLS

Stream/Channel/Pool Width: 1.5 POOL 0.5 AT FALLS (ft)/m **Mean Depth:** < 1.0" ft/m

Water Color: (clear) / brown / green / blue / grey / other:

Weather: SKY- (clear) / scattered / broken / cloudy / overcast. PRECIP- (none) / light / mod. / heavy / snow / rain
WIND- (calm) / breeze / gusty / moderate / strong / est. wind speed/direction: /
TEMP- cold / cool / mild / warm / hot / est. air temperature: Comments:

Field Measurements

Parameter	Reading	Time	Instrument	Comments
Air Temp °C	18	1030		
Water Temp °C	11.5	1030	10	11.8°C ON THERMOMETER
pH (s.u.)	8.08	1030	10	
Conductivity (µmhos/cm)	402	1030	10	
DO (mg/L) 74.6%	8.15	1030	310	11.4°C
Eh (mV)	91.7	1030	310	FROM CULVERT
				FLOW: 9.3L / 32.3 sec.
Alkalinity (mg/L)				12.0L / 40.39 sec
				9.8L / 34.13 sec.
Turbidity (n.t.u.)				
Discharge (ft3/s, gpm)				(measured/estimated)
Gage ht. (ft)				

Measurement: In Situ or Container SAMPLE AT SMALL FALL USING FLOW-THRU BEAKER

Number and type of filters used: 1 0.45 MICRON

Surface-Water Monitoring Field Form

Station ID: BLACK HAT SPRING	**Date:** 10-12-04	**Observer:** BDS
Location: BLACK HAT SPRING	**Start Time:** 1603	**Sampling**
Site Description: SPRING ON UPPER	**End Time:** 1650	**Team:** BDS
LEVEL OF ROAD ~500'S OF BLACK HAT MINE		**Lead Signature:** BD Smith
Project: LA SAL CREEK	**Instruments:**	**Date:** 10 / 12 / 04

Sampling Information

Surface-water Type: stream / lake / pond / ~~spring~~ / seep /mine drainage / NPDES outfall / other:

Sampling Location: bank / wading / boat / bridge / other:

Sampling Site: pool / riffle / eddy / backwater / open / channel / braided / other: SMALL POCKET IN CHANNEL

Stream/Channel/Pool Width: .4 (ft)/m **Mean Depth**: .2 (ft)/m

Water Color: clear / brown / green / blue / grey / other:

Weather: SKY- clear / scattered / broken / cloudy / overcast. PRECIP- none / light / mod. / heavy / snow / rain
WIND- calm / breeze / gusty / moderate / strong / est. wind speed/direction: /
TEMP- cold / cool / mild / warm / hot / est. air temperature: 16.9°C Comments:

Field Measurements

Parameter	Units	Reading	Time	Instrument	Comments
Air Temp	°C	16.9	1609	THERM	
Water Temp	°C	13.4	1606	10	
pH	s.u.	8.32	1606	10	
Conductivity	µS/cm	399	1606	10	
DO	mg/L	7.91	1606	DO 310	75.8 % @ 13.5°C
ORP	RmV	125.6	1607	pH 310	
Alkalinity	mg/L				
Turbidity	n.t.u.				
Discharge	ft^3/s, L/s, gpm				3L/9.4S; 3L/9.3S; 3L/9.3S
Stage ht.	ft, m				measured flow from culvert,
GPS Coordinates	UTM 12S 0669573; 4245096; ACC = 21FT; ELEV = 6502FT				
Measurement: In situ or container			Water Sample @ 1645		
Number and types of filters used: 1, 0.45µ					

Surface-Water Monitoring Field Form

Station ID: ALCOVE SPRING	**Date:** 4-15-04	**Observer:** BDS
Location: UTM12 S 0669505 4245031	**Start Time:** 1120	**Sampling**
Site Description: WEST SEEP POINT	**End Time:** 1200	**Team:** BDS, WGM, JPF
UNDER ALCOVE OVERHANG		**Lead Signature:**
Project: LA SAL CREEK	**Instruments:**	**Date:** 04 / 14 / 04

Sampling Information

Surface-water Type: stream / lake / pond / (spring) / seep / mine drainage / NPDES outfall / other:

Sampling Location: (bank) / wading / boat / bridge / other: SAMPLE COLLECTED FROM SEEP POINT W/ 2 MAIN EMANATION POINTS (WEST EMANATION POINT

Sampling Site: pool / riffle / eddy / backwater / open / channel / braided / other: ROCK FRACTURE EMANATION

Stream/Channel/Pool Width: SPRING IN ROCK FRACTURE <1' LONG x .1' WIDE ft/m **Mean Depth:** <.1 (ft)/m

Water Color: (clear) / brown / green / blue / grey / other:

Weather: SKY- (clear) / scattered / broken / cloudy / overcast. PRECIP- none / light / mod. / heavy / snow / rain
WIND- calm / (breeze) / gusty / moderate / strong / est. wind speed/direction: /
TEMP- cold / cool / (mild) / warm / hot / est. air temperature: 18.5 Comments:

Field Measurements

Parameter	Reading	Time	Instrument	Comments
Air Temp °C	18.5°C	1124	THERMOMETER	
Water Temp °C	10.5	1124	10	11°C THERMOMETER
pH (s.u.)	8.20	1124	10	
Conductivity (µmhos/cm)	579µS	1124	10	10.5°C
DO (mg/L)	66.8 %		DO 310	10.4°C 7.47 mg/L
Eh (mV)	68.6	1124	310	FLOW — EAST 1/2
				1 L / 2 min 0.83 sec
Alkalinity (mg/L)				SAMPLE — WEST HALF
				600 ml / 1 min 22.27 sec
Turbidity (n.t.u.)				
				EAST SEEP (NOT) SAMPLED 850 ml / 1 min 20 sec
Discharge (ft3/s, gpm)				(measured/estimated)
Gage ht. (ft)				
Measurement: In Situ or (Container)	FLOW THROUGH 1L BEAKER			
Number and type of filters used:	1 - 0.45 micron			

Surface-Water Monitoring Field Form

Station ID: ALCOVE SPRING	**Date:** 10-12-04	**Observer** TBDS
Location: LYON CANYON CREEK TRAINAGE	**Start Time:** 1707	**Sampling**
Site Description: SPRING UNDER	**End Time:** ~1745	**Team:** TBDS
OVERHANG ON E FLANK LYON CANYON CREEK 200' FROM BLACK HAT MINE		**Lead Signature:** TB Smith
Project: LA SAL CREEK	**Instruments:**	**Date:** 10 / 12 / 04

Sampling Information

Surface-water Type: stream / lake / pond / spring / seep /mine drainage / NPDES outfall / other: _____

Sampling Location: bank / wading / boat / bridge / other: Flows from Sandst ledge.

Sampling Site: pool / riffle / eddy / backwater / open / channel / braided / other: SEEP/FLOW FROM ROCK FRACTURE

Stream/Channel/Pool Width: — ft/m **Mean Depth**: — ft/m

Water Color: clear / brown / green / blue / grey / other: _____

Weather: SKY- clear / scattered / broken / cloudy / overcast. PRECIP- none / light / mod. / heavy / snow / rain
WIND- calm / breeze / gusty / moderate / strong / est. wind speed/direction: _____ / _____
TEMP- cold / cool / mild / warm / hot / est. air temperature: 21°C Comments: _____

Field Measurements

Parameter	Units	Reading	Time	Instrument	Comments
Air Temp	°C	21°C	1714		TOOK PARAMETERS FROM
					1L BEAKER RECEIVING
Water Temp	°C	13.1	1713	10	FLOW DURING MEASURE-
					MENT.
pH	s.u.	8.58	1713	10	COLLECTED WATER IN
					BEAKER & TRANSFERRED TO
Conductivity	µS/cm	564	1713	10	SAMPLE BOTTLES.
DO	mg/L	6.51	1714	DO 310	62.7% @ 13.6°C
ORP	RmV	101.8	1714	pH 310	
Alkalinity	mg/L				
Turbidity	n.t.u.				
Discharge	ft³/s, L/s, gpm				500 mL / 34.55 IS ~ 1/2 OF FLOW
Stage ht.	ft, m				AT SAMPLING PT, ALSO ABOUT SPRING
GPS Coordinates	UTM 12S 0606950; 4245027; ACC = 21 FT; ELEV = 6478 FT.				
Measurement In situ or container	SEE ABOVE	WATER Sample @ 1730			
Number and types of filters used:	1, 0.45µ	AT OTHER SEEPAGE POINT TO ~ 10 FT			

Surface-Water Monitoring Field Form

Station ID: LA SAL CRK DN 1	**Date:** 10-14-04	**Observer:** BDS, Bill Carey (BLM)
Location: LA SAL CREEK	**Start Time:** 0945	**Sampling**
Site Description: LA SAL CREEK	**End Time:** 1015	**Team:** BDS
~60 FT DOWNST. OF GULLY TRIB. FROM FIREFLY MINE		**Lead Signature:** BD. Smith
Project: LA SAL CREEK	**Instruments:**	**Date:** 10 / 14 / 04

Sampling Information

Surface-water Type: stream / lake / pond / spring / seep /mine drainage / NPDES outfall / other: _____

Sampling Location: bank / wading / boat / bridge / other: _____

Sampling Site: pool / riffle / eddy / backwater / open / channel / braided / other: RUN - FOR SAMPLE RAPID FLOW

Stream/Channel/Pool Width: ~1.3 ft/m **Mean Depth**: .3 ft/m AT SAMPLING PT. 2.5 FT W x ~ .4 FT D.

Water Color: clear / brown / green / blue / grey / other: _____

Weather: SKY- clear / scattered / broken / cloudy / overcast. PRECIP- none / light / mod. / heavy / snow / rain
WIND- calm / breeze / gusty / moderate / strong / est. wind speed/direction: _____ / _____
TEMP- cold / cool / mild / warm / hot / est. air temperature: _____ Comments: _____

Field Measurements

Parameter	Units	Reading	Time	Instrument	Comments
Air Temp	°C				
Water Temp	°C	5.8	0950		
pH	s.u.	8.52	0950		
Conductivity	µS/cm	544	0950		
DO	mg/L				
ORP	RmV				
					BDS DID Water Sampling
Alkalinity	mg/L				AT 0950. Bill Carey of
					BLM MEASURED DISCHARGE
Turbidity	n.t.u.				AT PT. ADJACENT TO SITE STAGE,
					Bill Carey's INSTRUMENTS
Discharge	ft^3/s, L/s, gpm				USED FOR FIELD PARAMETERS
Stage ht.	ft, m				NO ROD; USED HAND TO HOLD
GPS Coordinates					INSTRUMENT.
Measurement: In situ or container			Water Sample @ 0950		
Number and types of filters used:	1; 0.45µ				

STREAM SEDIMENT

Soil/Mine-Waste Sampling Form

Sample No.: LA SAL CRK UP SED

Mine Site: FIREFLY - PYGMY MINE

Claim No.:

Date: 10-13-04

Sampler(s): B.D. SMITH

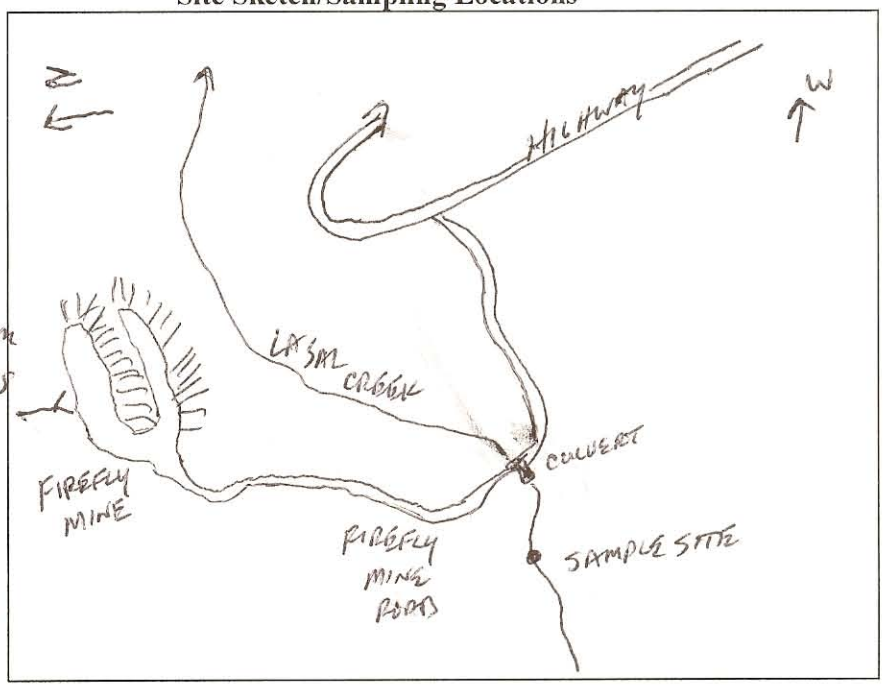
General Site Location: ~ 150 FT UPSTREAM OF WHERE FIREFLY MINE ROAD CROSSES LA SAL CREEK

Current Conditions/Weather: CLEAR, MILD, WARM

Sampling Method: SS SPOON

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
				STREAM IS HEAVILY	SAMPLE IS MUD.
SS 1:	10-13-04	1559	BELOW WATER	OVERGROWN W/ WILLOWS	BROWN TO YEL BROWN,
SS 2:			LEVEL IN	AND OTHER DAREATE	~ 80% CLAY, 20%
SS 3:			CHANNEL	PLANTS. LEAVES, STICKS	V. FN SILT. SMALL
SS 4:				IN CHANNEL, NO	ROOTS, OTHER ORGANIC
SS 5:		1608		VISIBLE GRAVEL	COMPONENTS.
SS 6:				BARS.	
SS 7:					
	DESIGNATED SAMPLE TIME: 1605				

Soil/Mine-Waste Sampling Form

Sample No.: LA SAL CRK ~~UP SED~~ DN1 SED

Mine Site: FIREFLY - PYGMY MINE

Claim No.:

Date: 10-13-04

Sampler(s): BD SMITH

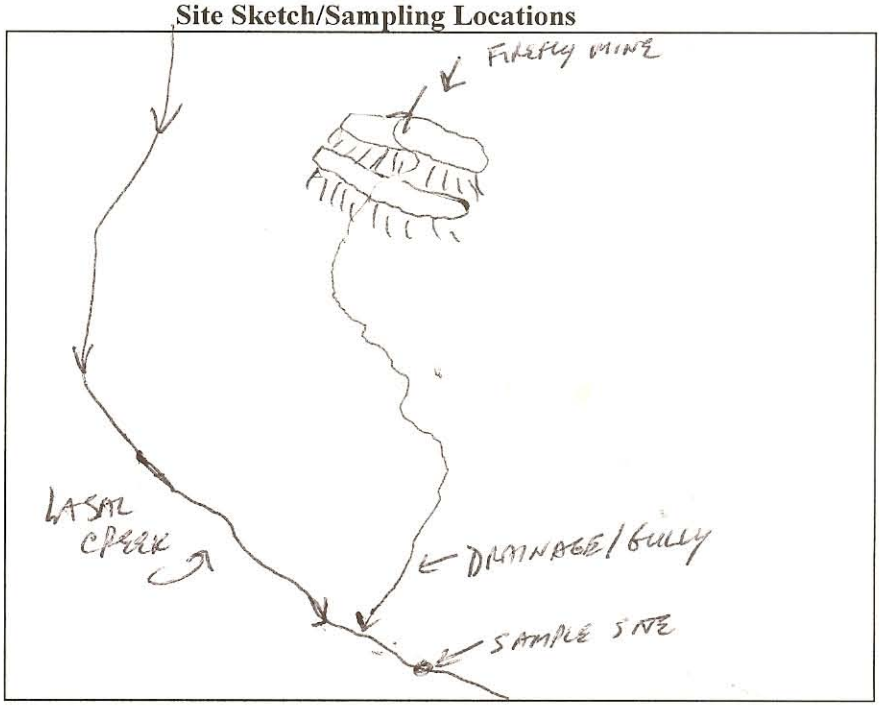
General Site Location: ~ 50 FT DOWNST OF CONFLUENCE FIREFLY GULLY & LA SAL CREEK ON LA SAL CREEK

Current Conditions/Weather: CLEAR, MILD

Sampling Method: SS SPOON

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
SS 1:	10-13-04	1517		TOOK 6 SUBSAMPLES	RED BRWN V. FN SILT
SS 2:				OVER 50' REACH	" "
SS 3:					MOSTLY DK GRAY ORG. CLAY
SS 4:					RED BWN V. FN. SILT/CLAY
SS 5:					" "
SS 6:	10-13-04	1525			RED BWN V FINE SILT
SS 7:					CLAY
	DESIGNATED	SAMPLE TIME	=	1525	

Soil/Mine-Waste Sampling Form

Sample No.: LA SOL DW 2 SED

Mine Site: _____

Claim No.: _____

Date: 10-12-04

Sampler(s): WOW

General Site Location: _____

Current Conditions/Weather: _____

Sampling Method: _____

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations

Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
LA SOL DW 2 SED	10.12.04	1730			30% VF RD BR SAND
SS 1:					30% BRN CLAY
SS 2:					40% BRN SILT
SS 3:					
SS 4:					
SS 5:					
SS 6:					
SS 7:					

Soil/Mine-Waste Sampling Form

Sample No.: LA SAL DW3 · SED

Mine Site:

Claim No.:

Date: 10-12-04

Sampler(s): WMM

General Site Location:

Current Conditions/Weather:

Sampling Method:

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations

Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
LA SAL DW3 SED	10-12-04	1740			40% BRN SILT;
SS 1:					30% VF SAND ROOTS
SS 2:					30% DK BRN CLAY
SS 3:					DUP SED 1 COLLECTED
SS 4:					
SS 5:					
SS 6:					
SS 7:					

Soil/Mine-Waste Sampling Form

Site Sketch/Sampling Locations

Sample No.: LA SAL DN 4 SED

Mine Site:

Claim No.:

Date: 10-12-04

Sampler(s): WGW

General Site Location:

Current Conditions/Weather:

Sampling Method:

Sample Type (circle one): Discrete / Composite

Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
LA SAL DN 4 SED	10-12-04	1750			DK BRN CLAY W/
SS 1:					10% BR SILT
SS 2:					
SS 3:					
SS 4:					
SS 5:					
SS 6:					
SS 7:					

Soil/Mine-Waste Sampling Form

Site Sketch/Sampling Locations

Sample No.: LA SAL DN 5

Mine Site:

Claim No.:

Date: 10-12-04

Sampler(s): WW

General Site Location:

Current Conditions/Weather:

Sampling Method:

Sample Type (circle one): Discrete / Composite

Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
LA SAL DN 5 SED	10-12-04	1415			40% DK BRN CLAY
SS 1:					30% VF-F RD/BL SAND
SS 2:					30% BR SILT
SS 3:					
SS 4:					
SS 5:					
SS 6:					
SS 7:					

Soil/Mine-Waste Sampling Form

Sample No.: TWOMILE CRK DN SED

Mine Site:

Claim No.:

Date: 10-18-04

Sampler(s): WOM

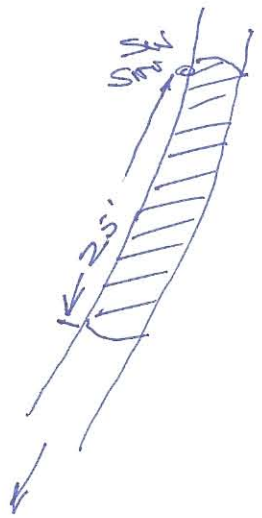
General Site Location:

Current Conditions/Weather: CLOUDY

Sampling Method: GRAB

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
TWOMILE CREEK SED	10-18-04	1155			DK BRN CLAYEY
SS 1:					SAND; VF GROUND
SS 2:					SAND W/ 25% SILT
SS 3:					10% COARSE SAND
SS 4:					
SS 5:					
SS 6:					
SS 7:					

SED DUP 2 TAKEN

Soil/Mine-Waste Sampling Form

Sample No.: HOP CRK DN SED

Mine Site:

Claim No.:

Date: 10-18-04

Sampler(s): WOM

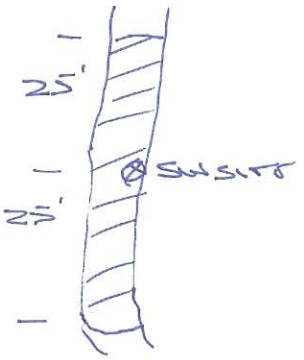
General Site Location:

Current Conditions/Weather:

Sampling Method: GRAB

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
HOPCRK DN SED	10-18-04	1230			DK BR SANDY
SS 1:					CLAY W/ 30% VF
SS 2:					SAND & 25% SILT
SS 3:					
SS 4:					
SS 5:					
SS 6:					
SS 7:					

VEGETATION

VEGETATION SAMPLING DATA SHEET

~~FIREFLY~~ ~~FF-ADIT~~ FF ADIT-G1

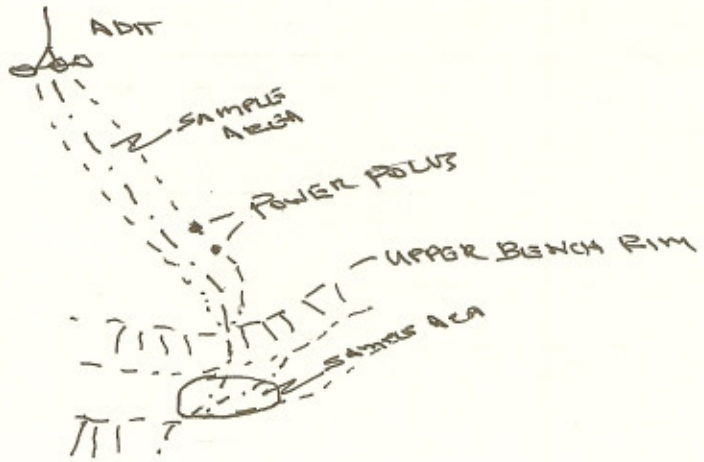
SITE NAME FIREFLY MINE	LOCATION
DATE 10-11-2004	LATITUDE
TIME ~~1615~~ 1625	LONGITUDE
PROJECT LA SAL CREEK	
SAMPLER(s) WOM / JCF	

VEGETATION TYPE	Indicate the type of vegetation sampled ☒ Grass ☐ Forb ☐ Shrub ☐ Other (_____)

SAMPLE COLLECTION	Indicate the type of sampling equipment used ☒ Clipper ☐ Core ☐ Other _____ Indicate the type of sample ☒ Composite No. of subsamples 25 ☐ Discrete Indicate the type and number of samples collected ☒ Chemical Analysis No. 1 Preservative — ☐ Plant Identification No. ____ Preservative _____

SITE SKETCH/SAMPLE LOCATION

MINE BENCH &
ALONG SPRING CHANNEL
ON MID-DUMP BENCH



GENERAL COMMENTS	

VEGETATION SAMPLING DATA SHEET

SITE NAME FT-ADIS F-1	LOCATION
DATE 10-11-2004	LATITUDE
TIME 1635	LONGITUDE
PROJECT LA SAL CREK	
SAMPLER(s) WGM / JCF	

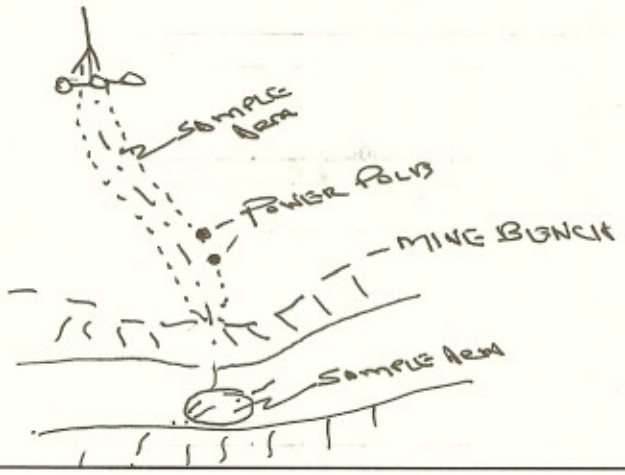
VEGETATION TYPE	Indicate the type of vegetation sampled ☐ Grass ☒ Forb ☐ Shrub ☐ Other (_____)

SAMPLE COLLECTION	Indicate the type of sampling equipment used ☒ Clipper ☐ Core ☐ Other _____ Indicate the type of sample ☒ Composite No. of subsamples 15 ☐ Discrete Indicate the type and number of samples collected ☒ Chemical Analysis No. 1 Preservative — ☐ Plant Identification No. ____ Preservative _____

SITE SKETCH/SAMPLE LOCATION

DRAINAGE ON MINE BENCH AND SPRING

DRAINAGE ON MID-DUMP BENCH



GENERAL COMMENTS	

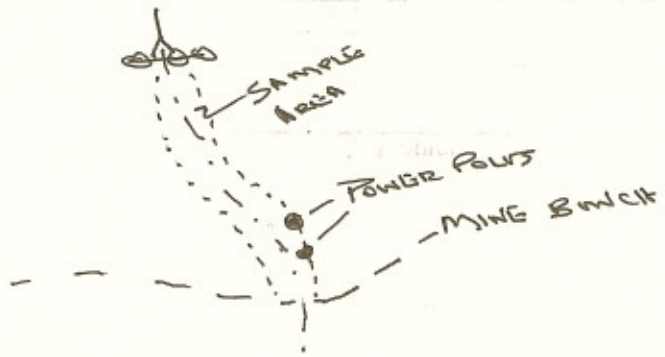
VEGETATION SAMPLING DATA SHEET

SITE NAME FF ADIT S-1	LOCATION
DATE 10.11.2004	LATITUDE
TIME 1645	LONGITUDE
PROJECT LA SAL CREK	
SAMPLER(s) Wam/JCF	

VEGETATION TYPE	Indicate the type of vegetation sampled ☐ Grass ☐ Forb ☒ Shrub (WILLOWS) ☐ Other (_____)

SAMPLE COLLECTION	Indicate the type of sampling equipment used ☒ Clipper ☐ Core ☐ Other _____ Indicate the type of sample ☒ Composite No. of subsamples 10 ☐ Discrete Indicate the type and number of samples collected ☒ Chemical Analysis No. 1 Preservative — ☐ Plant Identification No. ____ Preservative _____

SITE SKETCH/SAMPLE LOCATION



GENERAL COMMENTS	

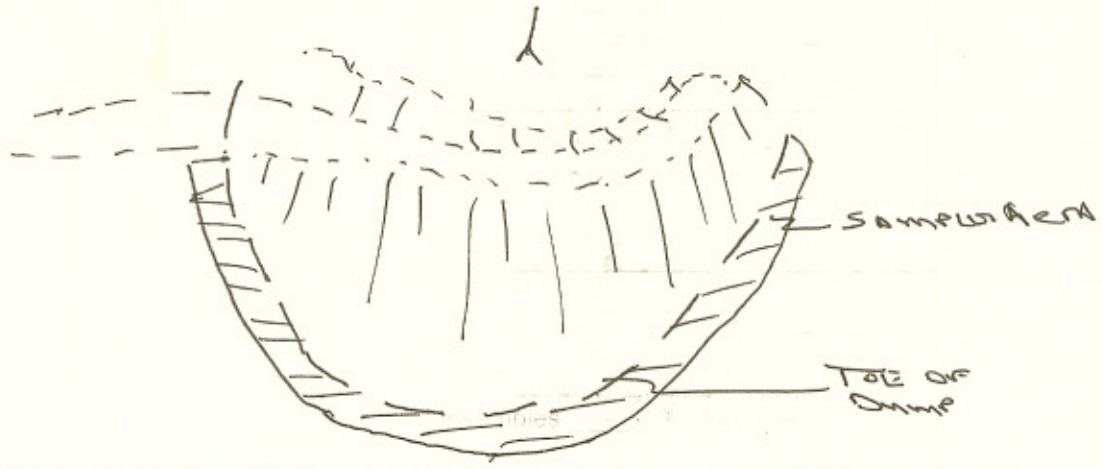
VEGETATION SAMPLING DATA SHEET

SITE NAME FF DUMP ~~G-1~~ G1	LOCATION
DATE 10-11-2004	LATITUDE
TIME 1800	LONGITUDE
PROJECT LA SAL CREEK	
SAMPLER(s) WBM / JCF	

VEGETATION TYPE	Indicate the type of vegetation sampled ☒ Grass ☐ Forb ☐ Shrub ☐ Other (_____)

SAMPLE COLLECTION	Indicate the type of sampling equipment used ☒ Clipper ☐ Core ☐ Other _____ Indicate the type of sample ☒ Composite No. of subsamples 30+ ☐ Discrete Indicate the type and number of samples collected ☒ Chemical Analysis No. 1 Preservative — ☐ Plant Identification No. ____ Preservative _____

SITE SKETCH/SAMPLE LOCATION



GENERAL COMMENTS	

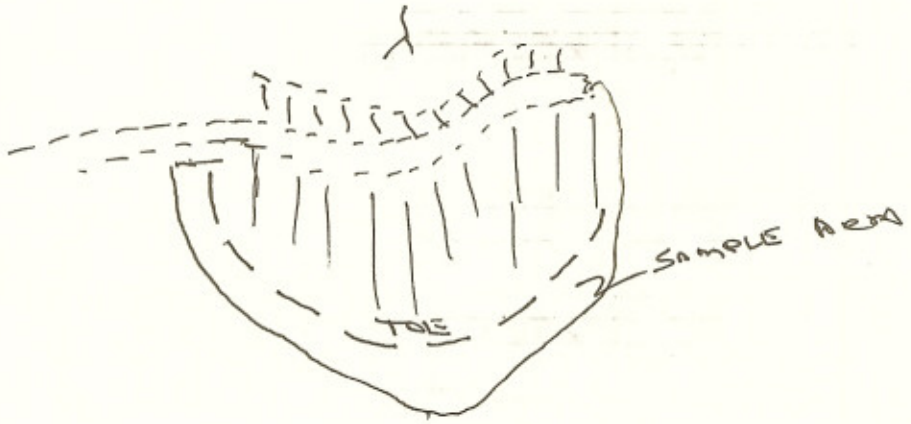
VEGETATION SAMPLING DATA SHEET

SITE NAME FF Dump F-1	LOCATION
DATE 10-11-2004	LATITUDE
TIME 1310	LONGITUDE
PROJECT LA SAL CREK	
SAMPLER(s) JCF / HAM	

VEGETATION TYPE	Indicate the type of vegetation sampled ☐ Grass ☒ Forb ☐ Shrub ☐ Other (_____)

SAMPLE COLLECTION	Indicate the type of sampling equipment used ☒ Clipper ☐ Core ☐ Other _____ Indicate the type of sample ☒ Composite No. of subsamples 30+ ☐ Discrete Indicate the type and number of samples collected ☒ Chemical Analysis No. 1 Preservative — ☐ Plant Identification No. ___ Preservative _____

SITE SKETCH/SAMPLE LOCATION Around Perimeter of Dump



GENERAL COMMENTS	

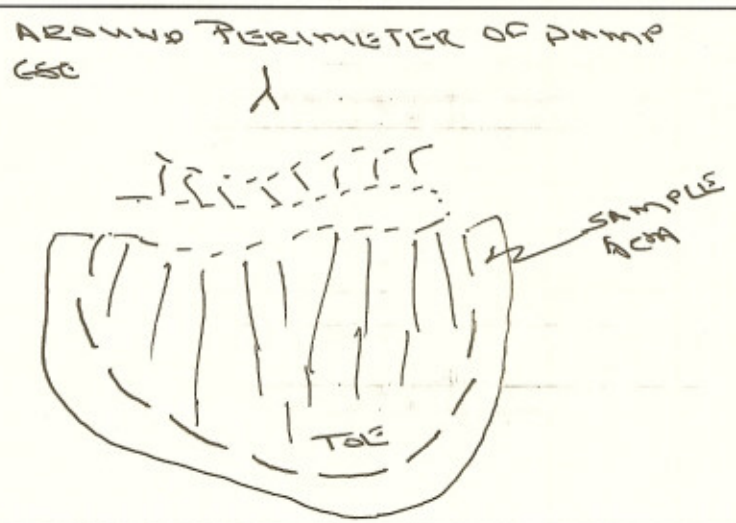
VEGETATION SAMPLING DATA SHEET

SITE NAME FF DUMP S-1	LOCATION
DATE 10-11-2004	LATITUDE
TIME 1815	LONGITUDE
PROJECT LA SAL CREK	
SAMPLER(s) JCF / WGM	

VEGETATION TYPE	Indicate the type of vegetation sampled ☐ Grass ☐ Forb ☒ Shrub ☐ Other (_____)

SAMPLE COLLECTION	Indicate the type of sampling equipment used ☒ Clipper ☐ Core ☐ Other _____ Indicate the type of sample ☒ Composite No. of subsamples 20 ☐ Discrete Indicate the type and number of samples collected ☒ Chemical Analysis No. 1 Preservative — ☐ Plant Identification No. ____ Preservative _____

SITE SKETCH/SAMPLE LOCATION



GENERAL COMMENTS	

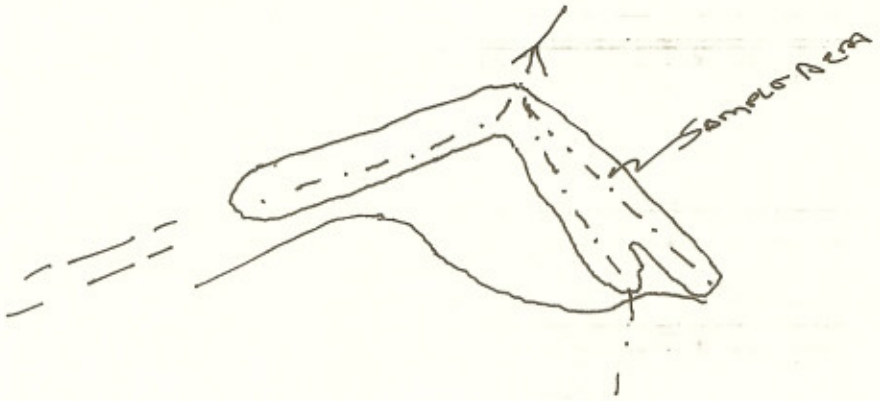
VEGETATION SAMPLING DATA SHEET

SITE NAME VQADIT - G1	LOCATION
DATE 10-14-04	LATITUDE
TIME 1430	LONGITUDE
PROJECT LA SAL CRK	
SAMPLER(s) HSM/JCF	

VEGETATION TYPE	Indicate the type of vegetation sampled ☑ Grass ☐ Forb ☐ Shrub ☐ Other (_____)

SAMPLE COLLECTION	Indicate the type of sampling equipment used ☑ Clipper ☐ Core ☐ Other _____ Indicate the type of sample ☑ Composite No. of subsamples 12 ☐ Discrete Indicate the type and number of samples collected ☑ Chemical Analysis No. 1 Preservative ICE ☑ Plant Identification No. 1 Preservative –

SITE SKETCH/SAMPLE LOCATION



GENERAL COMMENTS	

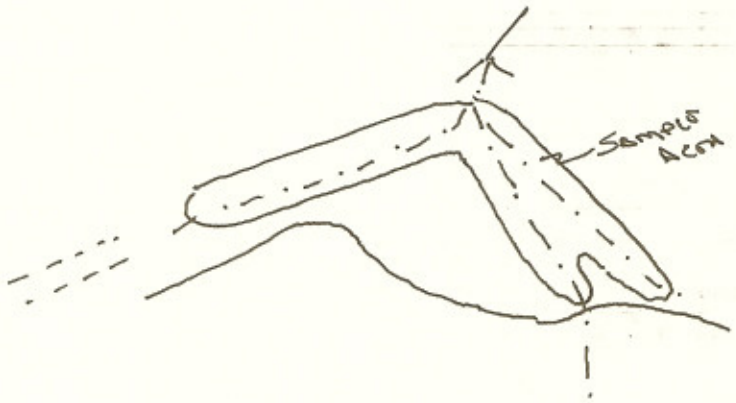
VEGETATION SAMPLING DATA SHEET

SITE NAME VQ ADIT F-1	LOCATION
DATE 10-14-04	LATITUDE
TIME 1440	LONGITUDE
PROJECT LA SAL CRK	
SAMPLER(s) [illegible] / JCF	

VEGETATION TYPE	Indicate the type of vegetation sampled ☐ Grass ☑ Forb ☐ Shrub ☐ Other (_____)

SAMPLE COLLECTION	Indicate the type of sampling equipment used ☑ Clipper ☐ Core ☐ Other _____ Indicate the type of sample ☑ Composite No. of subsamples 30 ☐ Discrete Indicate the type and number of samples collected ☑ Chemical Analysis No. 1 Preservative ICG ☑ Plant Identification No. 1 Preservative —

SITE SKETCH/SAMPLE LOCATION



GENERAL COMMENTS	

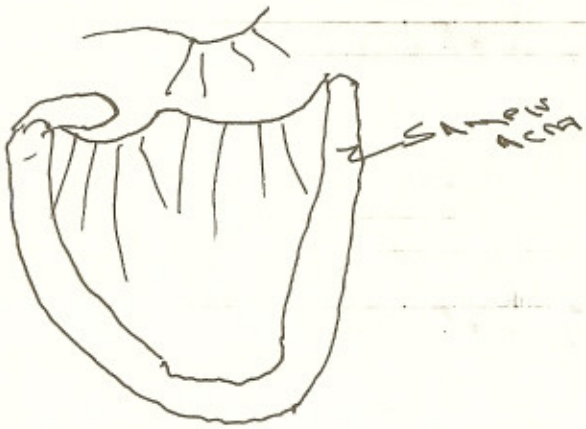
VEGETATION SAMPLING DATA SHEET

SITE NAME YQ Dump - G1	LOCATION
DATE 10-14-04	LATITUDE
TIME 1510	LONGITUDE
PROJECT La Sal Creek	
SAMPLER(s) JRF	

VEGETATION TYPE	Indicate the type of vegetation sampled ☑ Grass ☐ Forb ☐ Shrub ☐ Other (_____)

SAMPLE COLLECTION	Indicate the type of sampling equipment used ☑ Clipper ☐ Core ☐ Other _____ Indicate the type of sample ☑ Composite No. of subsamples 18 ☐ Discrete Indicate the type and number of samples collected ☑ Chemical Analysis No. 1 Preservative ICE ☑ Plant Identification No. 1 Preservative —

SITE SKETCH/SAMPLE LOCATION



GENERAL COMMENTS	

VEGETATION
~~Soil/Mine Waste~~ Sampling Form

Site Sketch/Sampling Locations

Sample No.: VQ DUMP F1A

Mine Site: VANADIUM QUEEN MINE

Claim No.:

Date: 10-20-04

Sampler(s): BA. SMITH

General Site Location: DUMP BENCH NW FACE OF MINE SITE

Current Conditions/Weather: CLOUDY TO OVERCAST, GUSTY, COOL

Sampling Method: PRUNERS

Sample Type (circle one): Discrete / Composite

Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
	10-20-04	1145		VARIOUS LOCATIONS ON	FORBS TENTATIVELY
SS 1:				DUMP BUT NOT NEAR	IDENTIFIED:
SS 2:				MINE DRAINAGE	YELLOW CLOVER,
SS 3:				CHANNEL, MOSTLY	GRAY/PURPLE ASTER,
SS 4:					"YELLOW FLOWER -
SS 5:					BROAD-LEAF (NOT
SS 6:					ID'D).
SS 7:					
NOTE: TOOK ROUGH 50% OF BOTH PRUNERS				FOR VQDUMPF1A,	VQ DUMP S1A

VEGETATION
~~Soil/Mine-Waste~~ **Sampling Form**

Sample No.: VQ DUMP S1A

Mine Site: VANADIUM QUEEN MINE

Claim No.:

Date: 10-20-04

Sampler(s): BDS

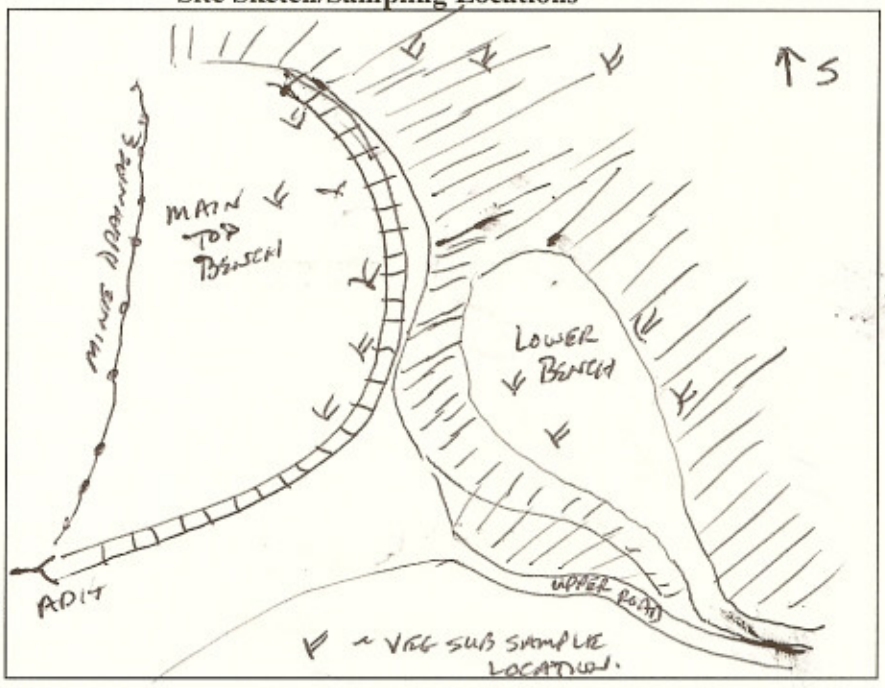
General Site Location: DUMP BENCH AND FACE OF MINE SITE

Current Conditions/Weather: CLOUDY TO OVERCAST, GUSTY, COOL

Sampling Method: PRUNERS

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
	10-20-04	1145		VARIOUS LOCATIONS ON	SHRUBS TENTATIVELY
SS 1:				DUMP BUT NOT	IDENTIFIED?
SS 2:				NEAR MINE DRAINAGE	RABBITBRUSH (PREVA-
SS 3:				CHANNEL, MOSTLY	LENT); SERVICE
SS 4:				RABBITBRUSH, AND	BERRY (3 TOY)
SS 5:				3 SERVICE BERRY ON	
SS 6:				FACE	
SS 7:					
NOTES: TOOK RINSE SB OF BOTH PRUNERS FOR VQ DUMP S1A, VQ DUMP F1A					

VEGETATION SAMPLING DATA SHEET

SITE NAME Blue Cap Drainage	LOCATION Blue Cap Mine Benkit
DATE 10-13-04	LATITUDE UTM 4245004
TIME 1250	LONGITUDE UTM 0669457
PROJECT LA SAL CREEK	
SAMPLER(s) BD Smith	

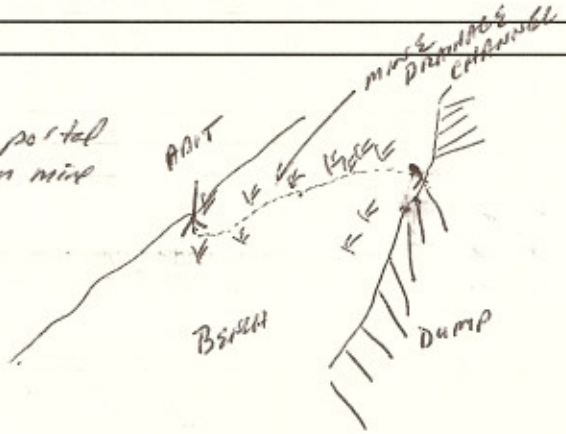
VEGETATION TYPE	Indicate the type of vegetation sampled ☒ Grass ☐ Forb ☐ Shrub ☐ Other (_____)

SAMPLE COLLECTION	Indicate the type of sampling equipment used ☒ Clipper ☐ Core ☐ Other _____ Indicate the type of sample ☒ Composite No. of subsamples 12-15 ☐ Discrete Indicate the type and number of samples collected ☑ Chemical Analysis No. 1 Preservative cool ☑ Plant Identification No. 1 Preservative cool

SITE SKETCH/SAMPLE LOCATION

Sampled grasses, rushes, possibly sedges along mine drainage course from inside portal to brow/knick point of mine drainage on mine benchs.

Indian rice grass
Needle & Thread grass
Wheat grass
and others
possibly Baltic Rush



GENERAL COMMENTS	Wetland-type vegetation willows, rushes, etc. Sample " BC ADIT 6-1 " AT 1250

VEGETATION SAMPLING DATA SHEET

SITE NAME BLUE CAP DRAINAGE	LOCATION BLUE CAP MINE
DATE 10-13-04	LATITUDE UTM 4245004
TIME 1315	LONGITUDE 0669457
PROJECT LA SAL CREEK	
SAMPLER(s) BD Smith	

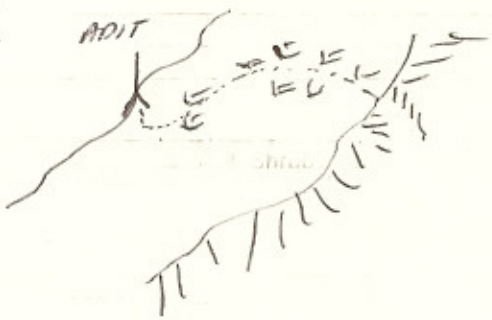
VEGETATION TYPE	Indicate the type of vegetation sampled ☐ Grass ☒ Forb ☐ Shrub ☐ Other (_____)

SAMPLE COLLECTION	Indicate the type of sampling equipment used ☐ Clipper ☐ Core ☒ Other pruner Indicate the type of sample ☒ Composite No. of subsamples _____ ☐ Discrete Indicate the type and number of samples collected ☒ Chemical Analysis No. 1 Preservative cool ☒ Plant Identification No. 1 Preservative cool

SITE SKETCH/SAMPLE LOCATION

Sampled Forbs along mine drainage channel from adit portal to brow/knick point where channel spills off bench.

Identified species
- gray or purple aster
- cattail - latifolia
- yellow clover



GENERAL COMMENTS	SAMPLE "BC ADIT F1" AT 1315

VEGETATION SAMPLING DATA SHEET

SITE NAME BC ADIT S1	LOCATION
DATE 10-15-04	LATITUDE
TIME	LONGITUDE
PROJECT LA SAL	
SAMPLER(s) WLN	

VEGETATION TYPE	Indicate the type of vegetation sampled ☐ Grass ☐ Forb ☑ Shrub ☐ Other (_____)

SAMPLE COLLECTION	Indicate the type of sampling equipment used ☑ Clipper ☐ Core ☐ Other _____ Indicate the type of sample ☑ Composite No. of subsamples 10 ☐ Discrete Indicate the type and number of samples collected ☑ Chemical Analysis No. 1 Preservative ICE ☑ Plant Identification No. 1 Preservative —

SITE SKETCH/SAMPLE LOCATION

ALONG MINE DRAINAGE CHANNEL

GENERAL COMMENTS	VEG WL

VEGETATION SAMPLING DATA SHEET

SITE NAME BC Dump G1	LOCATION
DATE 10-15-04	LATITUDE
TIME	LONGITUDE
PROJECT LA SAL CRK	
SAMPLER(s) JCF	

VEGETATION TYPE	Indicate the type of vegetation sampled ☒ Grass ☐ Forb ☐ Shrub ☐ Other (_____)

SAMPLE COLLECTION	Indicate the type of sampling equipment used ☒ Clipper ☐ Core ☐ Other _____ Indicate the type of sample ☒ Composite No. of subsamples 20 ☐ Discrete Indicate the type and number of samples collected ☒ Chemical Analysis No. 1 Preservative ICE ☒ Plant Identification No. 1 Preservative —

SITE SKETCH/SAMPLE LOCATION

Perimeter of Dump

GENERAL COMMENTS	

VEGETATION
~~Soil/Mine-Waste~~ Sampling Form

Sample No.: BC DUMP F1A

Mine Site: BLUE CAP MINE

Claim No.:

Date: 10-19-04

Sampler(s): BA SMITH

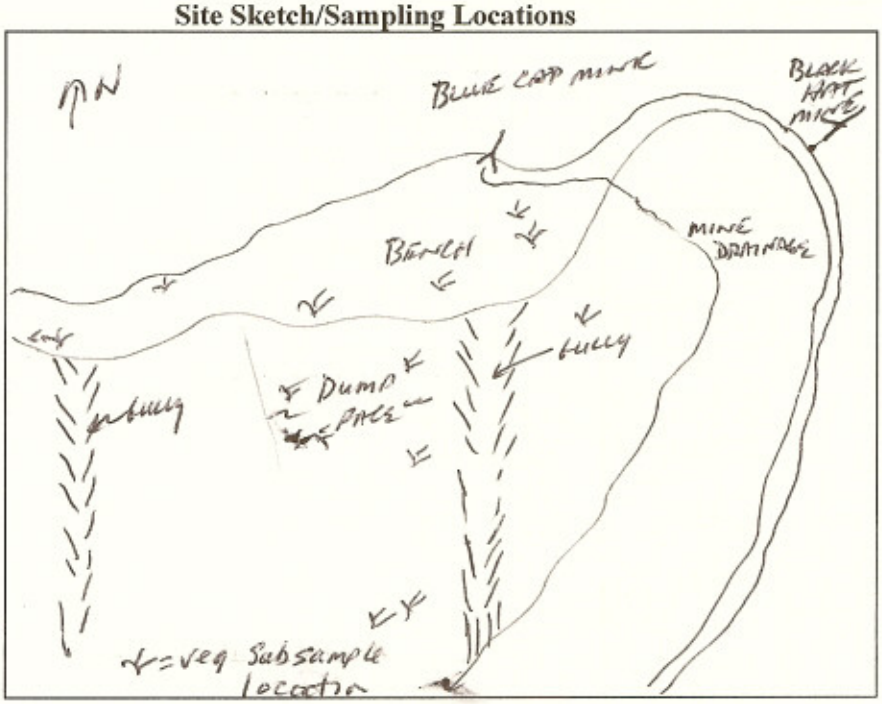
General Site Location: BENCH, DUMP FACE, BLUE CAP MINE

Current Conditions/Weather: OVERCAST, GUSTY, COOL ~40°F

Sampling Method: PRUNERS/CLIPPERS

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
				SAMPLED ~ 20 SUB-	TENTATIVELY IDENTIF
SS 1:	10-19-04	1520 TO		SAMPLE SITES, MOSTLY	FIED SPECIES!
SS 2:		1620		ON MINE BENCH (80%)	YELLOW CLOVER,
SS 3:				SOME ON LOWER &	GRAY/PURPLE ASTER
SS 4:				UPPER FACE OF DUMP	
SS 5:				MOST OF DUMP FACE DOES	
SS 6:				NOT HAVE FULL VEG.	
SS 7:					
DESIGNATED SAMPLING					
	TIME:	1545			

VEGETATION

~~Soil/Mine-Waste~~ Sampling Form

Sample No.: BC DUMP S1A

Mine Site: BLUE CAP MINE

Claim No.:

Date: 10-19-04

Sampler(s): BD SMITH

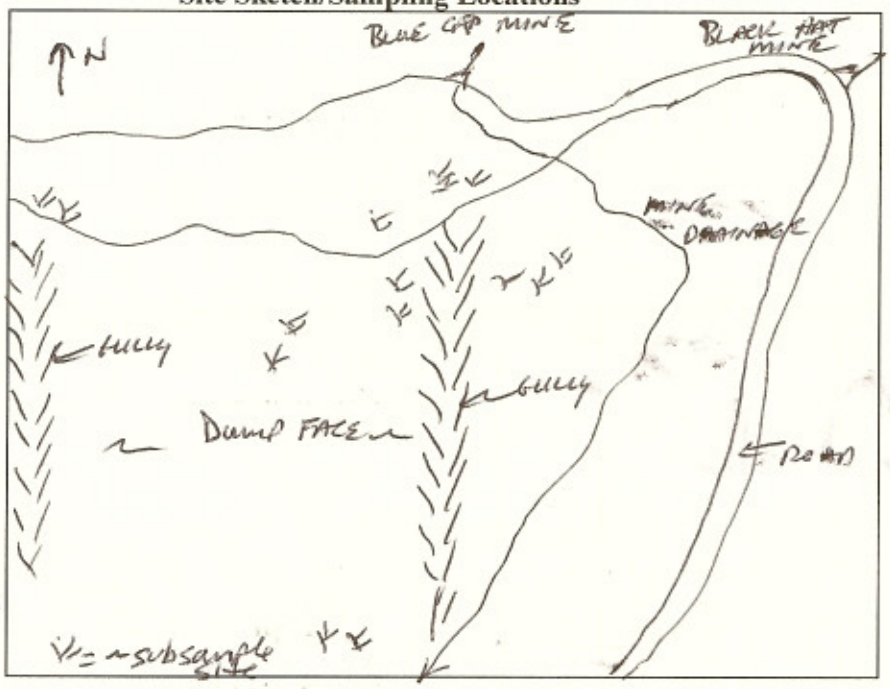
General Site Location: BENCH, DUMP FACE BLUE CAP MINE

Current Conditions/Weather: OVERCAST GUSTY, COOL ~40°F

Sampling Method: PRUNERS

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
				VARIOUS LOCATIONS	TENTATIVELY IDENTI-
SS 1:	10-19-04	1520 TO		~10-15 SUBSAMPLES	FIED
SS 2:		16-20		ON MINE BENCH	SHRUBS;
SS 3:				(MOSTLY) AND UPPER	RABBITBRUSH;
SS 4:				AND LOWER DUMP FACE	SKUNK BUSH;
SS 5:					MTN. MOHOGANY?
SS 6:					SERVICE BERRY
SS 7:	DESIGNATED	1545			CREOSOTE?
	SAMPLING TIME:				

VEGETATION SAMPLING DATA SHEET

SITE NAME BH Dump (a)	LOCATION
DATE 10-15-04	LATITUDE
TIME	LONGITUDE
PROJECT LA Sal	
SAMPLER(s) Tef	

VEGETATION TYPE	Indicate the type of vegetation sampled ☑ Grass ☐ Forb ☐ Shrub ☐ Other (_____)

SAMPLE COLLECTION	Indicate the type of sampling equipment used ☑ Clipper ☐ Core ☐ Other _____ Indicate the type of sample ☑ Composite No. of subsamples 10 ☐ Discrete Indicate the type and number of samples collected ☑ Chemical Analysis No. 1 Preservative Ice ☐ Plant Identification No. ____ Preservative _____

SITE SKETCH/SAMPLE LOCATION

Perimeter of Dump

GENERAL COMMENTS	

VEGETATION
~~Soil/Mine-Waste~~ Sampling Form

BH DUMP F1A AND
Sample No.: BH DUMP S1A

Mine Site: BLACK HAT MINE

Claim No.:

Date: 10-19-04

Sampler(s): BD SMITH

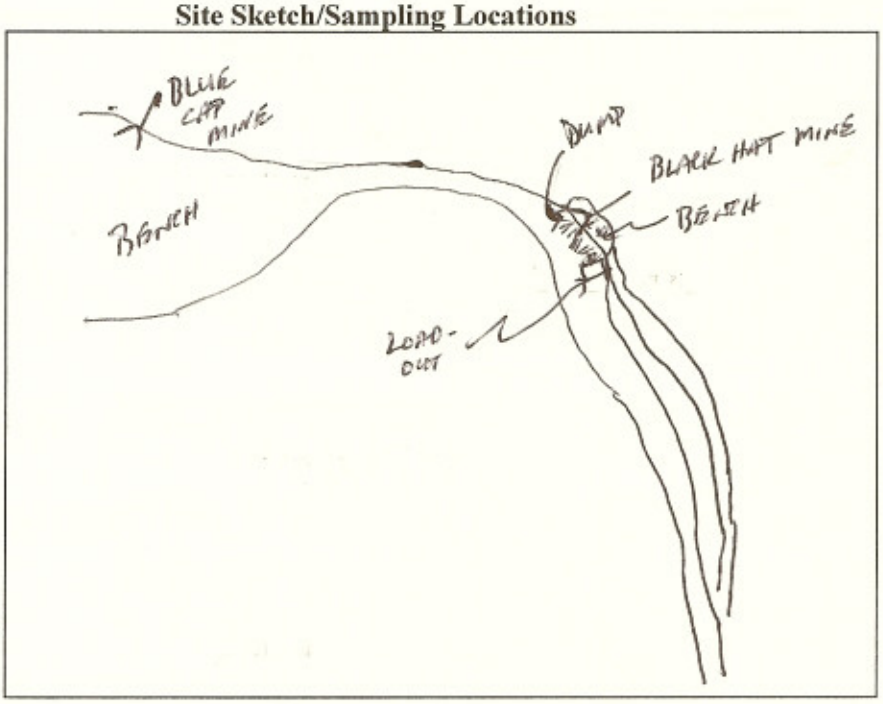
General Site Location: BLACK HAT MINE DUMP FACE AND BENCH

Current Conditions/Weather: OVERCAST NO PRECIPITATION ~ 40°F

Sampling Method: PRUNERS

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

THIS FORM DESCRIBES GENERAL SAMPLING LOCATIONS FOR TWO SAMPLES; ONE FOR FORBS BHDUMP F1A AND ONE FOR SHRUBS BHDUMP S1A

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
	10-19-04	1565		VARIOUS LOCATIONS WHERE	TENTATIVELY IDENTI-
SS 1:		1520		PLANTS EXISTED ON	FIED SPECIES:
SS 2:				BENCH W/ SOME MINOR	FORBS: YELLOW CLOVER
SS 3:				COLLECTIONS ON DUMP	(MOSTLY), GRAY & PURPLE
SS 4:				FACE.	ASTER
SS 5:				SOME RABBIT BRUSH	
SS 6:				AND ASTER ADJACENT	SHRUBS - SOME RABBIT
SS 7:				TO LOAD OUT ON DUMP	BRUSH & 1 PLANT
				FACE	OF SERVICE BERRY.

VEGETATION SAMPLING DATA SHEET

SITE NAME SP Dump G1	LOCATION
DATE 10-15-04	LATITUDE
TIME	LONGITUDE
PROJECT LA SAL	
SAMPLER(s) JCC	

VEGETATION TYPE	Indicate the type of vegetation sampled ☑ Grass ☐ Forb ☐ Shrub ☐ Other (_____)

SAMPLE COLLECTION	Indicate the type of sampling equipment used ☑ Clipper ☐ Core ☐ Other _____ Indicate the type of sample ☑ Composite No. of subsamples 15 ☐ Discrete Indicate the type and number of samples collected ☑ Chemical Analysis No. 1 Preservative ICE ☐ Plant Identification No. ____ Preservative _____

SITE SKETCH/SAMPLE LOCATION

Proximity of Dump

GENERAL COMMENTS	

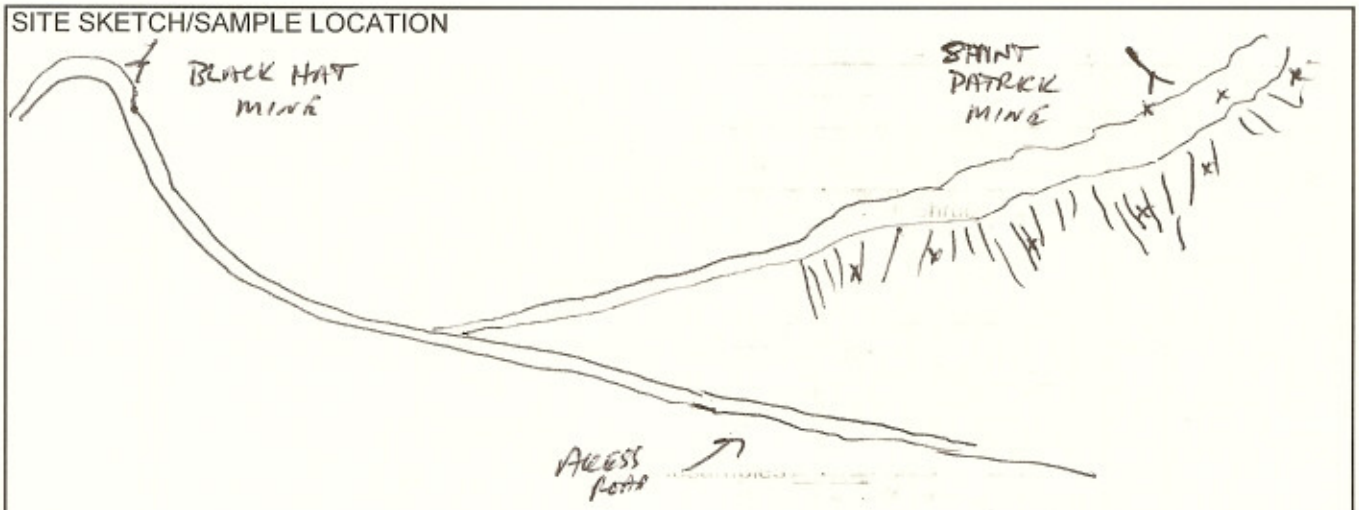
VEGETATION SAMPLING DATA SHEET

SITE NAME SPDUMP F1A	LOCATION SAINT PATRICK MINE
DATE 10-19-04	LATITUDE
TIME 1430	LONGITUDE
PROJECT LA SAL CREEK	
SAMPLER(s) BD. SMITH	

VEGETATION TYPE	Indicate the type of vegetation sampled ☐ Grass ☒ Forb ☐ Shrub ☐ Other (_____)

SAMPLE COLLECTION	Indicate the type of sampling equipment used ☐ Clipper ☐ Core ☑ Other PRUNERS Indicate the type of sample ☒ Composite No. of subsamples ~ 20 ☐ Discrete Indicate the type and number of samples collected ☑ Chemical Analysis No. ____ Preservative _____ ☐ Plant Identification No. ____ Preservative _____

SITE SKETCH/SAMPLE LOCATION



GENERAL COMMENTS	FORBS TENTATIVELY IDENTIFIED INCLUDE: GRAY ASTER - ON BENCH NEAR OUTCROP/ADIT PURPLE ASTER - ON DUMP YELLOW CLOVER - PREVALANT FORB ON BENCH & DUMP DUPLICATE SAMPLE = LC DUMP F1

VEGETATION

~~Soil/Mine-Waste~~ Sampling Form

Sample No.: SPOUND S 1A

Mine Site: SAINT PATRICK MINE

Claim No.:

Date: 10-14-04 : 1430

Sampler(s): BA SMITH

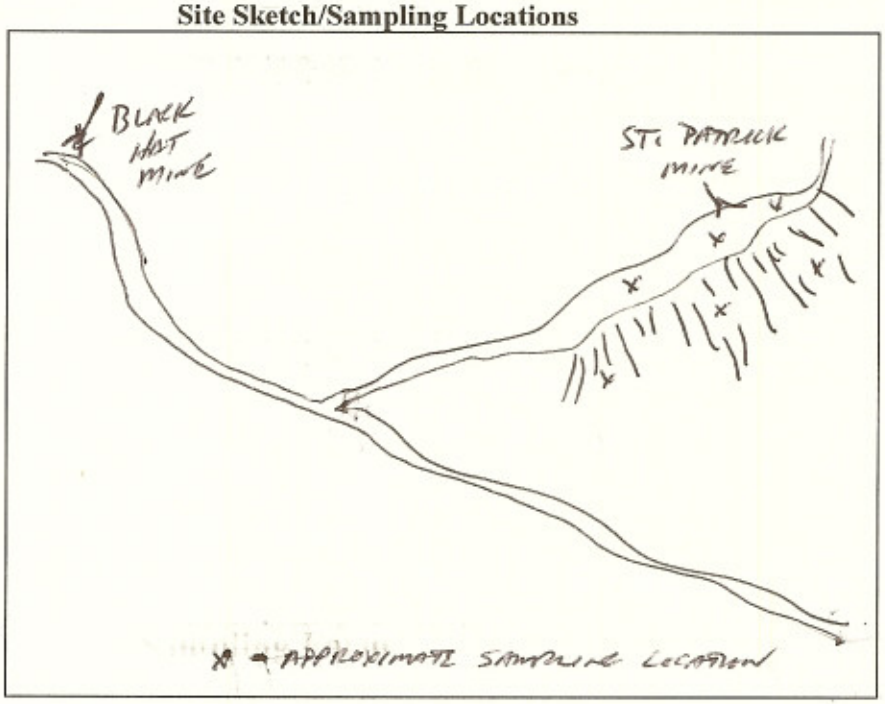
General Site Location: E. FLAME LYON CANYON

Current Conditions/Weather: OVERCAST GUSTY

Sampling Method: SHOVEL

Sample Type (circle one): Discrete / Composite

Site Sketch/Sampling Locations



Discrete Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description

Composite Sample Information:

Sample ID	Date	Time	Sampling Interval	Sample Location	Sample Description
	10-14-04	1410 –		VARIOUS LOCATIONS	2 – BARREL CACTUS
SS 1:		1430		ON DUMP FACE	2-3 – RABBIT BRUSH
SS 2:				AND BENCH	1-2 SERVICE BERRY
SS 3:					2-3 MTN MAHOGANY
SS 4:					
SS 5:					
SS 6:					
SS 7:					

BENTHIC MACROINVERTEBRATES

BENTHIC MACROINVERTEBRATE SAMPLING DATA SHEET

STREAM NAME LA SAL CRK REF AREA 1	LOCATION
DATE 10-14-04	LATITUDE
TIME 1000	LONGITUDE
PROJECT LA SAL CREEK	
SAMPLER(s) WMM / JCF	

HABITAT TYPES

Indicate the percentage of each habitat type present

- ☒ Cobble 40 %
- ☐ Snags ____ %
- ☒ Vegetated Banks 50 %
- ☒ Sand 10 %
- ☐ Submerged Macrophytes ____ %
- ☐ Other (_____) ____ %

SAMPLE COLLECTION

Indicate the type of gear used

- ☒ D-Frame
- ☐ Kick-net
- ☐ Other _____

How were the samples collected?

- ☒ wading
- ☐ from bank
- ☐ from boat

Indicate the number of jabs/kicks taken in each habitat type

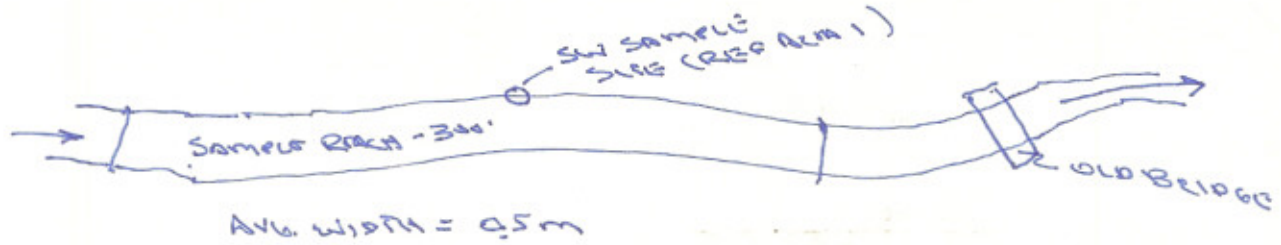
- ☒ Cobble ~~40~~ 2 m²
- ☐ Snags ____
- ☒ Sand ~~100~~ 0.5 m²
- ☐ Submerged Macrophytes ____
- ☒ Other (VEG. BANK) ~~50~~ 2 m²

Length of Reach Sampled 300'

Indicate the type and number of samples collected

- ☐ Chemical Analysis No. ____ Preservative _____
- ☒ Taxonomy No. 1 Preservative Form.

SITE SKETCH/SAMPLE LOCATION



GENERAL COMMENTS

MAJORITY OF REACH COBBLE (BOULDER) BASE; SOME POOLS W/ SANDY SILTY CLAY BASE; HEAVILY VEGETATED W/ WILLOWS

INSUFFICIENT SAMPLE FOR ANALYSIS IN 4.5 m² AREA

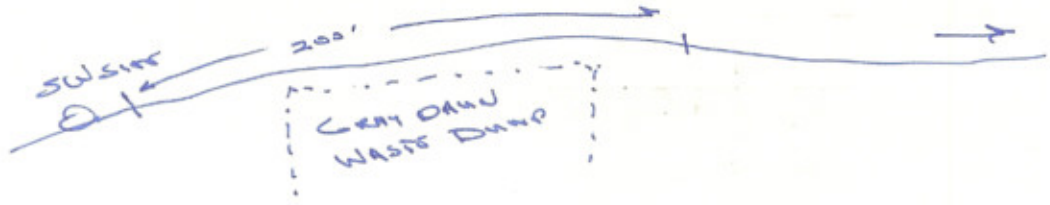
BENTHIC MACROINVERTEBRATE SAMPLING DATA SHEET

STREAM NAME REF Area 2	LOCATION
DATE 10.20.04	LATITUDE
TIME 1230	LONGITUDE
PROJECT La Sal	
SAMPLER(s) [illegible]	

HABITAT TYPES	Indicate the percentage of each habitat type present ☑ Cobble 40 % ☐ Snags ____% ☑ Vegetated Banks 20 % ☑ Sand 40 % ☐ Submerged Macrophytes ____% ☐ Other (_____) ____%

SAMPLE COLLECTION	Indicate the type of gear used ☑ D-Frame ☐ Kick-net ☐ Other _____ How were the samples collected? ☑ wading ☐ from bank ☐ from boat Indicate the number of jabs/kicks taken in each habitat type ☑ Cobble 2.25 m² ☐ Snags ____ ☐ Sand ____ ☐ Submerged Macrophytes ____ ☑ Other (VEG. BANK) 0.75 m² Length of Reach Sampled ~~100 ft~~ ~~150~~ 200 ft Indicate the type and number of samples collected ☐ Chemical Analysis No. ____ Preservative _____ ☑ Taxonomy No. 1 Preservative Formalin

SITE SKETCH/SAMPLE LOCATION



GENERAL COMMENTS	

BENTHIC MACROINVERTEBRATE SAMPLING DATA SHEET

STREAM NAME REF AREA 3 (HOP CREEK)	LOCATION
DATE 10-20-04	LATITUDE
TIME 1545	LONGITUDE
PROJECT LA SOL	
SAMPLER(s) JEF / WEM	

HABITAT TYPES

Indicate the percentage of each habitat type present

- ☒ Cobble 1.5 % 49.55
- ☐ Snags _____ %
- ☐ Vegetated Banks 1.0 % 25%
- ☒ Sand 0.55 % 20
- ☐ Submerged Macrophytes _____ %
- ☒ Other (POOL) .25 %

SAMPLE COLLECTION

Indicate the type of gear used

- ☒ D-Frame
- ☐ Kick-net
- ☐ Other _____

How were the samples collected?

- ☒ wading
- ☐ from bank
- ☐ from boat

Indicate the number of jabs/kicks taken in each habitat type

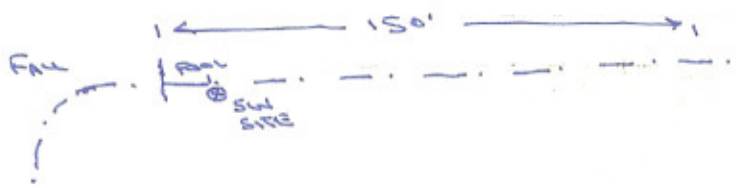
- ☒ Cobble 1.5 m^2
- ☐ Snags _____
- ☒ Sand 0.55 m^2
- ☐ Submerged Macrophytes _____
- ☒ Other (VEG. BANKS) 1.0 m^2
- POOL .25

Length of Reach Sampled 150 ft

Indicate the type and number of samples collected

- ☐ Chemical Analysis No. _____ Preservative _____
- ☒ Taxonomy No. 1 Preservative FORMALIN

SITE SKETCH/SAMPLE LOCATION



GENERAL COMMENTS

BENTHIC MACROINVERTEBRATE SAMPLING DATA SHEET

STREAM NAME La Sal Creek DN 1	LOCATION
DATE 10-19-04	LATITUDE
TIME 1400	LONGITUDE
PROJECT La Sal	
SAMPLER(s) Wiemy/JCF	

HABITAT TYPES

Indicate the percentage of each habitat type present

- [x] Cobble 20 %
- [x] Sand 40 %
- [ ] Other (_____) ____ %
- [ ] Snags ____ %
- [ ] Submerged Macrophytes ____ %
- [x] Vegetated Banks 30 %

SAMPLE COLLECTION

Indicate the type of gear used

- [x] D-Frame
- [ ] Kick-net
- [ ] Other _____

How were the samples collected?

- [x] wading
- [ ] from bank
- [ ] from boat

Indicate the number of jabs/kicks taken in each habitat type

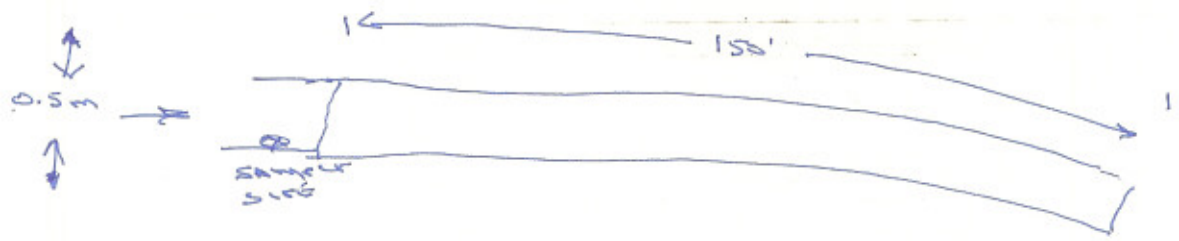
- [x] Cobble .5 } Riffles .5 1.5 m²
- [x] Sand 1.0 }
- [ ] Snags ____
- [ ] Submerged Macrophytes ____
- [x] Other (Veg. Banks) 1 m²

Length of Reach Sampled 150'

Indicate the type and number of samples collected

- [ ] Chemical Analysis No. ____ Preservative _____
- [x] Taxonomy No. 1 Preservative Formalin

SITE SKETCH/SAMPLE LOCATION



GENERAL COMMENTS

Insufficient Population for Analytical Sample

Bank Samples - mostly snails

Channel Samples - v. few snails

BENTHIC MACROINVERTEBRATE SAMPLING DATA SHEET

STREAM NAME LASALCHKON 3	LOCATION
DATE 10-19-04	LATITUDE
TIME 1100	LONGITUDE
PROJECT LA SAL	
SAMPLER(s) [illegible]/JLF	

HABITAT TYPES

Indicate the percentage of each habitat type present

- ☑ Cobble 30 %
- ☑ Sand 30 %
- ☐ Other (_____) ____ %
- ☐ Snags ____ %
- ☐ Submerged Macrophytes ____ %
- ☐ Vegetated Banks 40 %

SAMPLE COLLECTION

Indicate the type of gear used

- ☒ D-Frame
- ☐ Kick-net
- ☐ Other _____

How were the samples collected?

- ☒ wading
- ☐ from bank
- ☐ from boat

Indicate the number of jabs/kicks taken in each habitat type

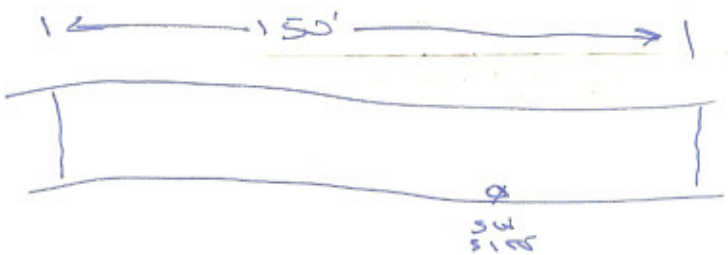
- ☒ Cobble 5.2 m²
- ☒ Sand 5.4
- ☐ Other (Veg. Bank) 1 m²
- ☐ Snags ____
- ☐ Submerged Macrophytes ____

Length of Reach Sampled 150'

Indicate the type and number of samples collected

- ☐ Chemical Analysis No. ____ Preservative _____
- ☒ Taxonomy No. 1 Preservative FORMALIN

SITE SKETCH/SAMPLE LOCATION



GENERAL COMMENTS

INSUFFICIENT AMOUNT AVAILABLE FOR ANALYTICAL SAMPLE

BENTHIC MACROINVERTEBRATE SAMPLING DATA SHEET

STREAM NAME LASALCKDNS-BIOTA	LOCATION
DATE 10-13-2004	LATITUDE
TIME	LONGITUDE
PROJECT LA SAL CREEK	
SAMPLER(s) JEF / WOM	

HABITAT TYPES

Indicate the percentage of each habitat type present

- [x] Cobble 50 %
- [ ] Snags ____ %
- [x] Vegetated Banks 20 %
- [x] Sand 20 %
- [x] Submerged Macrophytes 20 %
- [ ] Other (_____) ____ %

SAMPLE COLLECTION

Indicate the type of gear used

- [x] D-Frame
- [ ] Kick-net
- [ ] Other _____

How were the samples collected?

- [x] wading
- [ ] from bank
- [ ] from boat

Indicate the number of jabs/kicks taken in each habitat type

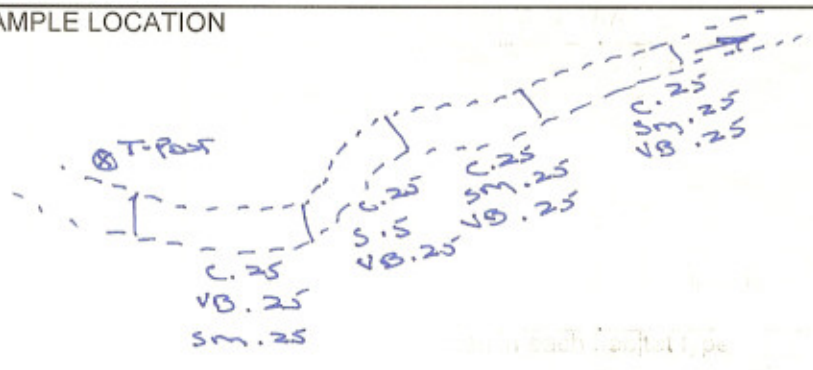
- [x] Cobble ~~100~~ 5m / m^2
- [ ] Snags ____
- [x] Sand 0.5 m^2
- [x] Submerged Macrophytes .75 m^2
- [x] Other (VEG. BANKS) 1 m^2

Length of Reach Sampled 300'

Indicate the type and number of samples collected

- [ ] Chemical Analysis No. ____ Preservative _____
- [ ] Taxonomy No. ____ Preservative _____

SITE SKETCH/SAMPLE LOCATION



GENERAL COMMENTS

3 CRAYFISH
2 MACROS
NO SAMPLING COMPLETED

GEOTECHNICAL TESTING RESULTS

WESTERN
COLORADO
TESTING,
INC.

529 25½ Road, Suite B-101
Grand Junction, Colorado 81505
(970) 241-7700 • Fax: (970) 241-7783
E-mail: westcolotesting@qwest.net

June 16, 2004
WCT# 202004

Western Water and Land
743 Horizon Ct #365
Grand Junction, CO 81506

Attention: Bill Merrill

Subject: Amended Laboratory Soils Testing Results

Dear Mr. Merrill,

As requested, Western Colorado Testing, Inc (WCT) has amended Figures 5 and 14 through 16 reported in our June 2 and June 4, 2004 letters. The Figures now include the results of Atterberg Limits testing for the undisturbed samples for Blue Cap, Fire Fly, and Vanadium Queen locations.

We appreciate the opportunity to offer testing services to your project. Please do not hesitate to call with questions.

Respectfully Submitted:

WESTERN COLORADO TESTING, INC

Jim Huddleston
Senior Geologist

JH/ak
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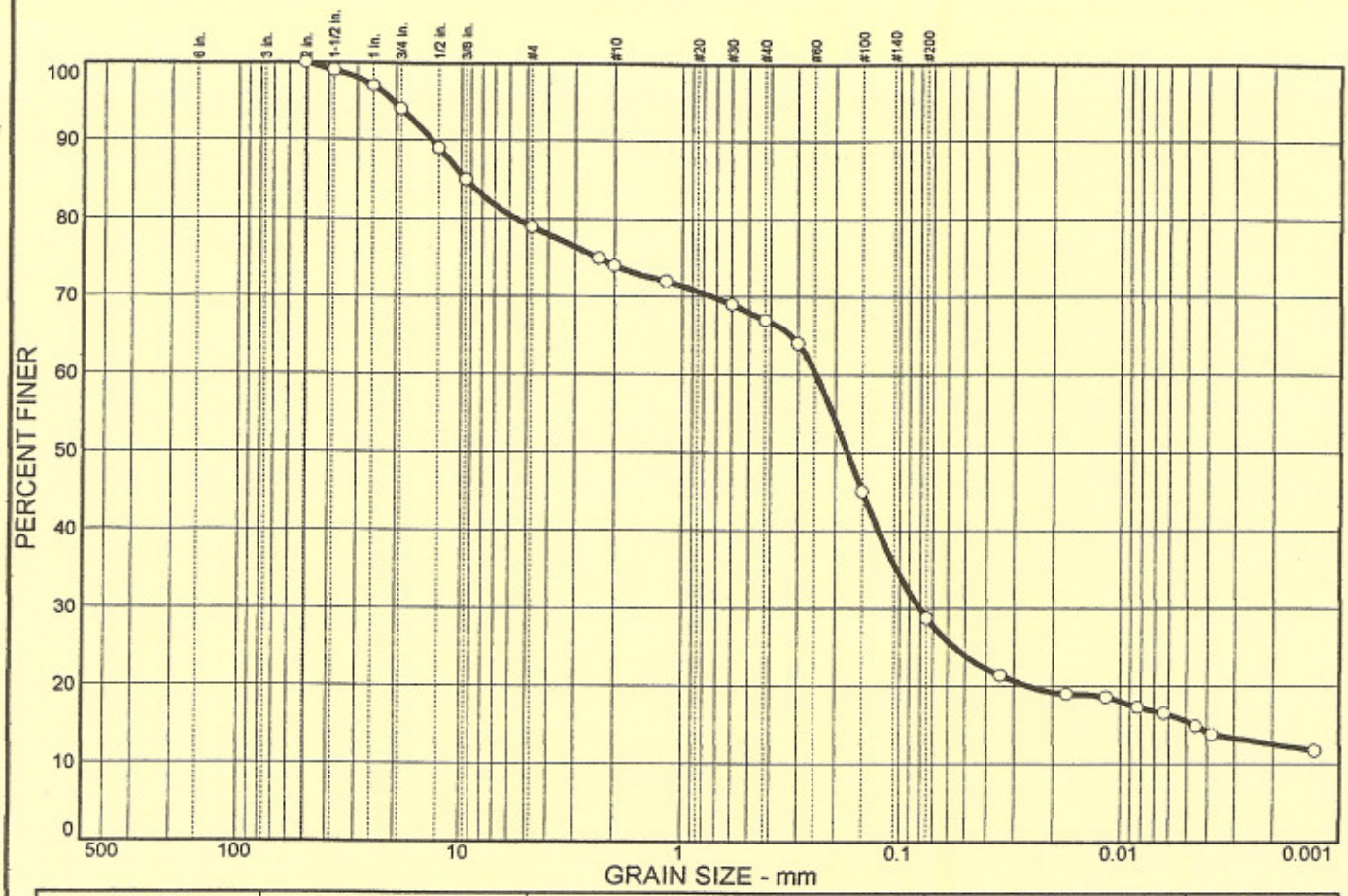
PARTICLE SIZE DISTRIBUTION TEST REPORT



% + 3"	% GRAVEL	% SAND	% SILT	% CLAY
0	21	50	13	16

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2 in.	100		
1.5 in.	99		
1 in.	97		
3/4 in.	94		
1/2 in.	89		
3/8 in.	85		
#4	79		
#8	75		
#10	74		
#16	72		
#30	69		
#40	67		
#50	64		
#100	45		
#200	29		

* (no specification provided)

Soil Description

Clayey sand with gravel (SC)

Atterberg Limits

PL= 15 LL= 24 PI= 9

Coefficients

D_{85}= 9.52 D_{60}= 0.247 D_{50}= 0.176
D_{30}= 0.0806 D_{15}= 0.0046 D_{10}=
C_u= C_c=

Classification

USCS= SC AASHTO= A-2-4(0)

Remarks

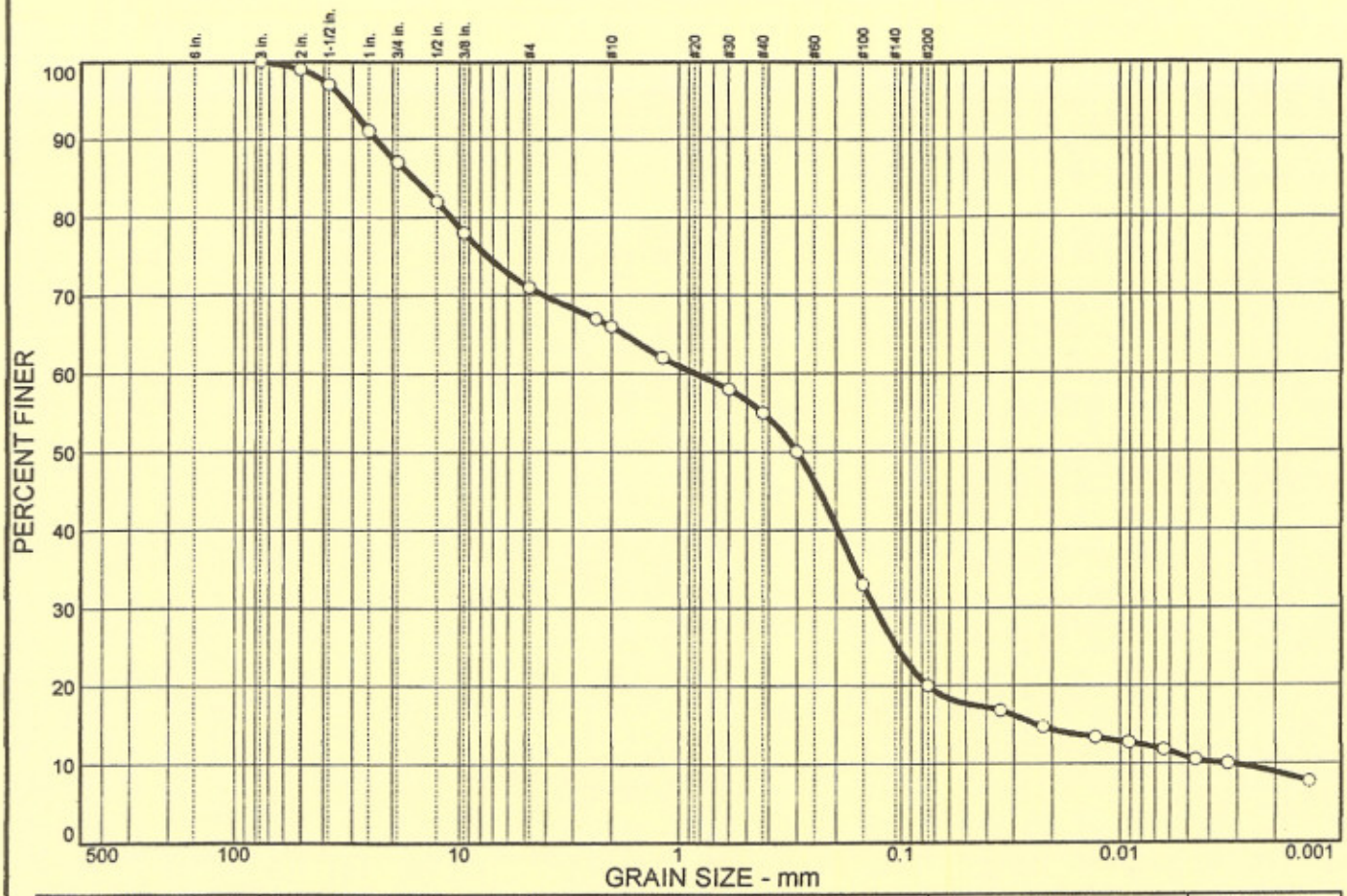
Tested By: JB
Reviewed By: JCH

Sample No.: 04-078 **Source of Sample:** **Date:** 5-26-04
Location: Blue Cap **Elev./Depth:** Bulk

WESTERN COLORADO TESTING, INC.

Client: Western Water and Land
Project: Misc. Lab Testing
Project No: 202004 **Figure** 1

PARTICLE SIZE DISTRIBUTION TEST REPORT



% + 3"	% GRAVEL	% SAND	% SILT	% CLAY
0	29	51	9	11

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3 in.	100		
2 in.	99		
1.5 in.	97		
1 in.	91		
3/4 in.	87		
1/2 in.	82		
3/8 in.	78		
#4	71		
#8	67		
#10	66		
#16	62		
#30	58		
#40	55		
#50	50		
#100	33		
#200	20		

* (no specification provided)

Soil Description

Silty sand with gravel (SM)

Atterberg Limits

PL= 19 LL= 19 PI= NP

Coefficients

D_{85}= 16.2 D_{60}= 0.842 D_{50}= 0.300
D_{30}= 0.133 D_{15}= 0.0235 D_{10}= 0.0033
C_u= 255.07 C_c= 6.33

Classification

USCS= SM AASHTO= A-2-4(0)

Remarks

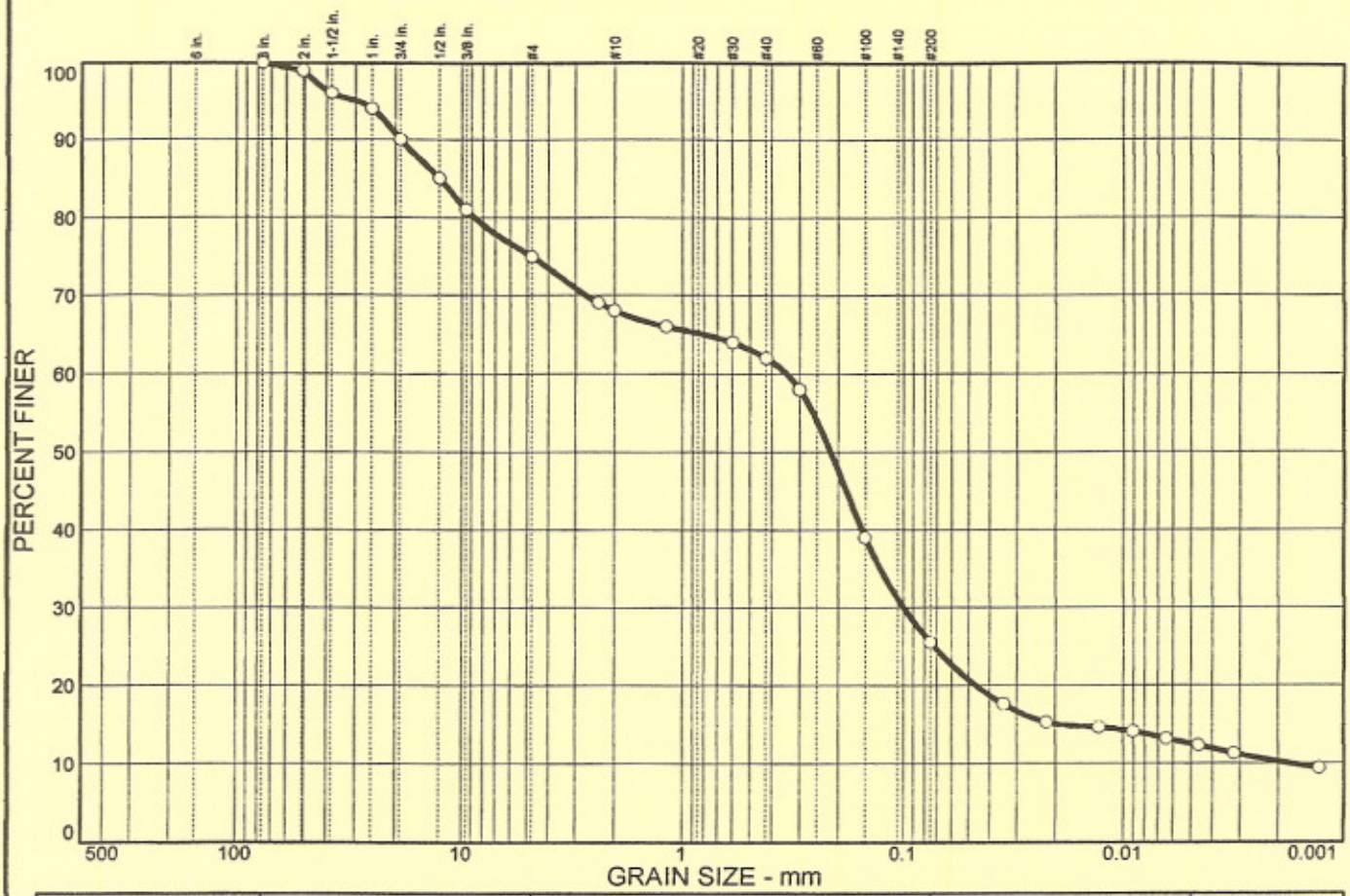
Tested By: JB
Reviewed By: JCH

Sample No.: 04-079 **Source of Sample:** **Date:** 5-26-04
Location: Vanadium Queen **Elev./Depth:** Bulk

WESTERN COLORADO TESTING, INC.

Client: Western Water and Land
Project: Misc. Lab Testing
Project No: 202004 **Figure** 2

PARTICLE SIZE DISTRIBUTION TEST REPORT



% + 3"	% GRAVEL	% SAND	% SILT	% CLAY
0	25	50	13	13

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3 in.	100		
2 in.	99		
1.5 in.	96		
1 in.	94		
3/4 in.	90		
1/2 in.	85		
3/8 in.	81		
#4	75		
#8	69		
#10	68		
#16	66		
#30	64		
#40	62		
#50	58		
#100	39		
#200	26		

* (no specification provided)

Soil Description

Silty sand with gravel (SM)

Atterberg Limits

PL= NP LL= NV PI= NP

Coefficients

D_{85}= 12.7 D_{60}= 0.343 D_{50}= 0.217
D_{30}= 0.1000 D_{15}= 0.0193 D_{10}= 0.0018
C_u= 191.93 C_c= 16.34

Classification

USCS= SM AASHTO= A-2-4(0)

Remarks

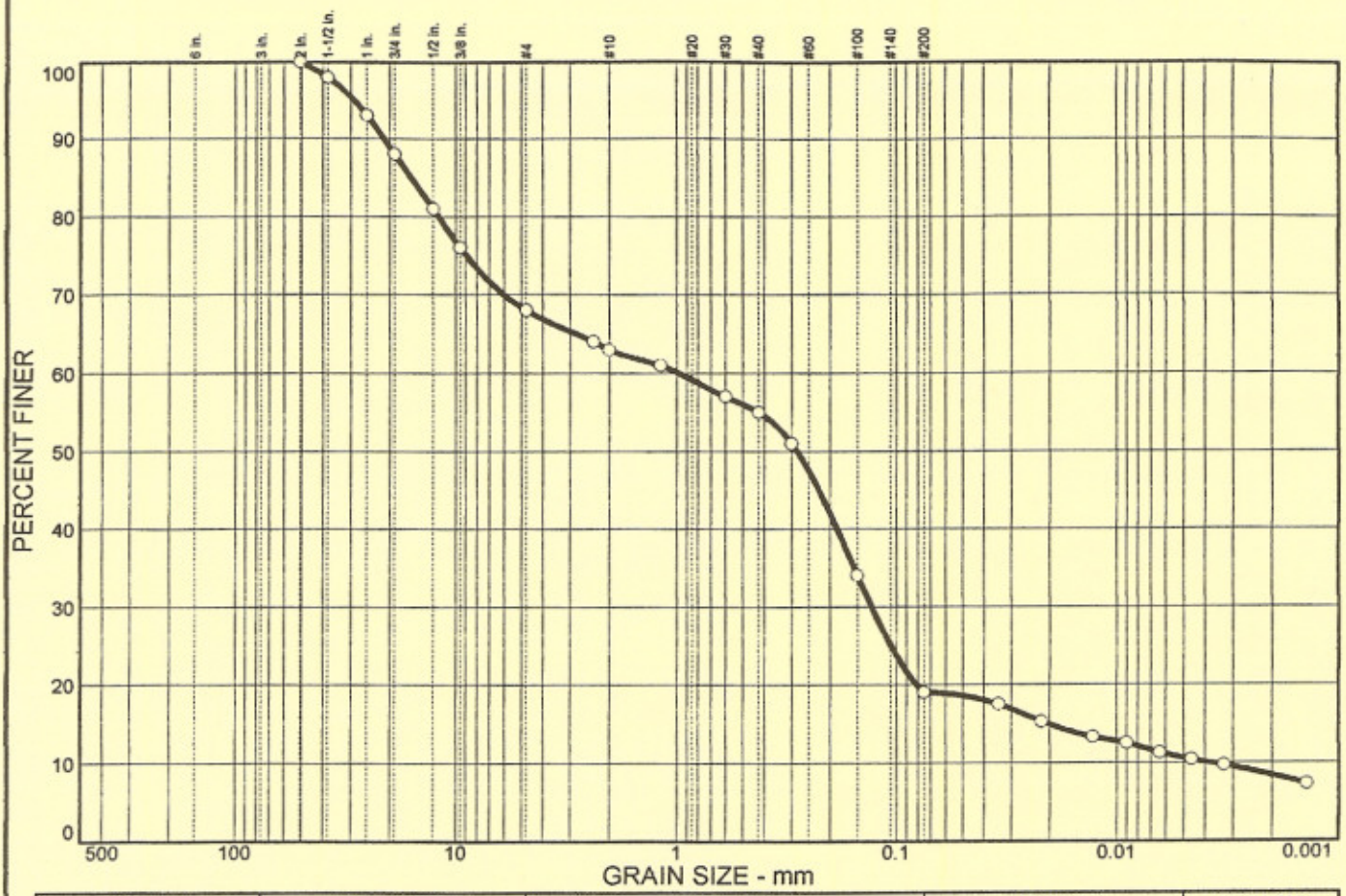
Tested By: JB
Reviewed By: JCH

Sample No.: 04-080 **Source of Sample:** **Date:** 5-26-04
Location: Firefly **Elev./Depth:** Bulk

WESTERN COLORADO TESTING, INC.

Client: Western Water and Land
Project: Misc. Lab Testing
Project No: 202004 **Figure** 3

PARTICLE SIZE DISTRIBUTION TEST REPORT



% + 3"	% GRAVEL	% SAND	% SILT	% CLAY
0	32	49	8	11

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2 in.	100		
1.5 in.	98		
1 in.	93		
3/4 in.	88		
1/2 in.	81		
3/8 in.	76		
#4	68		
#8	64		
#10	63		
#16	61		
#30	57		
#40	55		
#50	51		
#100	34		
#200	19		

* (no specification provided)

Soil Description

Silty sand with gravel (SM)

Atterberg Limits

PL= NP LL= NV PI= NP

Coefficients

D_{85}= 16.0 D_{60}= 0.973 D_{50}= 0.283
D_{30}= 0.130 D_{15}= 0.0203 D_{10}= 0.0038
C_u= 255.81 C_c= 4.54

Classification

USCS= SM AASHTO= A-2-4(0)

Remarks

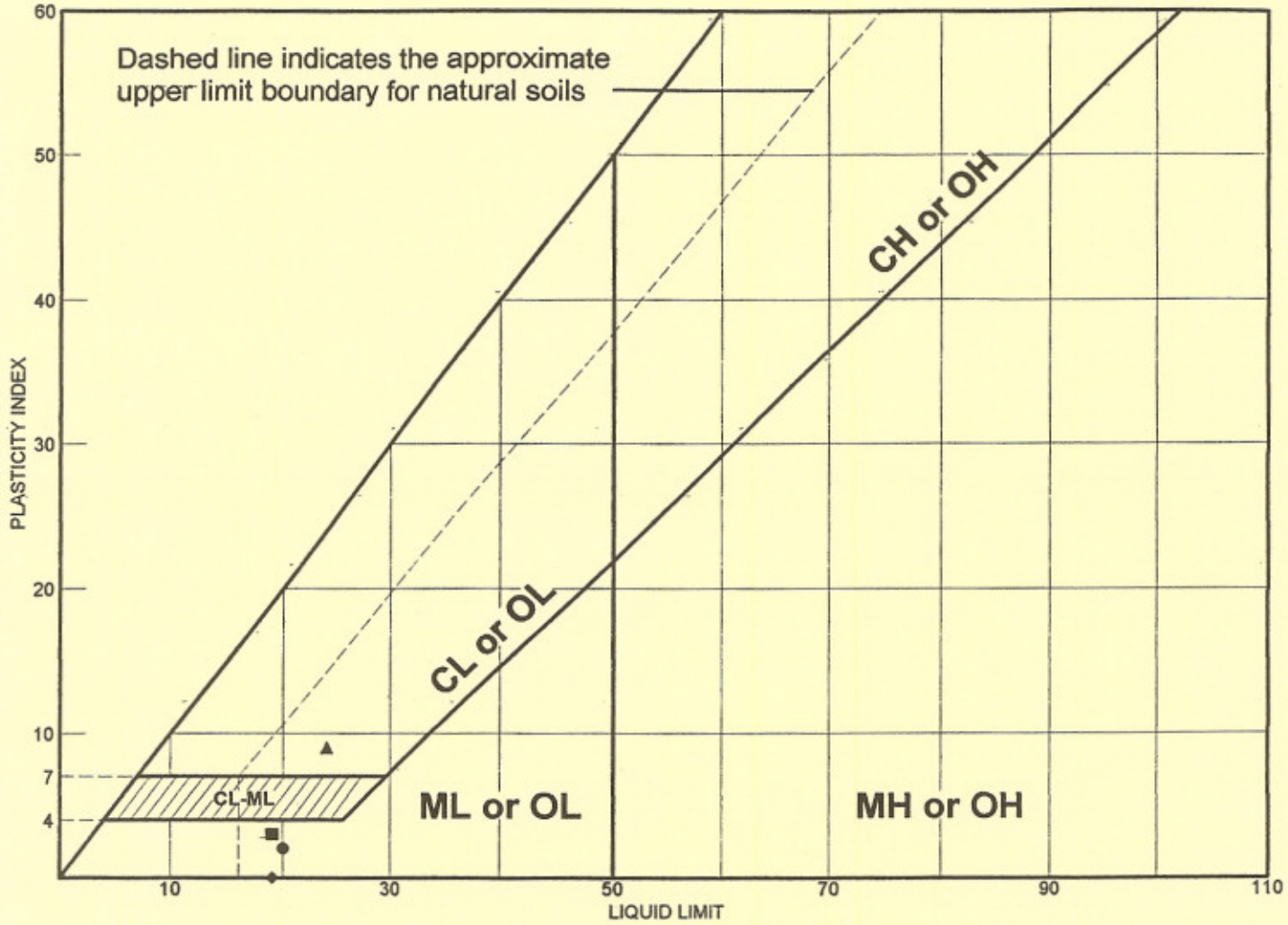
Tested By: JB
Reviewed By: JCH

Sample No.: 04-081 **Source of Sample:** **Date:** 5-26-04
Location: Black Hat **Elev./Depth:** Bulk

WESTERN COLORADO TESTING, INC.

Client: Western Water and Land
Project: Misc. Lab Testing
Project No: 202004 **Figure** 4

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Sand, silty (SM)	20	18	2			
■	Sand, silty (SM)	19	16	3			
▲	Clayey sand with gravel (SC)	24	15	9	67	29	SC
◆	Silty sand with gravel (SM)	19	19	NP	55	20	SM

Project No. 202004 **Client:** Western Water and Land

Project: Misc. Lab Testing

Misc. Lab Testing

● **Location:** Blue Cap - 4

■ **Location:** Fire Fly - 9

▲ **Location:** Blue Cap

◆ **Location:** Vanadium Queen

Remarks:

● Tested By: RG
Reviewed By: JCH

■ Tested By: RG
Reviewed By: JCH

▲ Tested By: JB
Reviewed By: JCH

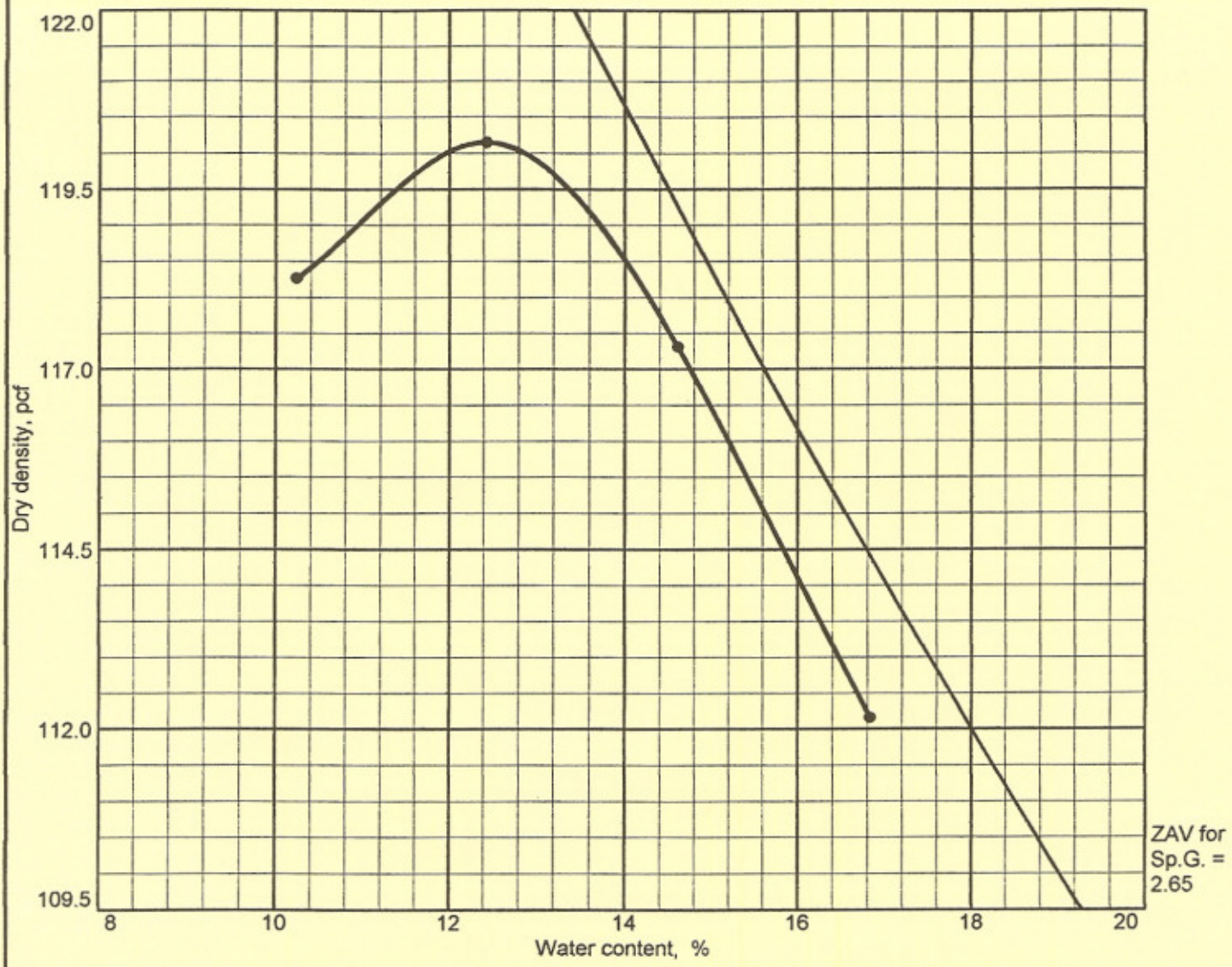
◆ Tested By: JB
Reviewed By: JCH

LIQUID AND PLASTIC LIMITS TEST REPORT

WESTERN COLORADO TESTING, INC.

Figure 5

Moisture-Density Relations Test



Test specification: ASTM D 698-00a Method A Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
Bulk	SC	A-2-4(0)			24	9	21.0	29

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 120 pcf Optimum moisture = 12.5 %	Clayey sand with gravel (SC)

Project No. 202004 **Client:** Western Water and Land
Project: Misc. Lab Testing

● **Location:** Blue Cap

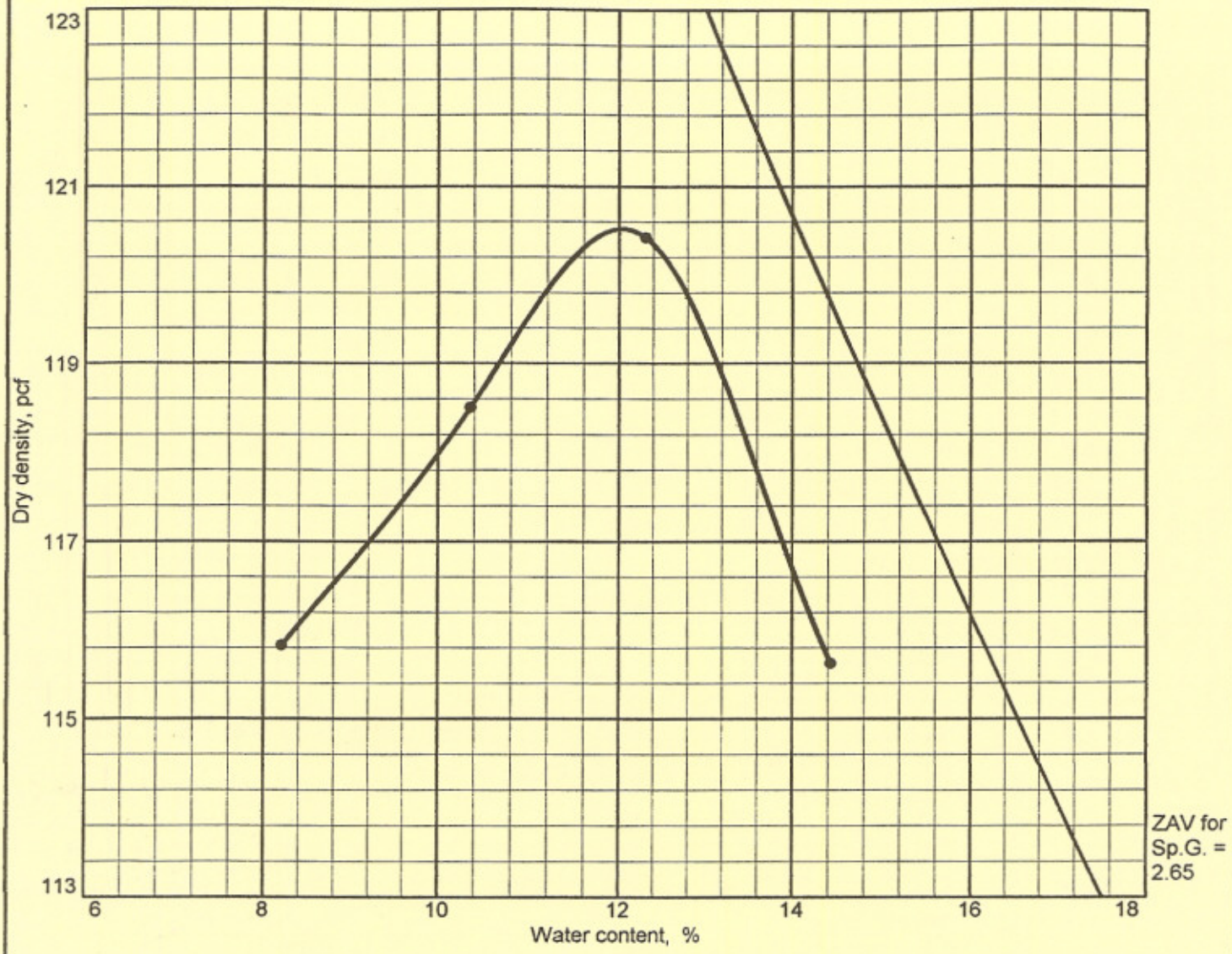
Remarks:
Tested By: RG
Reviewed By: JCH

Moisture-Density Relations Test

WESTERN COLORADO TESTING, INC.

Figure 6

Moisture-Density Relations Test



Test specification: ASTM D 698-00a Method A Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
Bulk	SM	A-2-4(0)			19	NP		20

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 120.5 pcf Optimum moisture = 12 %	Silty sand with gravel (SM)

Project No. 202004 **Client:** Western Water and Land
Project: Misc. Lab Testing
● **Location:** Vanadium Queen

Remarks:
Tested By: JB Reviewed By: JCH

Moisture-Density Relations Test

WESTERN COLORADO TESTING, INC.

Figure 7

Moisture-Density Relations Test

Test specification: ASTM D 698-00a Method A Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
Bulk	SM	A-2-4(0)			NV	NP		26

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 121.5 pcf Optimum moisture = 11.5 %	Silty sand with gravel (SM)

Project No. 202004 **Client:** Western Water and Land
Project: Misc. Lab Testing
Location: Firefly

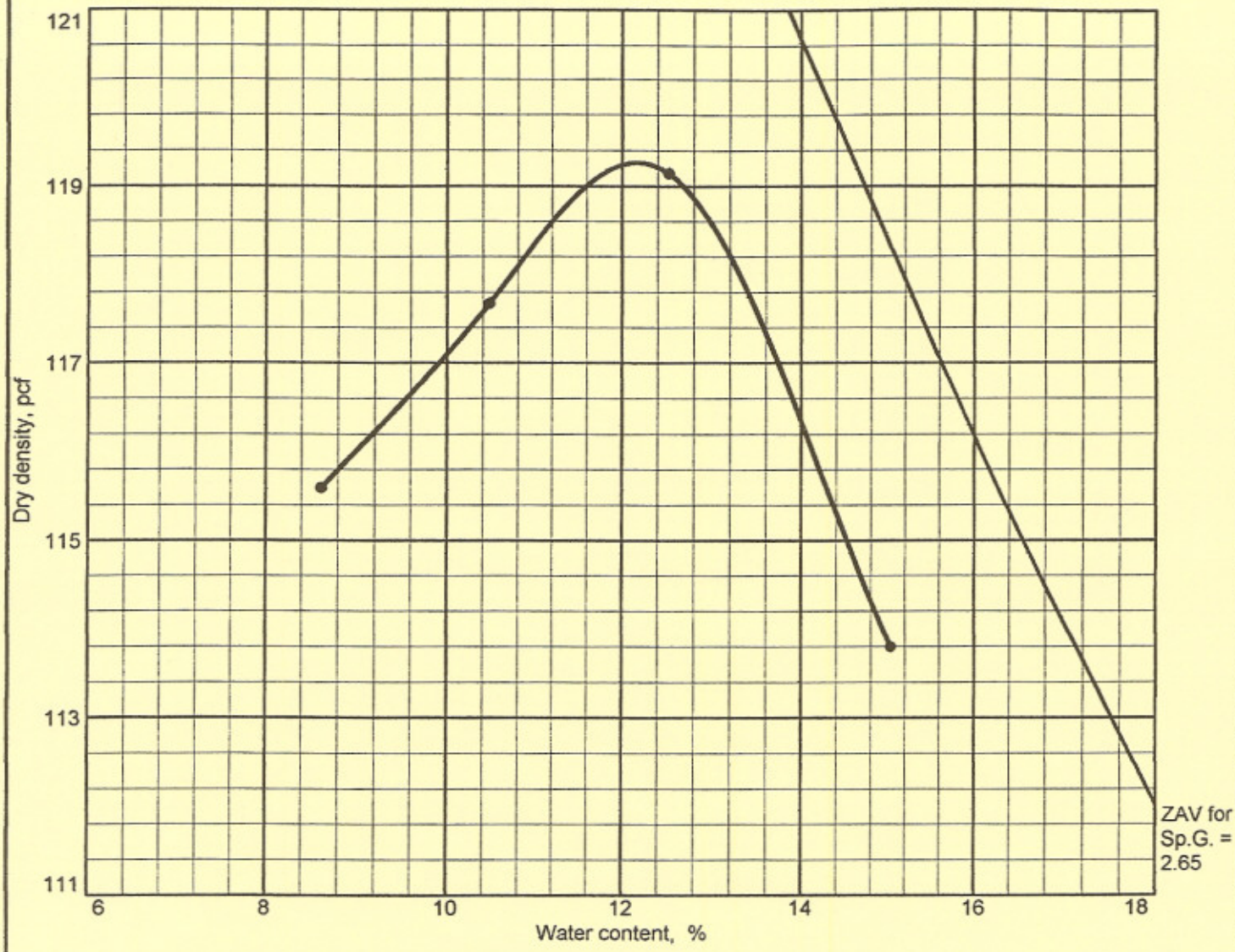
Remarks:
Tested By : JB Reviewed By : JCH

Moisture-Density Relations Test

WESTERN COLORADO TESTING, INC.

Figure 8

Moisture-Density Relations Test



Test specification: ASTM D 698-00a Method A Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
Bulk	SM	A-2-4(0)			NV	NP		19

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 119.5 pcf Optimum moisture = 12 %	Silty sand with gravel (SM)

Project No. 202004 **Client:** Western Water and Land
Project: Misc. Lab Testing
● **Location:** Black Hat

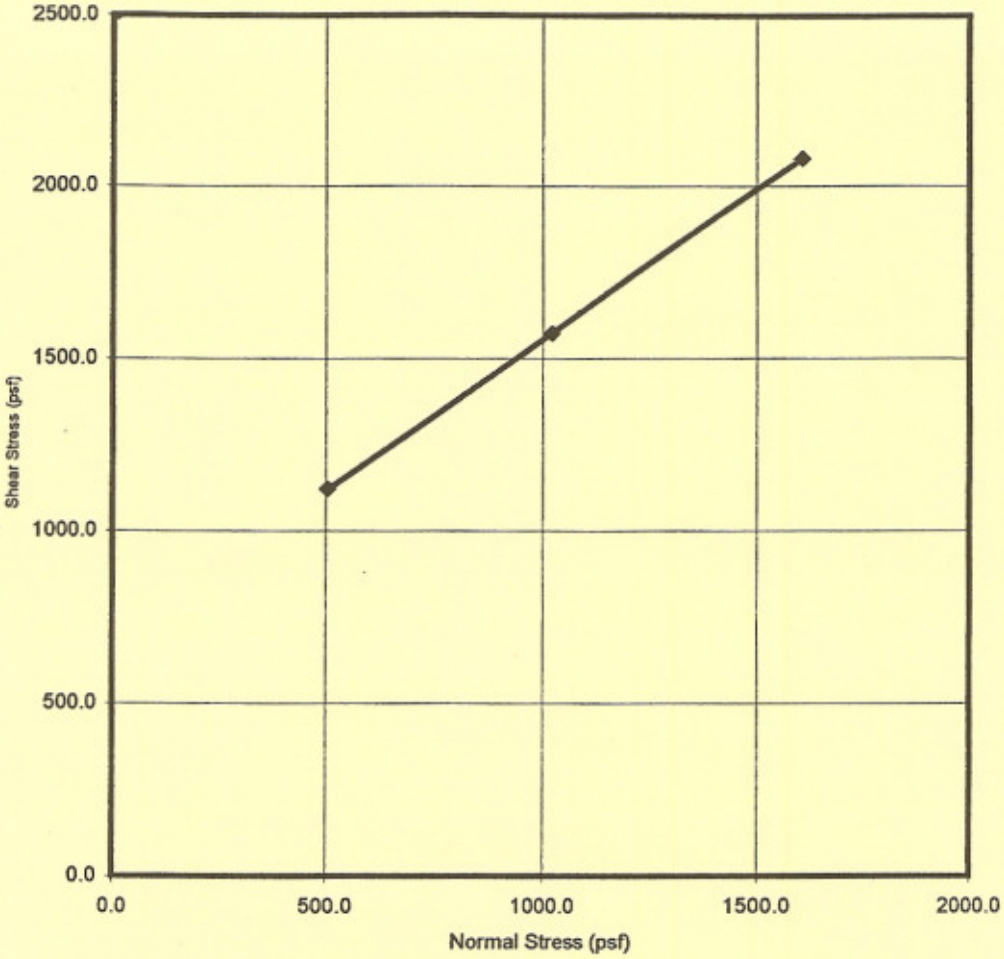
Remarks:
Tested By : JB Reviewed By : JCH

Moisture-Density Relations Test

WESTERN COLORADO TESTING, INC.

Figure 9

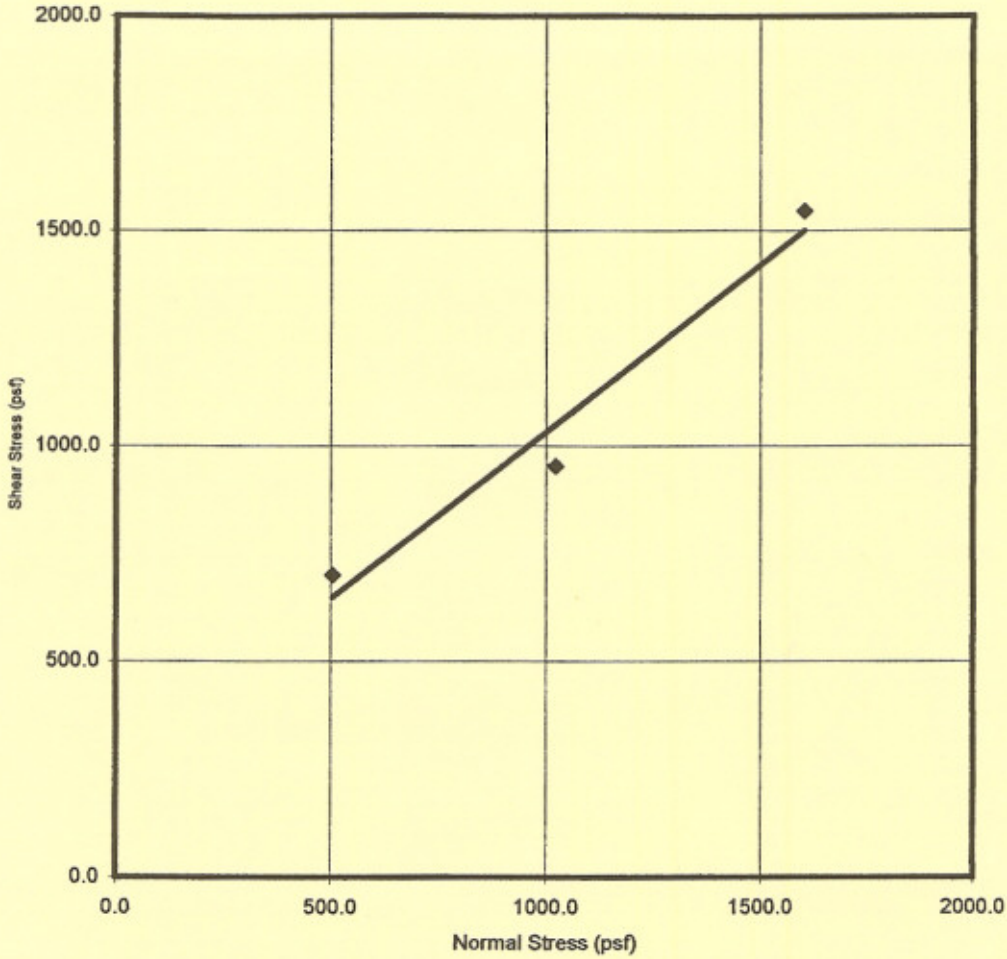
DIRECT SHEAR TEST



BORING NO.:	Blue Cap	DRY DENSITY	116.9 pcf
DEPTH:	Bulk	MOISTURE CONTENT	11.3 percent
SAMPLE DESCRIPTION:	Sand, clayey w/gravel	SHEAR ANGLE (f)	41.1 °
USCS:	SC	COHESION (c)	682.8 psf

WESTERN COLORADO TESTING, INC.		
	DIRECT SHEAR TEST	FIGURE NO. 10

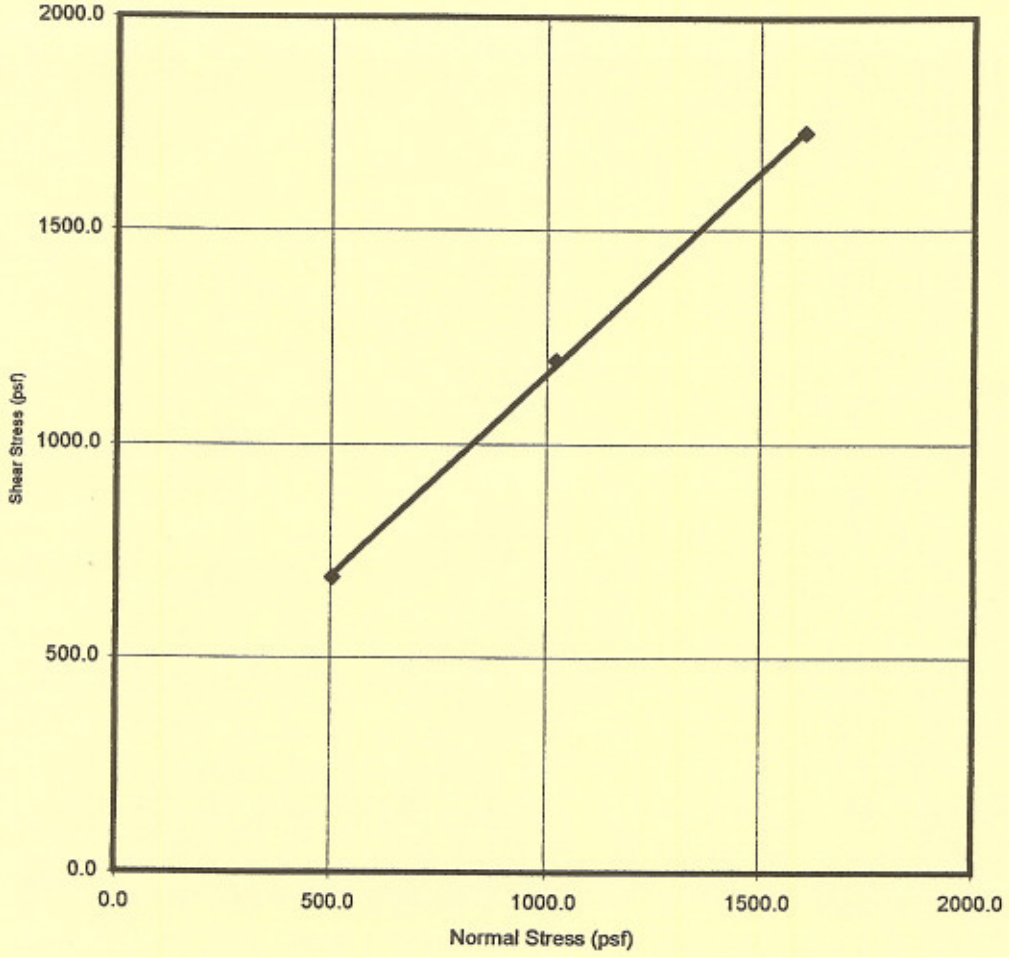
DIRECT SHEAR TEST



BORING NO.:	Vanadium Queen	DRY DENSITY	115.0 pcf
DEPTH	Bulk	MOISTURE CONTENT	12.1 percent
SAMPLE DESCRIPTION	Sand, silty w/gravel	SHEAR ANGLE (f)	37.8 ^{o}
USCS	SM	COHESION (c)	258.0 psf

WESTERN COLORADO TESTING, INC.		
	DIRECT SHEAR TEST	FIGURE NO. 11

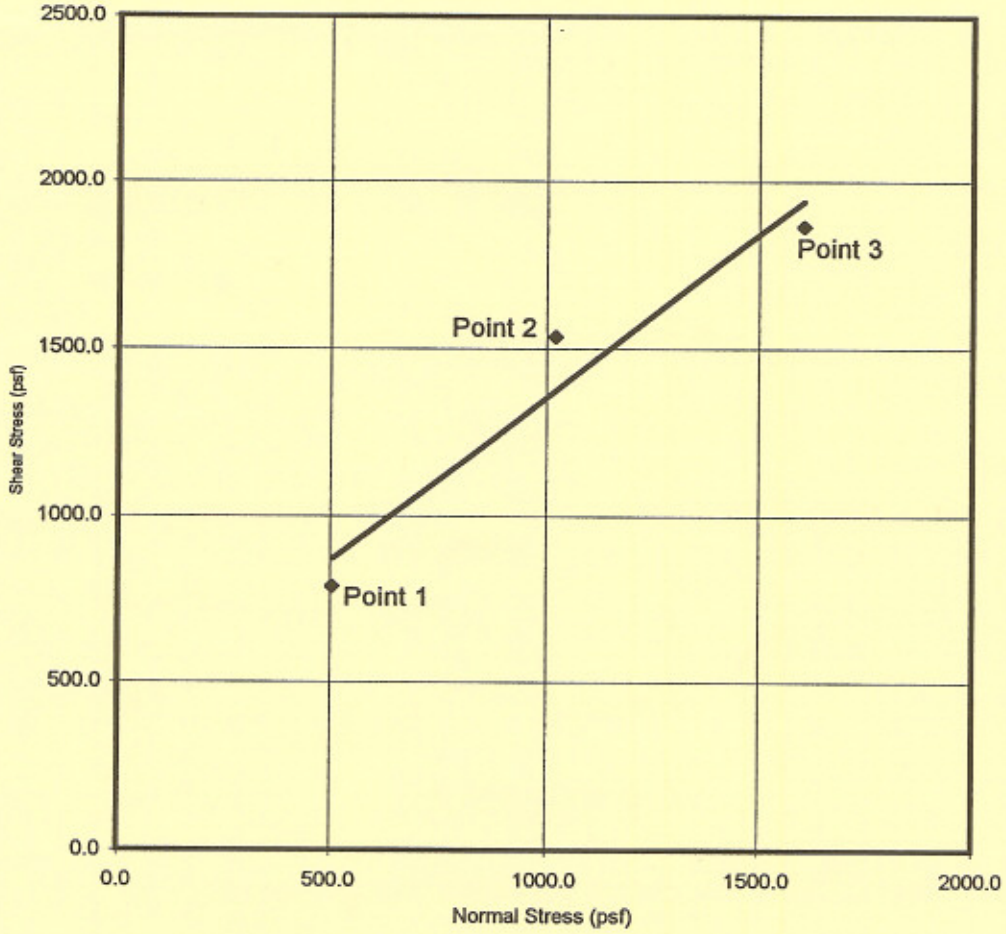
DIRECT SHEAR TEST



BORING NO.:	Fire Fly	DRY DENSITY	116.0 pcf
DEPTH:	Bulk	MOISTURE CONTENT	10.6 percent
SAMPLE DESCRIPTION:	Sand, silty w/gravel	SHEAR ANGLE (f)	43.4 ^{o}
USCS:	SM	COHESION (c)	217.6 psf

WESTERN COLORADO TESTING, INC.		
	DIRECT SHEAR TEST	FIGURE NO. 12

DIRECT SHEAR TEST



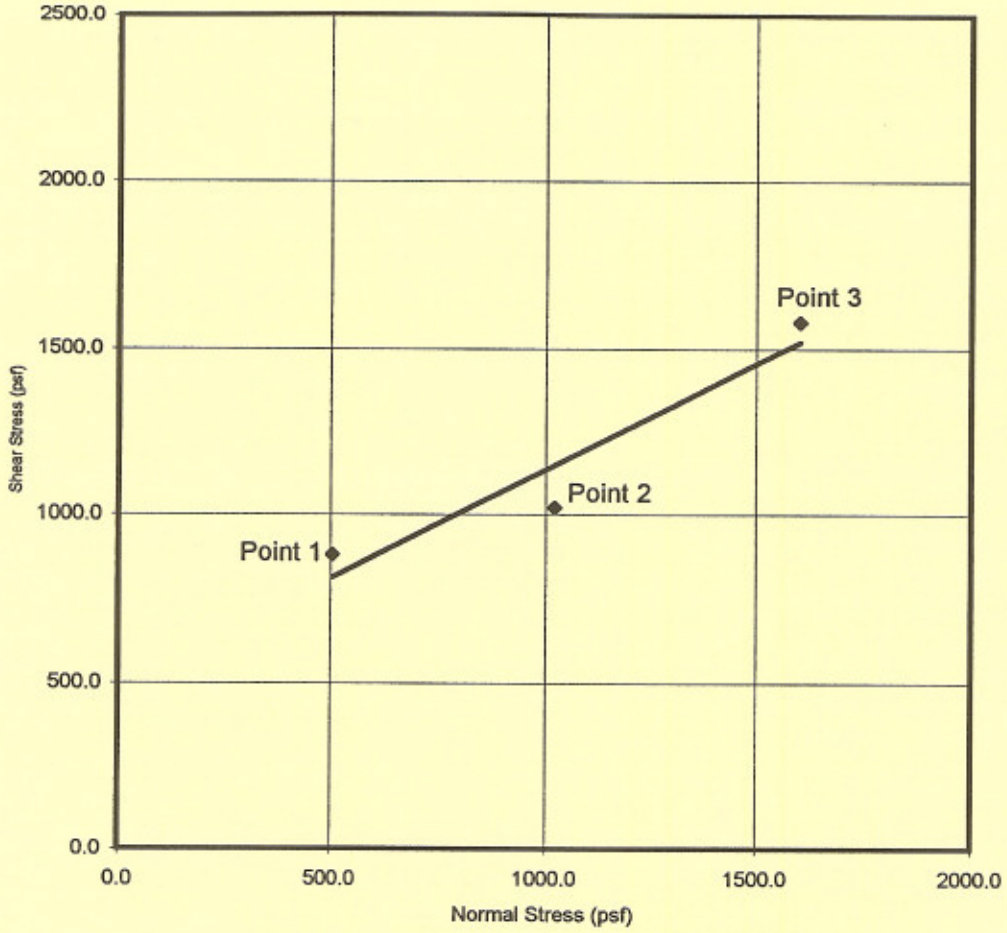
BORING NO.:	Blue Cap	DRY DENSITY:	106.0 pcf
DEPTH:	4.00-5.00'	MOISTURE CONTENT:	9.7 percent
SAMPLE DESCRIPTION:	Sand, clayey w/gravel	*SHEAR ANGLE (f):	44.2 °
USCS:	SC	*COHESION (c):	382.5 psf

Liquid Limit: 20
Plastic Limit: 18
Plasticity Index: 2

* Larger than #4 particles found in shear plane after test for points 2 and 3 possibly resulting in a higher shear angle and lower cohesion values.

WESTERN COLORADO TESTING, INC.		
	DIRECT SHEAR TEST	FIGURE NO. 14

DIRECT SHEAR TEST



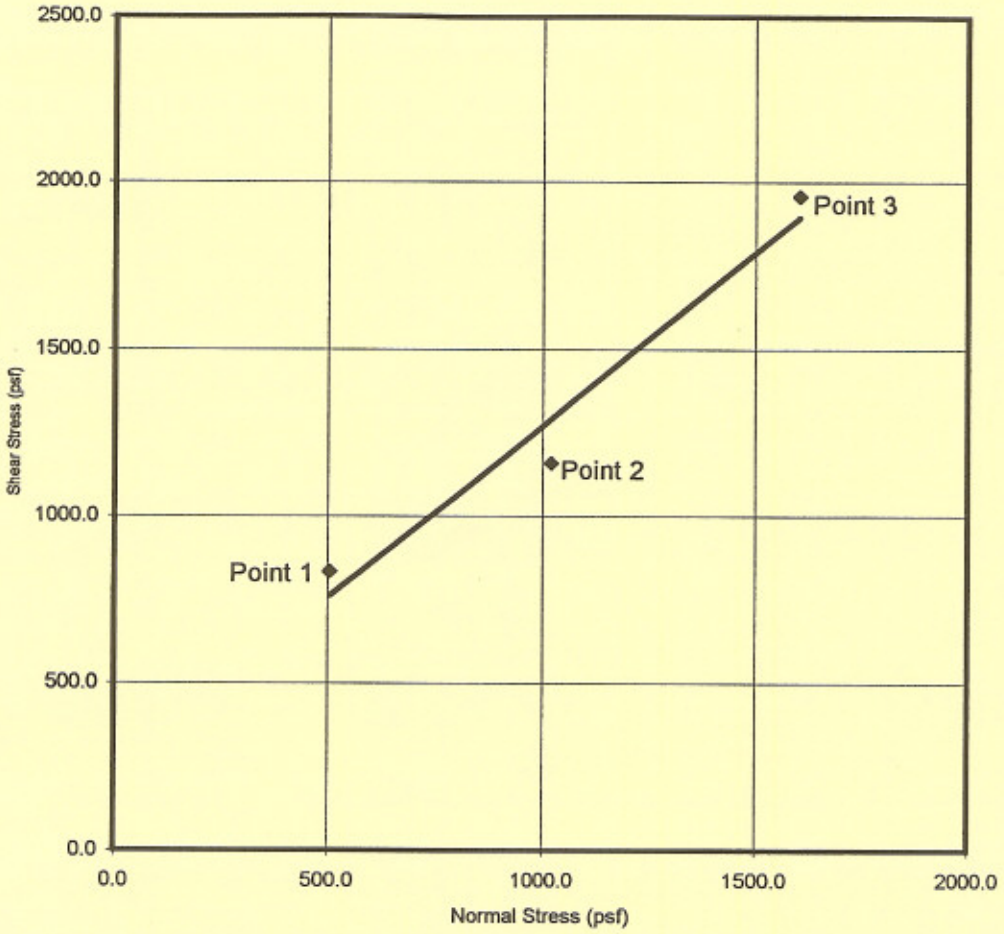
BORING NO.:	Vanadium Queen	DRY DENSITY:	103.5 pcf
DEPTH:	11.00-12.00'	MOISTURE CONTENT:	6.7 percent
SAMPLE DESCRIPTION:	Sand, silty w/gravel	*SHEAR ANGLE (f):	32.8 °
USCS:	SM	*COHESION (c):	487.8 psf

Liquid Limit: NV
Plastic Limit: NP
Plasticity Index: NP

* Larger than #4 particles found in shear plane after test for points 1 and 2 possibly resulting in a lower shear angle and higher cohesion values.

WESTERN COLORADO TESTING, INC.		
	DIRECT SHEAR TEST	FIGURE NO. 15

DIRECT SHEAR TEST



BORING NO.:	Fire Fly	DRY DENSITY:	104.8 pcf
DEPTH:	16.00-17.00'	MOISTURE CONTENT:	8.0 percent
SAMPLE DESCRIPTION:	Sand, silty w/gravel	*SHEAR ANGLE (f):	45.8 °
USCS:	SM	*COHESION (c):	243.7 psf

Liquid Limit: 19
Plastic Limit: 16
Plasticity Index: 3

* Larger than #4 particles found in shear plane after test for point 3 possibly resulting in higher shear angle and lower cohesion values.

WESTERN COLORADO TESTING, INC.		
	DIRECT SHEAR TEST	FIGURE NO. 16