APPENDIX B

ATTACHMENT B-1
REGULATORY AGENCY CORRESPONDENCE
(Electronic Copy)

Winston H. Hickox
Agency Secretary
California Environmental
Protection Agency

Department of Toxic Substances Control

Edwin F. Lowry, Director
1011 North Grandview Avenue
Glendale, California 91201

Gray Davis
Governor

MEMORANDUM

TO: Peter Bailey
Hazardous Substances Scientist
Site Mitigation Branch
8800 Cal Center Drive
Sacramento, CA 95826

FROM: Shahrzad Ghovanloonia, M.S.SG
Associate Industrial Hygienist
Industrial Hygiene & Safety Branch
1011 North Grandview Avenue
Glendale, CA 91201

DATE: August 1, 2002

SUBJECT: Building 56 Landfill, Santa Susana Field Laboratory
Ventura County, CA
PCA: 22120 Site Code: 300381 WP: 00 MPC: 37

BACKGROUND

The Site Mitigation Branch in Sacramento, requested that the Industrial Hygiene and Safety Branch (IHSB) review and comment on the health and safety plan for the Building 56 Landfill located within the Santa Susana Field Laboratory (SSFL). The SSFL is located in Ventura County, California.

The SSFL occupies approximately 2,850 acres of hilly terrain. Most of the land adjacent to the SSFL is undeveloped and mountainous. About 73 percent of the area within a 5-mile radius of the SSFL is undeveloped. The site is located in the northwest portion of the SSFL in Area IV.

The Building 56 Landfill has been identified as Solid Waste Management Unit 7.1 under the ongoing Resource Conservation and Recovery Act Correction Action Program at the SSFL. The Building 56 Landfill site occupies approximately 2.9 acres at the SSFL. The Landfill includes a 0.7-acre northern area that was used for disposal of soil, concrete, and asphalt and a 0.4-acre southern area that appears to have been used for similar purposes.

The Landfill was used from the early 1960s to 1969 for disposal of soil and bedrock from the adjacent Building 56 excavation and from other construction related excavations. The Landfill is currently inactive. Prior to 1980, drums containing hazardous and nonhazardous wastes were occasionally stored on top of the landfill. These drums were removed in the early 1980s and disposed of. This RCRA Facility Investigation (RFI) work plan amendment focuses on the investigation required for the Building 56 Landfill and the debris area to the south. Minor construction materials, debris, concrete, and metal scrap were observed on the top of the Landfill and in the debris area to the south during a walk-through inspection in 2001.

The proposed soil investigation includes soil vapor sampling, trenching, bucket auger drilling, and soil matrix sampling. Active soil vapor sampling will be conducted at approximately 12 locations to assess subsurface VOC impacts and methane content. Active soil vapor samples will be collected at 5-foot depth intervals at the proposed locations and analyzed for target VOCs and methane.

Soil matrix sampling will be accomplished using bucket auger, test pit, trenching, and hand-auger techniques.

A total of 10 trenches are proposed: 7 within the upper portion of the Landfill and 3 within the debris area to the south. The proposed trenches will be between 25 and 50 feet long and approximately 10 to 15 feet deep. Three 24-inch diameter bucket auger locations are proposed near the top-of-slope boundary of the Landfill and debris area to the south. Hand auger borings are proposed at the base of the Landfill and the debris area to the south.

DOCUMENT REVIEWED

The IHSB reviewed the "RCRA Facility Investigation Workplan Addendum Amendment Building 56 Landfill Investigation" Health and Safety located in Ventura County, California on August 1, 2002. Montgomery Watson Harza (MWH) prepared the plan.

The Department of Toxic Substances Control (DTSC) reviewed the health and safety plan for compliance with Title 8, California Code of Regulations (T8 CCR), Department of Toxic Substances Control policies and procedures, and the NIOSH/OSHA/USCG/EPA Guidance Manual as well as other appropriate State and Federal Health and Safety Regulations. Implementation is the employer's responsibility therefore, the review of the health and safety plan is not a guarantee that it will be properly and safely implemented. All sub-contractors not covered by this health and safety plan must submit their own health and safety plan to DTSC for review.

SPECIFIC COMMENTS

1) Hazard Analysis, Chemical. Benzene is listed in this section. Monitoring for Benzene using Colorimetric Indicator Tubes are discussed in the Monitoring Section. Therefore, please add Benzene to Table B-1. Please discuss in detail when the Colorimetric Indicator Tubes will be used along with the action level and PPE to be worn.

2) Hazard Analysis, Chemical. Coal tar pitch volatiles and metal particulates (cadmium, iron, and lead) are listed in this section. Please add these metals to Table B-1. Please discuss how monitoring will be conducted for these chemicals including the action levels and PPE to be worn.

3) Hazard Analysis, Heat Stress. In order to maintain an environment free from heat stress hazards, heat stress monitoring should be conducted. The initiation of heat stress monitoring should be required when employees are working in environments exceeding 70 degrees F ambient air temperature. The development of heat-related disorders can be prevented via observation of and communication with site workers from the beginning of the work period. Please provide a detailed work/rest schedule.

4) Hazard Analysis, Biological. It is good practice to discuss the potential biological hazards on site and the steps to avoid them (i.e., bees,snakes, and poison oak) encounters during the tailgate meetings.

5) Hazard Analysis, PPE. Please refer to permeation/penetration charts to determine if the PPE listed in this section, are adequate for all of the chemicals on site.

6) Hazard Analysis, PPE. The IHSB suggests that traffic vests be worn since there will be machinery/vehicles on site.

7) Hazard Analysis, PPE. Please add ear plugs to this section.

8) Monitoring Equipment, PID. Please specify the lamp strength in (eV) of the PID which will be employed on site. Please verify that all of the volatile contaminants of concern for this site can be detected by a PID. Compounds with high ionization potentials may not be detected by all PID lamps.

9) Monitoring Equipment, PID. The plan states, "No specific monitoring will be conducted for vinyl chloride as it has not appeared in the soil vapor samples previously collected at this site at concentrations of occupational health concern." Please discuss the previous characterization data in detail. (i.e. how many samples were taken, the locations the samples were taken) Does the data accurately reflect the conditions found at depth?

10)Monitoring Equipment, Sound Level Meters/Noise Dosimeters. Cal OSHA does not allow reliance upon subjective methods to demonstrate compliance with the Hearing Conservation Program. Drilling can cause noise levels to exceed 100 decibels. Therefore, noise monitoring should be conducted to verify that the selected hearing protection devices are adequately protective. Please describe noise-monitoring protocols to be employed on site, including a description of the instrumentation, frequency of monitoring, and corresponding action levels. This plan should be developed in accordance with Title 8 of the California Code of Regulations. (8 CCR)

11)Monitoring Equipment, Organic Vapors. The plan states, "Since trichloroethylene is the one of the most common contaminants at the project site, it will be used as the contaminant of concern and focus of the organic vapor air monitoring. When PID/FID readings are greater than 100 ppm, Level C with full-face APR will be donned with the same cartridge changeout schedule". The site will be evacuated at a PID/FID reading greater than 500 ppm." Trichloroethylene has a PEL of 25 ppm, STEL of 200 ppm, and a Ceiling limit of 300 ppm. Benzene has a PEL of 1 ppm. Please incorporate all of the chemicals on site when setting action levels. Please discuss the previous characterization data in detail including how many samples were taken, the locations the samples were taken and so forth. Does the data accurately reflect the conditions found at depth?

12)Table B-1, Occupational Health Exposure and Toxicological Properties For Contaminants Of Occupational Health Concern.

- The Cal-OSHA PEL for Hydrogen Sulfide is 10 ppm. The STEL is 15 ppm and the Ceiling limit is 50 ppm.
- The Cal-OSHA PEL for Toluene is 50 ppm. The STEL is 150 ppm and the Ceiling limit is 500 ppm.
- The Cal-OSHA PEL for Trichloroethylene is 25 ppm. The STEL is 200 ppm and the Ceiling limit is 300 ppm.
- The Cal-OSHA STEL for Xylene is 150 ppm and the Ceiling limit is 300 ppm.

13)Boeing Radiation Screening Procedures Building 56 Landfill. The plan states, "If any indication of unusual or elevated radiation or contamination levels is detected, the excavation will be halted, and further contamination control and survey requirements implemented." Please describe radiation monitoring protocols to be employed on site in detail, including a description of the instrumentation, frequency of monitoring, and corresponding action levels. This plan should be developed in accordance with Title 8 of the California Code of Regulations. (8 CCR)

14) It is important to note that USA Dig Alert should be contacted a minimum of 2 days in advance to invasive activities as per common practice.

15) Please provide detailed decontamination procedures.

CONCLUSION

The site health and safety plan (HASP) is intended to be a document that will allow the on-site workers to become familiarized with the site(s) history, known or potential health hazards, proposed work activities, emergency action plans, and the site safety information that is necessary to mitigate the risks from the identified hazards. The site HASP must be able to provide field staff with sufficient information to compile an accurate assessment of the site safety issues associated with every job function.

The HASP is well written and contains valuable information. However, the submitted document requires additional information and/or clarification of the issues identified above. Areas where the IHSB has requested additional information and/or clarification must be corrected or clarified.

Future changes in the document should be clearly identified. This may be accomplished in several ways: by submitting revised pages with the reason for the changes noted, by the use of strikeout and underline, by the use of shading or italics, or by cover letter stating how each of the comments herein have been addressed. Final revisions must be incorporated into the document in a comprehensive format, which allows site workers to readily access information within the documents. If questions should arise, please contact Shahrzad Ghovanloonia at (818) 551-2889.

Peer Review:

Frank Parr, CIH, CSP
Senior Industrial Hygienist

Cc: HERD
Site File

STATE OF CALIFORNIA—HEALTH AND HUMAN SERVICES AGENCY
GRAY DAVIS, Governor

DEPARTMENT OF HEALTH SERVICES
RADIOLOGIC HEALTH BRANCH
P.O. BOX 942732, MS-178
SACRAMENTO, CA 94234-7320
(916) 445-0931

August 5, 2002

Mr. Peter Bailey
Department of Toxic Substances Control
8800 Cal Center Drive
Sacramento, CA 95826-3200
(916) 255-3602

Subject: Comments to the "RCRA FACILITY INVESTIGATION WORKPLAN ADDENDUM AMENDMENT BUILDING 56 LNDFILL (SWMU 7.1) INVESTIGATION." March 2002.

Dear Mr. Bailey,

The Department of Toxics Substances Control (DTSC) has requested via fax, that the Department of Health Services Radiologic Health Branch (RHB) review the Work Plan, prepared by MWH Americas, Inc. for the U.S. Department of Energy, radiation screening procedures for field activities at the Santa Susana Field Laboratory.

RHB's review comments of the Work Plan include suggestions for specific citations and references to existing Boeing procedures and methodologies. These procedures will clarify what is to be done and to the extent that it will be accomplished. Following conversations with DTSC and Boeing a revised Attachment 1, "Boeing Radiation Screening Procedures – Building 56 Landfill" to Appendix B has been forwarded by Boeing to RHB. The revised Attachment 1 makes reference to Boeing documents SM-40 403, *Radiological Controls Manual* and RS-00012 *Methods and Procedures for Radiological Monitoring*. This revised Attachment 1 supplies resolution to many of the DHS comments attached to this letter. Also, also a copy of the revised Attachment 1 is included for reference.

The remaining comments pertain to ground water and questions on how it will be handled if found in the landfill during the investigation.

If there are additional questions please contact Roger Lupo at (916) 324-3731 or mailto Rlupo@dhs.ca.gov.

Sincerely,

Roger Lupo.

Roger Lupo
Health Physicist

RHB Comments to the document "RCRA FACILITY INVESTIGATION WORKPLAN ADDENDUM AMENDMENT BUILDING 56 LNDFILL (SWMU 7.1) INVESTIGATION." March 2002, as prepared by MWH Americas, Inc. for the U.S. Department of Energy.

The Department of Toxics Substances Control (DTSC) has requested, via fax, the Department of Health Services (DHS) Radiologic Health Branch (RHB) to review "RCRA FACILITY INVESTIGATION WORKPLAN ADDENDUM AMENDMENT BUILDING 56 LNDFILL (SWMU 7.1) INVESTIGATION." (Work Plan) for adequacy of proposed radiation screening procedures prior to and during field activities at the Santa Susana Field Laboratory.

The following are RHB's comments to the Work Plan. The comments are set out in a matrix format with a page reference, the document text in question, comments to the text, a suggested resolution and a resolution. In general, a specific citation and addition of references to existing Boeing procedures and methodologies will clarify what is to be done and to the extent it will be accomplished. Following conversations with DTSC and Boeing a revised Attachment 1, "Boeing Radiation Screening Procedures – Building 56 Landfill" to Appendix B has been forwarded by Boeing to RHB. The revised Attachment 1 makes reference to Boeing documents SM-40 403, *Radiological Controls Manual* and RS-00012 *Methods and Procedures for Radiological Monitoring*. This revised Attachment 1 supplies resolution to many of the RHB comments (a copy of Attachment 1 is included.)

Department of Toxic Substances Control

Edwin F. Lowry, Director
8800 Cal Center Drive
Sacramento, California 95826-3200

Winston H. Hickox
Agency Secretary
California Environmental
Protection Agency

Gray Davis
Governor

July 25, 2003

Mr. Art Lenox
Environmental Remediation
The Boeing Company
6633 Canoga Avenue
P.O. Box 7922
Canoga Park, California 91309-7922

APPROVAL OF FINAL RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) FACILITY INVESTIGATION (RFI) WORKPLAN ADDENDUM AMENDMENT BUILDING 56 LANDFILL (SWMU 7.1) INVESTIGATION, SANTA SUSANA FIELD LABORATORY (SSFL), VENTURA COUNTY, CALIFORNIA

Dear Mr. Chung:

The Department of Toxic Substances Control (DTSC) has reviewed the final RFI Workplan Addendum Amendment Building 56 Landfill (SWMU 7.1) Investigation (Workplan) dated May 28, 2003. The Workplan presents the approach and work to be performed to characterize the content and extent of the Building 56 Landfill in Area IV of the SSFL.

DTSC reviewed the draft version of the subject document and provided comments to The Boeing Company (Boeing) in a letter dated August 8, 2002. DTSC received the final Workplan with the comments incorporated on May 28, 2003. The final Workplan has been reviewed by DTSC and is hereby approved with the following conditions:

1) In the event the base of the landfill is not determined using exploratory trenching, additional characterization will be conducted using bucket auger drilling methods to complete vertical extent characterization;

2) Measures will be taken to prevent precipitation from entering trenches, borings, and stockpiles during potential precipitation events. These measures may include covering boreholes or trenches, evacuating excess water from boreholes or trenches, and/or preparing runoff division systems. In the event fieldwork continues into the rainy season (November), Boeing will reassess the drainage control for winter precipitation events, and implement additional measures as necessary; and

3) Field work shall be conducted in accordance with Boeing's Standard Operations Procedures Form 653 -T-10 and Happy Valley Safety Information for ordnance awareness.

You may notify your contractors to initiate field activities. If you would like to discuss the conditions outlined above, please do not hesitate to contact me at (916) 255-3602.

Sincerely,

Peter H. Bailey, R.G.
Engineering Geologist
Northern California Permitting and Corrective Action Branch

cc: Mr. Stephen Baxter
Department of Toxic Substances Control
1011 N. Grandview Avenue
Glendale, California 912101-2205

Mr. Peter Bozek
Ventura County Environmental Health Division
800 S. Victoria Avenue
Ventura, California 93003-1730

Mr. Roger Lupo
Department of Health Services
Radiological Health Branch
601 N. 7th Street
P.O. Box 94732
Sacramento, California 94234-74320

PB.bvbdj
PB10W.073

APPENDIX B

ATTACHMENT B-2

SUBSURFACE INFORMATION
(Electronic Copy)

SOIL BORING LOGS

MWH

Boring ID: BHBS0005

Borehole Diam. (in.): 3	Total Depth (ft): 0.7	Project: Group 8 Data Gap Sampling	
Northing (ft):	Easting (ft):	Job Number: 1891264.0111811	Site: Building 100
Drill Start Date: 02-13-2007	Start Time: 14:10	Logged By: Mark Davis	Reviewed By:
Drill Finish Date: 02-13-2007	Finish Time: 14:40	Drilling Contractor: N/A	Field Instrumentation: PID
Depth 1st H_2O (ft): N/A	Date/Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H_2O After Drilling (ft): N/A	Date/Time: N/A	Driller's Name: Alex Felix	
Comments: Hydro-seed mulch at surface; gravel aggregate immediately north of boring		Well Comp. Date: N/A	Completion Time: N/A
Samplers: Slide hammer with 2-inch-dia. x 6-inch-long sleeve		Soil Backfill Date: 02-13-2007	Backfill Time: 14:40

Sample Interval / Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
S			1.4		0		SM	Silty Sand, dark yellowish brown (10YR 4/4), loose, moist, fine to medium sand			35	30	35
					1			Total Depth = 0.7 ft; refusal on bedrock, same in attempts at two adjacent locations. Collected soil samples S01 and S01SP.					
					2								
					3								
					4								
					5								
					6								
					7								
					8								
					9								
					10								

LOG OF BORING GROUP8GPJ MWHWC.GDT 3/23/07

MWH

Boring ID: BHBS0006

Borehole Diam. (in.): 3	Total Depth (ft): 1.0	Project: Group 8 Data Gap Sampling	
Northing (ft): 266608.32	Easting (ft): 1783965.70	Job Number: 1891306 / 1891307.021105	Site: Building 100
Drill Start Date: 04-02-2007	Start Time: 10:50	Logged By: Mark Davis	Reviewed By: Shelby Valenzuela
Drill Finish Date: 04-02-2007	Finish Time: 11:05	Drilling Contractor: Jacobs & Hefner Assoc.	Field Instrumentation: PID
Depth 1st H_2O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H_2O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: Alex Felix	
Comments: Four-layer black geomembrane at surface; HDPG liners for storm water BMP		Well Comp. Date: N/A	Completion Time: N/A
Samplers: Slide hammer with drive sampler		Soil Backfill Date: 04-02-2007	Backfill Time: 11:10

Sample Interval / Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
								Surface Elevation: 1783.8 ft					
S			5.0		0		ML	Silt with Sand, brown (10YR 4/3), soft, dry, fine sand, common roots from nearby tree				25	75
								Total Depth = 1.0 ft; refusal on tree root larger than borehole diameter.					
								Collected soil sample S01.					
								Sampling at this location required cutting through storm water BMP liner; borehole left open to facilitate patch and repair. Did not step out to attempt deeper sample because doing so would require penetrating storm water BMP liner another time.					
					2								
					4								
					6								
					8								
					10								
					12								
					14								
					16								
					18								
					20								

LOG OF BORING GROUP8GPJ MWH WC.GDT 7/1/07

MWH

Boring ID: BHBS0007

Borehole Diam. (in.): 3	Total Depth (ft): 1.3	Project: Group 8 Data Gap Sampling	
Northing (ft): 266557.97	Easting (ft): 1783997.74	Job Number: 1891306 / 1891307.021105	Site: Building 100
Drill Start Date: 04-02-2007	Start Time: 09:30	Logged By: Mark Davis	Reviewed By: Shelby Valenzuela
Drill Finish Date: 04-02-2007	Finish Time: 09:50	Drilling Contractor: Jacobs & Hefner Assoc.	Field Instrumentation: PID
Depth 1st H_2O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H_2O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: Alex Felix	
Comments: Minor weeds with mulch at surface		Well Comp. Date: N/A	Completion Time: N/A
Samplers: Slide hammer with drive sampler		Soil Backfill Date: 04-02-2007	Backfill Time: 09:50

Sample Interval / Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
								Surface Elevation: 1812.0 ft.					
S			2.5		0		SM	Silty Sand, dark yellowish brown (10YR 4/6), loose, moist, fine to medium sand			25	50	25
								Sandstone, yellowish brown (10YR 5/6), highly weathered, fine sand, moist					
								Total Depth = 1.3 ft; refusal on bedrock.					
								Collected soil samples S01 and D01.					
					2								
					4								
					6								
					8								
					10								
					12								
					14								
					16								
					18								
					20								

LOG OF BORING GROUP8.GPJ MWH WC.GDT 7/1/07

MWH

Boring ID: BHBS0008

Borehole Diam. (in.): 3	Total Depth (ft): 9.0	Project: Group 8 Data Gap Sampling	
Northing (ft): 2665042.5	Easting (ft): 1783965.10	Job Number: 1891306 / 1891307.021105	Site: Building 100
Drill Start Date: 04-02-2007	Start Time: 10:00	Logged By: Mark Davis	Reviewed By: Shelby Valenzuela
Drill Finish Date: 04-02-2007	Finish Time: 10:45	Drilling Contractor: Jacobs & Hefner Assoc.	Field Instrumentation: PID
Depth 1st H_2O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H_2O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: Alex Felix	
Comments: Minor weeds and grass at surface		Well Comp. Date: N/A	Completion Time: N/A
Samplers: Slide hammer with drive sampler		Soil Backfill Date: 04-02-2007	Backfill Time: 10:50

Sample Interval / Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
								Surface Elevation: 1814.8 ft					
S			1.5		0		ML	Sandy Silt, brown (10YR 4/3), soft, moist, fine sand, few subangular gravel	5			25	70
					2		ML	Silt, dark yellowish brown (10YR 3/4), medium stiff, moist, few fine sand				10	90
					4		ML/CL	Clayey Silt, dark yellowish brown (10YR 3/4), medium stiff, moist, few fine sand				10	90
					6		SM	Silty Sand, dark yellowish brown (10YR 4/6), medium dense, moist, fine sand				65	35
					8			Silty Sandstone, yellowish brown (10YR 5/6), moderately to highly weathered, medium sand, moist					
					10			Total Depth = 9.0 ft; refusal in bedrock. Collected soil sample S01.					
					12								
					14								
					16								
					18								
					20								

LOG OF BORING GROUP8.GPJ MWH WC.GDT 7/1/07

MWH

Boring ID: BHSV0006

Borehole Diam. (in.): 1-1/4	Total Depth (ft): 3.0	Project: Group 8 Data Gap Sampling	
Northing (ft):	Easting (ft):	Job Number: 1891264.0111811	Site: Building 100
Drill Start Date: 02-20-2007	Start Time: 09:12	Logged By: Chris Nevison	Reviewed By:
Drill Finish Date: 02-20-2007	Finish Time: 09:17	Drilling Contractor: Hydrogeo Spectrum	Field Instrumentation: N/A
Depth 1st H_2O (ft): N/A	Date/Time: N/A	Drill Rig Type/Method: Geoprobe	
Depth H_2O After Drilling (ft): N/A	Date/Time: N/A	Driller's Name: Alex Felix	
Comments: Asphalt at surface. Boring drilled for vapor probe installation only.		Well Comp. Date: N/A	Completion Time: N/A
Samplers: No sample collected		Soil Backfill Date: 02-20-2007	Backfill Time: 09:21

Sample Interval Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
					0			No sampling or logging performed. Boring advanced to install vapor probe.					
					2			Vapor Probe Installation: Benseal ... 0-2 ft Sand ... 2-3 ft Brown probe ... 2-3 ft					
					4			Total Depth = 3.0 ft; refusal on bedrock. No soil sample collected.					
					6								
					8								
					10								
					12								
					14								
					16								
					18								
					20								

LOG OF BORING GROUP8GPJ MWH WC.GDT 3/31/07

MWH

Boring ID: BHSV0007

Borehole Diam. (in.): 1-1/4	Total Depth (ft): 8.5	Project: Group 8 Data Gap Sampling	
Northing (ft):	Easting (ft):	Job Number: 1891264.0111811	Site: Building 100
Drill Start Date: 02-20-2007	Start Time: 08:21	Logged By: Chris Nevison	Reviewed By:
Drill Finish Date: 02-20-2007	Finish Time: 08:21	Drilling Contractor: Hydrogeo Spectrum	Field Instrumentation: N/A
Depth 1st H_2O (ft): N/A	Date/Time: N/A	Drill Rig Type/Method: Geoprobe	
Depth H_2O After Drilling (ft): N/A	Date/Time: N/A	Driller's Name: Alex Felix	

Comments: Asphalt at surface. Boring drilled for vapor probe installation only.	Well Comp. Date: N/A	Completion Time: N/A
Samplers: No sample collected	Soil Backfill Date: 02-20-2007	Backfill Time: 08:30

Sample Interval Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
					0			No sampling or logging performed. Boring advanced to install vapor probes.					
					2			<u>Vapor Probe Installation</u>: Benseal ... 0-3 ft Sand ... 3-6 ft Brown probe ... 3-4 ft					
					4								
					6			Benseal ... 6-7 ft Sand ... 7-8.5 ft Yellow probe ... 7-8 ft					
					8								
								Total Depth = 8.5 ft; refusal on bedrock. No soil sample collected.					
					10								
					12								
					14								
					16								
					18								
					20								

LOG OF BORING GROUP8GPJ MWH WC.GDT 3/31/07

MWH

Boring ID: BHSV0008

Borehole Diam. (in.): 1-1/4	Total Depth (ft): 10.5	Project: Group 8 Data Gap Sampling	
Northing (ft):	Easting (ft):	Job Number: 1891264.0111811	Site: Building 100
Drill Start Date: 02-20-2007	Start Time: 08:32	Logged By: Chris Nevison	Reviewed By:
Drill Finish Date: 02-20-2007	Finish Time: 08:40	Drilling Contractor: Hydrogeo Spectrum	Field Instrumentation: N/A
Depth 1st H_2O (ft): N/A	Date/Time: N/A	Drill Rig Type/Method: Geoprobe	
Depth H_2O After Drilling (ft): N/A	Date/Time: N/A	Driller's Name: Alex Felix	

Comments: Asphalt at surface. Boring drilled for vapor probe installation only.	Well Comp. Date: N/A	Completion Time: N/A
Samplers: No sample collected	Soil Backfill Date: 02-20-2007	Backfill Time: 08:44

Sample Interval Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
					0			No sampling or logging performed. Boring advanced to install vapor probes.					
					2			<u>Vapor Probe Installation</u>:					
					4			Benseal ... 0-4 ft Sand ... 4-5 ft Brown probe ... 4-5 ft					
					6								
					8			Benseal ... 5-9 ft Sand ... 9-10.5 ft Yellow probe ... 9-10 ft					
					10			Total Depth = 10.5 ft; refusal on bedrock. No soil sample collected.					
					12								
					14								
					16								
					18								
					20								

LOG OF BORING GROUP8GPJ MWH WC.GDT 3/31/07

MWH

Boring ID: BHSV0009

Borehole Diam. (in.): 1-1/4	Total Depth (ft): 19.5	Project: Group 8 Data Gap Sampling	
Northing (ft):	Easting (ft):	Job Number: 1891264.0111811	Site: Building 100
Drill Start Date: 02-20-2007	Start Time: 08:47	Logged By: Chris Nevison	Reviewed By:
Drill Finish Date: 02-20-2007	Finish Time: 09:01	Drilling Contractor: Hydrogeo Spectrum	Field Instrumentation: N/A
Depth 1st H_2O (ft): N/A	Date/Time: N/A	Drill Rig Type/Method: Geoprobe	
Depth H_2O After Drilling (ft): N/A	Date/Time: N/A	Driller's Name: Alex Felix	
Comments: Concrete at surface. Boring drilled for vapor probe installation only.		Well Comp. Date: N/A	Completion Time: N/A
Samplers: No sample collected		Soil Backfill Date: 02-20-2007	Backfill Time: 09:09

Sample Interval / Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
					0			No sampling or logging performed. Boring advanced to install vapor probes.					
					2			Vapor Probe Installation:					
					4			Benseal ... 0-4 ft Sand ... 4-5 ft Brown probe ... 4-5 ft					
					6								
					8			Benseal ... 5-9 ft Sand ... 9-10 ft Yellow probe ... 9-10 ft					
					10								
					12								
					14			Benseal ... 10-14 ft Sand ... 14-15 ft Orange/black probe ... 14-15 ft					
					16								
					18			Benseal ... 15-18 ft Sand ... 18-19.5 ft Orange probe ... 18-19 ft					
					20			Total Depth = 19.5 ft; refusal on bedrock. No soil sample collected.					

LOG OF BORING GROUP8.GPJ MWH WC.GDT 3/31/07

OGDEN

FIELD LOG OF BORING

BORING NUMBER BLB501

SHEET 1 OF 1

PROJECT NAME	PROJECT NUMBER	ELEVATION AND DATUM	LOCATION
B56LF Investigation			Landfill

DRILLING COMPANY	DRILLER	DATE AND TIME STARTED	DATE AND TIME COMPLETED
	Unknown	10/29/02, 4/8/98 (resampled)	10/29/02, 4/8/98

DRILLING EQUIPMENT	DRILLING METHOD	COMPLETION DEPTH	TOTAL NO. OF SAMPLES
Geoprobe; Hand Auger	Direct Push; H.A.	9.5' (-01)	7

SIZE AND TYPE OF BIT	HOLE DIAMETER	NO. OF SAMPLES	BULK	SS	DRIVE	PITCHER
	2"-3"					

DRILLING FLUID	DRILLING ANGLE	WATER LEVEL	FIRST	AFTER ____ HOURS
	Vert.			

SAMPLE HAMMER TYPE	DRIVING WT.	DROP	HYDROGEOLOGIST / DATE	CHECKED BY / DATE
6" Drive Sampler				

LITHOLOGY	DEPTH (FEET)	SAMPLES	RECOVERY	BLOW COUNT	DESCRIPTION	USCS SYMBOL	ESTIMATED PERCENT OF GR	SA	FI	COMMENTS
SM	4' @ 0.5'				Silty SAND (SM): Dark yellowish brown,					
Bedrock	@ 5'				hard, slightly moist to moist, compact					
	9.5' @ 9.5'				Bedrock - Chatsworth Formation					
					Sandstone - yellowish brown, fine					
					grained sand, hard, angular, dense					
					@ 7.5-8.5: clayey sandy siltstone					
					or clayey + sandy silt (soil?)					
					@ 8.5' Sandstone, lt olive					
					brown, fine grained, weathered,					
					hard, weak rxn to HCL					
					TD = 9.5'					
					Note: Original boring log					
					unavailable. Soil description based					
					on log for nearby well					
					RD-74					

OGDEN

FIELD LOG OF BORING

BORING NUMBER BL5501

SHEET 1 OF 1

PROJECT NAME: BSLF Investigation	PROJECT NUMBER:	ELEVATION AND DATUM:	LOCATION: Landfill
DRILLING COMPANY: BC Hag 4	DRILLER:	DATE AND TIME STARTED: 5/23/96	DATE AND TIME COMPLETED: 5/23/96
DRILLING EQUIPMENT: H. Auger	DRILLING METHOD: H. Auger	COMPLETION DEPTH: 1'	TOTAL NO. OF SAMPLES: 1
SIZE AND TYPE OF BIT:	HOLE DIAMETER: 3"	NO. OF SAMPLES: BULK: SS:	DRIVE: PITCHER:
DRILLING FLUID:	DRILLING ANGLE:	WATER LEVEL: FIRST:	AFTER _____ HOURS
SAMPLE HAMMER TYPE: 6" Drive Sampler	DRIVING WT.: DROP:	HYDROGEOLOGIST / DATE:	CHECKED BY / DATE:

LITHOLOGY	DEPTH (FEET)	SAMPLES	RECOVERY	BLOW COUNT	DESCRIPTION	USCS SYMBOL	ESTIMATED PERCENT OF GR	SA	FI	COMMENTS
SW-SM	0-0.6				W/G Sand w/ Silt & Gravel (SP-SM):	SW-SM	25	65	10	
					Lt yellowish brown (10YR 6/4),					
					loose to med. dense, dry,					
					some cobbles					
					Note: Orig. log unavail.					
					Soil descrip. based on log					
					for nearby boring					
					BL5500S7					

OGDEN

FIELD LOG OF BORING

BORING NUMBER BLB502

SHEET 1 OF 1

PROJECT NAME: BSGLF Investigation	PROJECT NUMBER:	ELEVATION AND DATUM:	LOCATION: Landfill
DRILLING COMPANY: Vulcan	DRILLER: Unknown	DATE AND TIME STARTED: 10/29/07	DATE AND TIME COMPLETED: 10/30/07
DRILLING EQUIPMENT: Geoprobe	DRILLING METHOD: Direct Push	COMPLETION DEPTH: 16'	TOTAL NO. OF SAMPLES: 4
SIZE AND TYPE OF BIT:	HOLE DIAMETER: 2"?	NO. OF SAMPLES: BULK: SS:	DRIVE: PITCHER:
DRILLING FLUID:	DRILLING ANGLE:	WATER LEVEL: FIRST:	AFTER _____ HOURS
SAMPLE HAMMER TYPE: 6" Drive Sampler	DRIVING WT.: DROP:	HYDROGEOLOGIST / DATE:	CHECKED BY / DATE:

LITHOLOGY	DEPTH (FEET)	SAMPLES	RECOVERY	BLOW COUNT	DESCRIPTION	USCS SYMBOL	ESTIMATED PERCENT OF GR	SA	FI	COMMENTS
SM		0.5'			Silty SAND w/Gravel (SM): Brown	SM	10	60	20	
					(10YR 5/4) dry, compacted construction					
		5'			debris and concrete, metal, & bedrock					
		9'			material)					
	12				P.G. Sand w/Silt & Gravel (SP-SM)	SP-SM	10	80	10	
SP-SM		16'			TD = 16'					
					Note: Original boring log					
					unavailable. Soil descriptions based					
					on log for nearby trench log					
					BLTS15					

OGDEN

FIELD LOG OF BORING

BORING NUMBER BLBS03, -09.

SHEET 1 OF 1

PROJECT NAME: BSBLF Investigation	PROJECT NUMBER:	ELEVATION AND DATUM:	LOCATION: Southern Debris
DRILLING COMPANY: BL Hall	DRILLER: BL Hall	DATE AND TIME STARTED: 10/30/97	DATE AND TIME COMPLETED: 10/30/97
DRILLING EQUIPMENT: Hand Auger	DRILLING METHOD: Hand Auger	COMPLETION DEPTH: 0.5', 1'	TOTAL NO. OF SAMPLES: 1 ea. boring
SIZE AND TYPE OF BIT: 4"	HOLE DIAMETER: 3"	NO. OF SAMPLES: BULK / SS	DRIVE / PITCHER
DRILLING FLUID: NA	DRILLING ANGLE: Vert.	WATER LEVEL: FIRST	AFTER _____ HOURS
SAMPLE HAMMER TYPE: 6" Drive Sampler	DRIVING WT.	DROP	HYDROGEOLOGIST / DATE	CHECKED BY / DATE

LITHOLOGY	DEPTH (FEET)	SAMPLES	RECOVERY	BLOW COUNT	DESCRIPTION	USCS SYMBOL	ESTIMATED PERCENT OF GR	SA	FI	COMMENTS
SP-SM	0.5	X			POORLY GRADED SAND W/SILT + GRAVEL (SP-SM): Brownish yellow (10YR 6/6), loose, dry, organics (rootlets, root hairs)	SP-SM	25	65	10	
SM	1.0				SILTY SAND (SM): Dark yellowish brown, dry, loose	SM	–	75	25	
					Note: Original boring logs unavailable. Soil descriptions based on log for nearby boring BLBS 0062					

OGDEN

FIELD LOG OF BORING

BORING NUMBER BLBS04

SHEET 1 OF 1

PROJECT NAME: BSBLF Investigation	PROJECT NUMBER:	ELEVATION AND DATUM:	LOCATION: Drainage
DRILLING COMPANY: OL Hall	DRILLER:	DATE AND TIME STARTED: 10/29/97	DATE AND TIME COMPLETED: 10/29/97
DRILLING EQUIPMENT: Hand Auger	DRILLING METHOD: H. A.	COMPLETION DEPTH: 0.5'	TOTAL NO. OF SAMPLES: 1
SIZE AND TYPE OF BIT: 4"	HOLE DIAMETER: 3"	NO. OF SAMPLES: BULK / SS / DRIVE / PITCHER	
DRILLING FLUID: NA	DRILLING ANGLE	WATER LEVEL: FIRST / AFTER _____ HOURS	
SAMPLE HAMMER TYPE: 6" Drive Sampler DRIVING WT. DROP		HYDROGEOLOGIST / DATE: 10/29/97	CHECKED BY / DATE

LITHOLOGY	DEPTH (FEET)	SAMPLES	RECOVERY	BLOW COUNT	DESCRIPTION	USCS SYMBOL	ESTIMATED PERCENT OF GR	SA	FI	COMMENTS
SP-SM	0.5	0.5'			Poorly Graded Sand w/ Silt (SP-SM): Brown, loose, dry	SP-SM	5	85	10	
					TD: 0.5'					
					Note: Original log unavailable					
					Soil description based on log					
					from near by boring BLBS0053					

OGDEN

FIELD LOG OF BORING

BORING NUMBER BLBS05

SHEET 1 OF 1

PROJECT NAME: B56LF Invest.	PROJECT NUMBER:	ELEVATION AND DATUM:	LOCATION: Drainage
DRILLING COMPANY: BL Hall	DRILLER:	DATE AND TIME STARTED: 10/29/97; 1/29/98	DATE AND TIME COMPLETED:
DRILLING EQUIPMENT: Hand Auger	DRILLING METHOD:	COMPLETION DEPTH: 0.5'	TOTAL NO. OF SAMPLES: 1
SIZE AND TYPE OF BIT: 4"	HOLE DIAMETER: 3"	NO. OF SAMPLES: BULK: SS:	DRIVE: PITCHER:
DRILLING FLUID: NA	DRILLING ANGLE: Vert.	WATER LEVEL: FIRST	AFTER _____ HOURS
SAMPLE HAMMER TYPE: 6" Drive Sampler	DRIVING WT.: DROP:	HYDROGEOLOGIST / DATE:	CHECKED BY / DATE:

LITHOLOGY	DEPTH (FEET)	SAMPLES	RECOVERY	BLOW COUNT	DESCRIPTION	USCS SYMBOL	ESTIMATED PERCENT OF GR	SA	FI	COMMENTS
SM	0.1				SILTY SAND (SM): Very dark brown (10 YR 2/2), loose, moist	SM	-	60	40	
CL	0.25				SANDY CLAY (CL): Light gray (10 YR 7/1); very soft, wet, fine sand, FeOx staining	CL	-	30	70	
	0.5 @ 0.5'				SANDY SILT (ML): Black (10 YR 2/1) soft to very soft, moist to wet, common organics incl. rootlets	ML	-	40	60	
					TD = 0.5'					
					Note: Original boring log unavailable. Soil descriptions based on log for nearby boring BLBS0034					

OGDEN

FIELD LOG OF BORING

BORING NUMBER BLB506,507

SHEET 1 OF 1

PROJECT NAME: B56LF Investigation	PROJECT NUMBER:	ELEVATION AND DATUM:	LOCATION: Drainage (506), 15' S. face Hwy Ditch (-07)
DRILLING COMPANY: BL Hall	DRILLER:	DATE AND TIME STARTED: 10/29/97	DATE AND TIME COMPLETED: 10/29/97
DRILLING EQUIPMENT: Hand Auger	DRILLING METHOD: Hand Auger	COMPLETION DEPTH: 0.5'	TOTAL NO. OF SAMPLES: 1 for e.a. boring
SIZE AND TYPE OF BIT: 4"	HOLE DIAMETER: 3"	NO. OF SAMPLES: BULK / SS / DRIVE / PITCHER	
DRILLING FLUID: NA	DRILLING ANGLE: Vert.	WATER LEVEL: FIRST / AFTER ____ HOURS	
SAMPLE HAMMER TYPE: 6" Slide Hammer	DRIVING WT. / DROP	HYDROGEOLOGIST / DATE: 10/29/97	CHECKED BY / DATE

LITHOLOGY	DEPTH (FEET)	SAMPLES	RECOVERY	BLOW COUNT	DESCRIPTION	USCS SYMBOL	ESTIMATED PERCENT OF GR	SA	FI	COMMENTS
SW-SM	0.5	Bag			Well Graded Sand w/Silt and Gravel (SW-SM): Yellowish brown (10 YR 5/4), loose, dry	SW-SM	25	65	10	
					TD = 0.5'					
					Note: Original logs unavailable. Soil description based on log for nearby boring BLB506S8					

OGDEN

FIELD LOG OF BORING

BORING NUMBER BLBS08

SHEET 1 OF 1

PROJECT NAME	PROJECT NUMBER	ELEVATION AND DATUM	LOCATION
556LF Invest.			Drainage

DRILLING COMPANY	DRILLER	DATE AND TIME STARTED	DATE AND TIME COMPLETED
BL Hall		10/29/97	10/29/97

DRILLING EQUIPMENT	DRILLING METHOD	COMPLETION DEPTH	TOTAL NO. OF SAMPLES
H. Auger	H. Auger	0.5'	1

SIZE AND TYPE OF BIT	HOLE DIAMETER	NO. OF SAMPLES	BULK	SS	DRIVE	PITCHER
	3"					

DRILLING FLUID	DRILLING ANGLE	WATER LEVEL	FIRST	AFTER ____ HOURS

SAMPLE HAMMER TYPE	DRIVING WT.	DROP	HYDROGEOLOGIST / DATE	CHECKED BY / DATE
6" Drive Sampler				

LITHOLOGY	DEPTH (FEET)	SAMPLES	RECOVERY	BLOW COUNT	DESCRIPTION	USCS SYMBOL	ESTIMATED PERCENT OF GR	SA	FI	COMMENTS
ML	0.5	0.5'			SANDY SILT (ML): Yellowish Brown (10YR 5/6) Soft, dry	SM	-	30	70	
					TD: 0.5'					
					Note: Original boring log unavail. Soil description based on log for nearby boring BLBS6048					

OGDEN

FIELD LOG OF BORING

BORING NUMBER BLBS10

SHEET 1 OF 1

PROJECT NAME	PROJECT NUMBER	ELEVATION AND DATUM	LOCATION
BSGLF Investigation			Drainage

DRILLING COMPANY	DRILLER	DATE AND TIME STARTED	DATE AND TIME COMPLETED
BL Hall		12/18/97	12/18/97

DRILLING EQUIPMENT	DRILLING METHOD	COMPLETION DEPTH	TOTAL NO. OF SAMPLES
H.A.	H.A.	0.5'	1

SIZE AND TYPE OF BIT	HOLE DIAMETER	NO. OF SAMPLES	BULK	SS	DRIVE	PITCHER
	3"					

DRILLING FLUID	DRILLING ANGLE	WATER LEVEL	FIRST	AFTER ____ HOURS

SAMPLE HAMMER TYPE 6" Drive Sampler DRIVING WT. DROP	HYDROGEOLOGIST / DATE	CHECKED BY / DATE

LITHOLOGY	DEPTH (FEET)	SAMPLES	RECOVERY	BLOW COUNT	DESCRIPTION	USCS SYMBOL	ESTIMATED PERCENT OF GR	SA	FI	COMMENTS
SP	0.5	@0.5'			P.G. Sand w/Gravel (SP): Yellowish brown, loose, dry (10YR 5/4), TD=0.5' Note: Original log unavail. Soil descrip. based on log for nearby boring BLBS0061.	SP	30	65	5	

OGDEN

FIELD LOG OF BORING

BORING NUMBER BLBS11

SHEET 1 OF 1

PROJECT NAME: BSGLF Investigation	PROJECT NUMBER:	ELEVATION AND DATUM:	LOCATION: Drainage
DRILLING COMPANY: BL Hall	DRILLER:	DATE AND TIME STARTED: 12/18/97	DATE AND TIME COMPLETED: 12/18/97
DRILLING EQUIPMENT: Hand Auger	DRILLING METHOD:	COMPLETION DEPTH: 0.5'	TOTAL NO. OF SAMPLES: 1
SIZE AND TYPE OF BIT:	HOLE DIAMETER: 3"	NO. OF SAMPLES: BULK: SS:	DRIVE: PITCHER:
DRILLING FLUID:	DRILLING ANGLE:	WATER LEVEL: FIRST:	AFTER _____ HOURS
SAMPLE HAMMER TYPE: 6" Drive Sampler	DRIVING WT.: DROP:	HYDROGEOLOGIST / DATE:	CHECKED BY / DATE:

LITHOLOGY	DEPTH (FEET)	SAMPLES	RECOVERY	BLOW COUNT	DESCRIPTION	USCS SYMBOL	ESTIMATED PERCENT OF GR	SA	FI	COMMENTS
SP-SM	0-0.6'	1			Poorly Graded Sand w/Silt + Gravel (SP-SM): Yellowish Brown, loose, moist, organics	SP-SM	15	75	10	
					Note: Original logs unavailable. Soil description based on log for nearby boring BLBS0035.					

OGDEN

FIELD LOG OF BORING

BORING NUMBER BLBS12-14, BLBS16-19

SHEET 1 OF 1

PROJECT NAME: B56 LF Investigation	PROJECT NUMBER:	ELEVATION AND DATUM:	LOCATION: Building 56 Excavation
DRILLING COMPANY: BL Hall	DRILLER:	DATE AND TIME STARTED: 6/14/99; 9/28/99	DATE AND TIME COMPLETED: 6/14/99; 9/28/99
DRILLING EQUIPMENT: Geoprobe & Hand Auger	DRILLING METHOD: H.A. + direct push	COMPLETION DEPTH: 0.5'-2'	TOTAL NO. OF SAMPLES: 1 per each boring
SIZE AND TYPE OF BIT: 4"	HOLE DIAMETER: 3"	NO. OF SAMPLES: BULK / SS	DRIVE / PITCHER
DRILLING FLUID: NA	DRILLING ANGLE: Vertical	WATER LEVEL: FIRST	AFTER ____ HOURS
SAMPLE HAMMER TYPE: 6" Slide Hammer	DRIVING WT. / DROP	HYDROGEOLOGIST / DATE	CHECKED BY / DATE

LITHOLOGY	DEPTH (FEET)	SAMPLES	RECOVERY	BLOW COUNT	DESCRIPTION	USCS SYMBOL	ESTIMATED PERCENT OF GR	SA	FI	COMMENTS
ML	0.7	@0.5'	12in	19	SANDY SILT (ML): Lt. yellowish brown (10YR 6/4), soft to med. stiff, dry, some organics (roots)	ML		30	70	
SM		@1'	11in	13						
	1.5	@1.5'	12in	17	SILTY SAND (SM): Yellow (10YR 7/6), loose to med. dense, dry.	SM	5	75	25	
		@2'	11in	16						
					Total depth of borings is 0.5'-2.0' bgs.					
					Note: Original boring logs unavailable. Soil description based on log for nearby boring BLBS0050					

9/8/03

MONTGOMERY WATSON

Boring #: BLB320 MW#: — Sheet 1 of 1

Project: BSLF Investigation

Job #: Site: BSLF

Logged By: Reviewed By:

Drilling Contractor: BL Hall

Drill Rig Type/Method: Hand Auger

Drillers Name:

Borehole Diam./Drill Bit Type: 3" Total Depth 2.5

Ref. Elev. —

Site Sketch Map

Sampler Type: Slide Hammer w/6" Drive Sampler

Depth to 1st Water (▽): NA Time/Date:

Drill Start Time/Date: Drill Finish Time/Date:

Depth to Water After Drilling (▼): NA Time/Date:

Well Completion Time/Date: NA

Depth to other Water Bearing Zones: NA

Soil Boring Backfill Time/Date:

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of: Gravel	Sand: Coarse	Sand: Medium	Sand: Fine	Silt/clay
							1	SM	SILTY SAND w/GRAVEL (SM): Brown (10 YR 5/4), dry, compacted, fine to coarse sand, gravel is concrete, metal debris, & bedrock material					
	X						2							
							3		TD = 2.5'					
							4		Original log unavailable. Soil description based on log from nearby trench BLTS15					
							5							
							6							
							7							
							8							
							9							
							10							
							11							
							12							

QA/QC

8/26/03

MONTGOMERY WATSON

Boring #: BLB3521 MW#: — Sheet 1 of 1

Project: BSGLF Invest.

Job #: Site: SSFL

Logged By: Reviewed By:

Drilling Contractor: BL Hall

Drill Rig Type/Method: Hand Auger

Drillers Name:

Borehole Diam./Drill Bit Type: 3" Total Depth 2'

Ref. Elev.

Site Sketch Map

Sampler Type: Slide Hammer w/ 2" Drive Sampler

Depth to 1st Water (▽): NA Time/Date:

Drill Start Time/Date: Drill Finish Time/Date:

Depth to Water After Drilling (▼): NA Time/Date:

Well Completion Time/Date: NA

Depth to other Water Bearing Zones: NK

Soil Boring Backfill Time/Date:

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of: Gravel	Sand: Coarse	Sand: Medium	Sand: Fine	Silt/clay
							0	SM	Surface cover is weeds.					
									Silty sand (SM): Yellowish brown (10YR 5/6), very loose,			35	40	25
	X						1		TD = 2'					
							2		Note: Original boring log unavailable. Soil description based on log from nearby boring BLB5 0048					
							3							
							4							
							5							
							6							
							7							
							8							
							9							
							10							
							11							
							12							

QA/QC

MONTGOMERY WATSON

Boring #: BLBS22 MW#: Sheet 1 of 1

Project: BSALF Investigation

Job #: Site: SSFL

Logged By: Reviewed By:

Drilling Contractor: BL Hall

Drill Rig Type/Method: Hand Auger

Drillers Name:

Borehole Diam./Drill Bit Type: 3" Total Depth 2'

Ref. Elev.

Site Sketch Map

Sampler Type: Slide Hammer w/ Drive Sampler

Depth to 1st Water (▽): NA Time/Date:

Drill Start Time/Date: Drill Finish Time/Date:

Depth to Water After Drilling (▼): NA Time/Date:

Well Completion Time/Date: NA

Depth to other Water Bearing Zones: NA

Soil Boring Backfill Time/Date:

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Gravel	Sand Coarse	Sand Medium	Sand Fine	Silt/clay
							0	SM	SILTY SAND(SM): Yellowish brown (10YR 5/6), very loose,			35	40	25
		X					1							
							2		TD = 2'					
							3		Note: Original boring log unavailable, Soil description based on nearby boring log BLBS0040					
							4							
							5							
							6							
							7							
							8							
							9							
							10							
							11							
							12							

QA/QC

9/8/03

MONTGOMERY WATSON

Boring #: BLB523 MW#: – Sheet 1 of 1

Project: 3564 Investigation

Job #: Site: SSFL

Logged By: Reviewed By:

Drilling Contractor: BL Hall

Drill Rig Type/Method: Hand Auger

Drillers Name:

Borehole Diam./Drill Bit Type: 3" Total Depth 0.5' Ref. Elev. –

Site Sketch Map

Sampler Type: Slide Hammer w/Drive Sampler

Depth to 1st Water (▽): NA Time/Date:

Drill Start Time/Date: 9/8/03 Drill Finish Time/Date: 9/8/03

Depth to Water After Drilling (▼): NA Time/Date:

Well Completion Time/Date: NA

Depth to other Water Bearing Zones: NA

Soil Boring Backfill Time/Date: 9/8/03

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of: Gravel	Sand: Coarse	Sand: Medium	Sand: Fine	Silt/clay
	X						0.5'	SM	Silty sand (SM): Dark yellowish brown, hard, slightly moist to moist, compact. TD=0.5' Note: Orig. boring log unavailable. Soil description based on log for nearby well RD-74.					
							1							
							2							
							3							
							4							
							5							
							6							
							7							
							8							
							9							
							10							
							11							
							12							

QA/QC

9/8/03

MONTGOMERY WATSON

Boring #: BLBS04 MW#: — Sheet 1 of 1

Project: BSBLF Investigation

Job #: Site: 35FL

Logged By: Reviewed By:

Drilling Contractor: BL Hall

Drill Rig Type/Method: Hand Auger

Drillers Name:

Borehole Diam./Drill Bit Type: 3" Total Depth 0.5' Ref. Elev. —

Site Sketch Map

Sampler Type: Slide hammer w/ 6" drive sampler.

Depth to 1st Water (▽): NA Time/Date:

Drill Start Time/Date: Drill Finish Time/Date:

Depth to Water After Drilling (▼): NA Time/Date:

Well Completion Time/Date: NA

Depth to other Water Bearing Zones: NA

Soil Boring Backfill Time/Date:

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Gravel	Sand Coarse	Sand Medium	Sand Fine	Silt/clay
	X						0.5	ML	sandy silt (ML): Brown, soft, moist w/ GRAVEL	15	-	5	25	55
									TD = 0.5'					
							1		Note: Original boring log unavailable. Soil description based on nearby boring log BLBS0032.					
							2							
							3							
							4							
							5							
							6							
							7							
							8							
							9							
							10							
							11							
							12							

QA/QC

9/8/03

MONTGOMERY WATSON

Boring #: BLBS25 MW#: – Sheet 1 of 1

Project: 856 LF Investigation

Job #: Site: SSFL

Logged By: Reviewed By:

Drilling Contractor: BL Hall

Drill Rig Type/Method: Hand Auger

Drillers Name:

Borehole Diam./Drill Bit Type: 3" Total Depth 0.5'

Ref. Elev.

Site Sketch Map

Sampler Type: Slide Hammer w/Drive Sampler

Depth to 1st Water (▽): NA Time/Date: Drill Start Time/Date: Drill Finish Time/Date:

Depth to Water After Drilling (▼): NA Time/Date: Well Completion Time/Date: NA

Depth to other Water Bearing Zones: NA Soil Boring Backfill Time/Date:

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Gravel	Sand: Coarse	Sand: Medium	Sand: Fine	Silt/clay
	X						0.1 0.25	SM	SILTY SAND (SM): Very dark brown (10 YR 2/2), loose, moist			30	30	40
							1	CL	LEAN CLAY W/SAND (CL): light gray (10 YR 7/1), very soft, wet, Minor to moderate Fe Ox staining				30	70
							3	ML	SANDY SILT (ML): Black, soft to v. soft, moist to wet, organics incl. rootlets				40	60
							4		TD = 0.5'					
							5		Note: Original boring log unavailable. Soil description based on log for near by boring BLBS 0034					
							6							
							7							
							8							
							9							
							10							
							11							
							12							

DA/QC

9/8/2003

MONTGOMERY WATSON

Boring #: BLBS26 MW#: Sheet 1 of 1

Project: BSBLF Project

Job #: Site: SSFL

Logged By: Reviewed By:

Drilling Contractor: BL Hall

Drill Rig Type/Method: Hand Auger

Drillers Name:

Borehole Diam./Drill Bit Type: 3" Total Depth 1' Ref. Elev. —

Site Sketch Map

Sampler Type: Slide Hammer w/ Drive Sampler

Depth to 1st Water (▽): NA Time/Date:

Drill Start Time/Date: Drill Finish Time/Date:

Depth to Water After Drilling (▼): NA Time/Date:

Well Completion Time/Date: N/A

Depth to other Water Bearing Zones: NA

Soil Boring Backfill Time/Date:

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Gravel	Sand Coarse	Sand Medium	Sand Fine	Silt/clay
	X						1	SM	SILTY SAND (SM): Dark yellowish brown, loose, dry, roots & rootlets w/ gravel	10	5	30	30	25
									TD=1'					
							2		Note: Original log unavailable. Soil description based on log from nearby boring BLBS0063					
							3							
							4							
							5							
							6							
							7							
							8							
							9							
							10							
							11							
							12							

QA/QC

BLB527
BLB528

9/8/03

MONTGOMERY WATSON

Boring #: BLB529 MW#: -- Sheet 1 of 1

Project: B56 LF Investigation

Job #: Site: SSFL

Logged By: Reviewed By:

Drilling Contractor: BC Hall

Drill Rig Type/Method: Hand Auger

Drillers Name:

Borehole Diam./Drill Bit Type: 3"

Total Depth 1' (BLB527); 0.5' (BLB528)

Ref. Elev. 1' (BLB528)

Site Sketch Map

Sampler Type: Slide Hammer w/ 6" Drive Sampler

Depth to 1st Water (▽): NA Time/Date:

Drill Start Time/Date: Drill Finish Time/Date:

Depth to Water After Drilling (▼): NA Time/Date:

Well Completion Time/Date: NA

Depth to other Water Bearing Zones: NA

Soil Boring Backfill Time/Date:

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Gravel	Sand: Coarse	Sand: Medium	Sand: Fine	Silt/clay
	X	(for all 3 borings)					1	SP-SM	P.G. SAND w/ SILT (SP-SM): Yellowish brown (10YR 5/2), loose, dry, Note: Original logs unavailable. Soil description based on log for nearby boring BLB50041			45	45	10
							2							
							3							
							4							
							5							
							6							
							7							
							8							
							9							
							10							
							11							
							12							

QA/QC

MWH

Boring ID: BLBS0030

Borehole Diam. (in.): 3	Total Depth (ft): 1.0	Project: Group 8 Data Gap Sampling	
Northing (ft):	Easting (ft):	Job Number: 189126 4.0111811	Site: Building 56 Landfill
Drill Start Date: 02-12-2007	Start Time: 12:35	Logged By: Mark Davis	Reviewed By:
Drill Finish Date: 02-12-2007	Finish Time: 13:15	Drilling Contractor: N/A	Field Instrumentation: PID
Depth 1st H_2O (ft): N/A	Date/Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H_2O After Drilling (ft): N/A	Date/Time: N/A	Driller's Name: Alex Felix	
Comments: Scattered concrete rubble (gravel to cobble size) and minor weeds at surface		Well Comp. Date: N/A	Completion Time: N/A
Samplers: No sample collected		Soil Backfill Date: 02-12-2007	Backfill Time: 13:15

Sample Interval Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
					0		SM	Silty Sand with Gravel, yellowish brown (10YR 5/6), loose to medium dense, moist, fine to medium sand, gravel clasts include concrete debris; augering difficult due to debris	25		30	30	15
					1			Total Depth = 1.0 ft; refusal on debris, same at six adjacent locations. No sample collected.					
					2								
					4								
					6								
					8								
					10								
					12								
					14								
					16								
					18								
					20								

LOG OF BORING GROUP8.GPJ MWH WC.GDT 3/23/07

MWH

Boring ID: BLBS0030

Borehole Diam. (in.): 2-1/2	Total Depth (ft): 4.0	Project: Group 8 Data Gap Sampling	
Northing (ft):	Easting (ft):	Job Number: 189126 4.0111811	Site: Building 56 Landfill
Drill Start Date: 02-21-2007	Start Time: 13:50	Logged By: Chris Nevison	Reviewed By:
Drill Finish Date: 02-21-2007	Finish Time: 14:01	Drilling Contractor: Hydrogeo Spectrum	Field Instrumentation: N/A
Depth 1st H_2O (ft): N/A	Date/Time: N/A	Drill Rig Type/Method: Geoprobe	
Depth H_2O After Drilling (ft): N/A	Date/Time: N/A	Driller's Name: Rob Giberson	
Comments: Soil at surface; location of previous shallow hand auger boring.		Well Comp. Date: N/A	Completion Time: N/A
Samplers: Geoprobe macrocore with acetate sleeve		Soil Backfill Date: 02-21-2007	Backfill Time: 14:01

Sample Interval / Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
S					0		SP-SM	Poorly Graded Sand with Silt, brown (10YR 4/3), medium dense, moist, fine sand, few medium sand, few silt, pockets of brownish yellow sandstone			5	90	5
					4			Total Depth = 4.0 ft; refusal on bedrock. Collected soil samples S01 and D01.					

LOG OF BORING GROUP8.GPJ MWH WC.GDT 3/31/07

MWH

Boring ID: BLBS0030A

Borehole Diam. (in.): 2-1/4	Total Depth (ft): 5.5	Project: Group 8 Data Gap Sampling	
Northing (ft): 267139.00	Easting (ft): 1784132.00	Job Number: 1891306 / 1891307.021105	Site: Building 56 Landfill
Drill Start Date: 05-15-2007	Start Time: 09:25	Logged By: Mark Davis	Reviewed By: Shelby Valenzuela
Drill Finish Date: 05-15-2007	Finish Time: 09:50	Drilling Contractor: Hydro Geo Spectrum	Field Instrumentation: PID
Depth 1st H_2O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Geoprobe	
Depth H_2O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: Tom Morris	
Comments: Minor weeds and grass with concrete debris at surface		Well Comp. Date: N/A	Completion Time: N/A
Samplers: Macrocore		Soil Backfill Date: 05-15-2007	Backfill Time: 09:50

Sample Interval / Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
								Surface Elevation: 1810.6 ft.					
S			1.0		0		SP-SM	Poorly Graded Sand with Silt and Gravel, yellowish brown (10YR 5/4), very dense, dry, fine sand, gravel is primarily concrete fragments	40			50	10
					2								
					4		SM	Silty Sand, yellowish brown (10YR 5/8), loose, dry, fine sand, few medium sand			5	80	15
S			1.0										
					6			Total Depth = 5.5 ft; refusal on bedrock or debris. Collected soil samples S01 and S02.					
					8								
					10								
					12								
					14								
					16								
					18								
					20								

LOG OF BORING GROUP8.GPJ MWH WC.GDT 7/1/07

MWH

Boring ID: BLBS0031

Borehole Diam. (in.): 3	Total Depth (ft): 0.5	Project: Group 8 Data Gap Sampling	
Northing (ft):	Easting (ft):	Job Number: 1891264.0111811	Site: Building 56 Landfill
Drill Start Date: 02-12-2007	Start Time: 13:30	Logged By: Mark Davis	Reviewed By:
Drill Finish Date: 02-12-2007	Finish Time: 13:40	Drilling Contractor: N/A	Field Instrumentation: PID
Depth 1st H_2O (ft): N/A	Date/Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H_2O After Drilling (ft): N/A	Date/Time: N/A	Driller's Name: Alex Felix	
Comments: Asphalt and concrete debris (cobble and boulder size) and weeds at surface		Well Comp. Date: N/A	Completion Time: N/A
Samplers: Slide hammer with 2-inch-dia. x 6-inch-long sleeve		Soil Backfill Date: 02-12-2007	Backfill Time: 13:40

Sample Interval / Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
S			2.4		0		SM	Silty Sand, brown (10YR 5/3), loose, moist, fine to medium sand, few gravel	10		30	30	30
								Total Depth = 0.5 ft; refusal on bedrock.					
								Collected soil sample S01.					
					1								
					2								
					3								
					4								
					5								
					6								
					7								
					8								
					9								
					10								

LOG OF BORING GROUP8.GPJ MWH WC.GDT 3/23/07

MWH

Boring ID: BLBS0032

Borehole Diam. (in.): 3	Total Depth (ft): 0.5	Project: Group 8 Data Gap Sampling	
Northing (ft):	Easting (ft):	Job Number: 1891264.0111811	Site: Building 56 Landfill
Drill Start Date: 02-12-2007	Start Time: 13:50	Logged By: Mark Davis	Reviewed By:
Drill Finish Date: 02-12-2007	Finish Time: 14:10	Drilling Contractor: N/A	Field Instrumentation: PID
Depth 1st H_2O (ft): N/A	Date/Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H_2O After Drilling (ft): N/A	Date/Time: N/A	Driller's Name: Alex Felix	
Comments: Boulders, leaf litter, concrete rubble, and weeds at surface		Well Comp. Date: N/A	Completion Time: N/A
Samplers: Slide hammer with 2-inch-dia. x 6-inch-long sleeve		Soil Backfill Date: 02-12-2007	Backfill Time: 14:15

Sample Interval / Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
S			1.8		0		ML	Sandy Silt with Gravel, brown (10YR 5/3), soft, moist, fine sand with few medium sand, coarse gravel	15		5	25	55
								Total Depth = 0.5 ft; refusal on bedrock. Collected soil samples S01 and D01.					
					1								
					2								
					3								
					4								
					5								
					6								
					7								
					8								
					9								
					10								

LOG OF BORING GROUP8.GPJ MWH WC.GDT 3/23/07

MWH

Boring ID: BLBS0033

Borehole Diam. (in.): 3	Total Depth (ft): 0.6	Project: Group 8 Data Gap Sampling	
Northing (ft):	Easting (ft):	Job Number: 1891264.0111811	Site: Building 56 Landfill
Drill Start Date: 02-13-2007	Start Time: 11:00	Logged By: Mark Davis	Reviewed By:
Drill Finish Date: 02-13-2007	Finish Time: 11:10	Drilling Contractor: N/A	Field Instrumentation: PID
Depth 1st H_2O (ft): N/A	Date/Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H_2O After Drilling (ft): N/A	Date/Time: N/A	Driller's Name: Alex Felix	
Comments: Moderate to heavy brush and leaf litter at surface		Well Comp. Date: N/A	Completion Time: N/A
Samplers: Slide hammer with 2-inch-dia. x 6-inch-long sleeve		Soil Backfill Date: 02-13-2007	Backfill Time: 11:10

Sample Interval / Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
S			0.5		0		SM	Silty Sand, dark yellowish brown (10YR 3/4), loose, moist, fine to coarse sand, few gravel (including asphalt fragments)	10	20	20	20	30
								Total Depth = 0.6 ft; refusal on bedrock or boulders, same in attempts at two adjacent locations.					
					1			Collected soil sample S01.					
					2								
					3								
					4								
					5								
					6								
					7								
					8								
					9								
					10								

LOG OF BORING GROUP8.GPJ MWH WC.GDT 3/23/07

MWH

Boring ID: BLBS0034

Borehole Diam. (in.): 3	Total Depth (ft): 0.8	Project: Group 8 Data Gap Sampling	
Northing (ft):	Easting (ft):	Job Number: 1891264.0111811	Site: Building 56 Landfill
Drill Start Date: 02-13-2007	Start Time: 11:55	Logged By: Mark Davis	Reviewed By:
Drill Finish Date: 02-13-2007	Finish Time: 12:15	Drilling Contractor: N/A	Field Instrumentation: PID
Depth 1st H_2O (ft): N/A	Date/Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H_2O After Drilling (ft): N/A	Date/Time: N/A	Driller's Name: Alex Felix	
Comments: Brush, weeds, concrete rubble, and rusted metal bucket at surface		Well Comp. Date: N/A	Completion Time: N/A
Samplers: Slide hammer with 2-inch-dia. x 6-inch-long sleeve		Soil Backfill Date: 02-13-2007	Backfill Time: 12:30

Sample Interval / Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
S			1.2		0		SM	Silty Sand, very dark brown (10YR 2/2), bose, moist, fine to medium sand			30	30	40
							CL	Sandy Lean Clay, light gray (10YR 7/1), very soft, wet, fine sand, some silt, bcal minor to moderate iron oxide staining; leachate horizon from upslope landfill?				30	70
							ML	Sandy Silt, black (10YR 2/1), soft to very soft, moist to wet, fine sand, common organics (rootlets)				40	60
					1			Total Depth = 0.8 ft; refusal on bedrock.					
								Collected soil samples S01 (0.1-0.2 ft) and S02 (0.1-0.5 ft).					
					2								
					3								
					4								
					5								
					6								
					7								
					8								
					9								
					10								

LOG OF BORING GROUP8.GPJ MWH WC.GDT 3/23/07

MWH

Boring ID: BLBS0035

Borehole Diam. (in.): 3	Total Depth (ft): 0.6	Project: Group 8 Data Gap Sampling	
Northing (ft):	Easting (ft):	Job Number: 189126 4.0111811	Site: Building 56 Landfill
Drill Start Date: 02-13-2007	Start Time: 10:00	Logged By: Mark Davis	Reviewed By:
Drill Finish Date: 02-13-2007	Finish Time: 10:10	Drilling Contractor: N/A	Field Instrumentation: PID
Depth 1st H_2O (ft): N/A	Date/Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H_2O After Drilling (ft): N/A	Date/Time: N/A	Driller's Name: Alex Felix	
Comments: Cobbles, boulders, moss, and weeds at surface		Well Comp. Date: N/A	Completion Time: N/A
Samplers: Slide hammer with 2-inch-dia. x 6-inch-long sleeve		Soil Backfill Date: 02-13-2007	Backfill Time: 10:10

Sample Interval / Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
S			0.1		0		SP-SM	Poorly Graded Sand with Silt, yellowish brown (10YR 5/4), loose, moist, fine to coarse sand (mostly medium), common organics (rootlets)	15	15	50	10	10
								Total Depth = 0.6 ft; refusal on bedrock [Sandstone, light yellowish brown (10YR 6/4), fine to medium sand].					
								Collected soil sample S01.					
					1								
					2								
					3								
					4								
					5								
					6								
					7								
					8								
					9								
					10								

LOG OF BORING GROUP8GPJ MWH WC.GDT 3/23/07

MWH

Boring ID: BLBS0036

Borehole Diam. (in.): 3	Total Depth (ft): 3.8	Project: Group 8 Data Gap Sampling	
Northing (ft):	Easting (ft):	Job Number: 1891264.0111811	Site: Building 56 Landfill
Drill Start Date: 02-12-2007	Start Time: 11:05	Logged By: Mark Davis	Reviewed By:
Drill Finish Date: 02-12-2007	Finish Time: 11:35	Drilling Contractor: N/A	Field Instrumentation: PID
Depth 1st H_2O (ft): N/A	Date/Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H_2O After Drilling (ft): N/A	Date/Time: N/A	Driller's Name: Alex Felix	
Comments: Asphalt debris and weeds at surface		Well Comp. Date: N/A	Completion Time: N/A
Samplers: Slide hammer with 2-inch-dia. x 6-inch-long sleeve		Soil Backfill Date: 02-12-2007	Backfill Time: 11:40

Sample Interval / Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
S			0.9		0		ML	Sandy Silt, brown (10YR 5/3), soft, dry to moist, fine to medium sand, few gravel	10		10	25	55
					2		SM	Silty Sand, brown (10YR 4/3), loose, dry, fine to medium sand, few gravel	10		20	35	35
S			0.8		4			Total Depth = 3.8 ft; refusal on bedrock. Collected soil samples S01SP and S02.					
					6								
					8								
					10								
					12								
					14								
					16								
					18								
					20								

LOG OF BORING GROUP8.GPJ MWHWC.GDT 3/23/07

MWH

Boring ID: BLBS0037

Borehole Diam. (in.): 3	Total Depth (ft): 2.0	Project: Group 8 Data Gap Sampling	
Northing (ft):	Easting (ft):	Job Number: 1891264.0111811	Site: Building 56 Landfill
Drill Start Date: 02-12-2007	Start Time: 10:20	Logged By: Mark Davis	Reviewed By:
Drill Finish Date: 02-12-2007	Finish Time: 10:40	Drilling Contractor: N/A	Field Instrumentation: PID
Depth 1st H_2O (ft): N/A	Date/Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H_2O After Drilling (ft): N/A	Date/Time: N/A	Driller's Name: Alex Felix	
Comments: Asphalt debris and moderate growth of weeds at surface		Well Comp. Date: N/A	Completion Time: N/A
Samplers: Slide hammer with 2-inch-dia. x 6-inch-long sleeve		Soil Backfill Date: 02-12-2007	Backfill Time: 10:45

Sample Interval, Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
S			1.5		0		ML	Sandy Silt, dark brown (10YR 3/3), soft, moist, fine to medium sand			10	20	70
								becomes brown (10YR 5/3), dry to moist, with increased sand content			20	20	60
S			0.8		2		ML	Sandy Silt, yellowish brown (10YR 5/6), soft to medium stiff, dry to moist, fine to medium sand, few gravel (sandstone clasts)	10		15	20	55
								Total Depth = 2.0 ft; refusal on bedrock.					
								Collected soil samples S01 and S02.					
					4								
					6								
					8								
					10								
					12								
					14								
					16								
					18								
					20								

LOG OF BORING GROUP8.GPJ MWH WC.GDT 3/23/07

MWH

Boring ID: BLBS0038

Borehole Diam. (in.): 3	Total Depth (ft): 0.6	Project: Group 8 Data Gap Sampling	
Northing (ft):	Easting (ft):	Job Number: 189126 4.0111811	Site: Building 56 Landfill
Drill Start Date: 02-12-2007	Start Time: 10:45	Logged By: Mark Davis	Reviewed By:
Drill Finish Date: 02-12-2007	Finish Time: 10:55	Drilling Contractor: N/A	Field Instrumentation: PID
Depth 1st H_2O (ft): N/A	Date/Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H_2O After Drilling (ft): N/A	Date/Time: N/A	Driller's Name: Alex Felix	
Comments: Asphalt debris and weeds at surface		Well Comp. Date: N/A	Completion Time: N/A
Samplers: Slide hammer with 2-inch-dia. x 6-inch-long sleeve		Soil Backfill Date: 02-12-2007	Backfill Time: 10:55

Sample Interval / Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
S			0.9		0		ML	Sandy Silt, brown (10YR 5/3), soft, moist, fine to medium sand (mostly fine)			10	30	60
							SM	Silty Sand with Gravel, reddish brown (5YR 5/4), loose, dry to moist, fine to medium sand (mostly fine), gravel-size sandstone clasts	15		10	40	35
					1			Total Depth = 0.6 ft; refusal on bedrock. Collected soil sample S01.					
					2								
					3								
					4								
					5								
					6								
					7								
					8								
					9								
					10								

LOG OF BORING GROUP8GPJ MWH WC.GDT 3/23/07

MWH

Boring ID: BLBS0039

Borehole Diam. (in.): 3	Total Depth (ft): 1.2	Project: Group 8 Data Gap Sampling	
Northing (ft): 2671544.40	Easting (ft): 1784098.03	Job Number: 1891306 / 1891307.021105	Site: Building 56 Landfill
Drill Start Date: 04-02-2007	Start Time: 14:45	Logged By: Mark Davis	Reviewed By: Shelby Valenzuela
Drill Finish Date: 04-02-2007	Finish Time: 15:00	Drilling Contractor: Jacobs & Hefner Assoc.	Field Instrumentation: N/A
Depth 1st H_2O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H_2O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: Alex Felix	
Comments: Minor to moderate weeds and grass, asphalt and concrete debris at surface		Well Comp. Date: N/A	Completion Time: N/A
Samplers: Slide hammer with drive sampler		Soil Backfill Date: 04-02-2007	Backfill Time: 15:00

Sample Interval / Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
								Surface Elevation: 1805.8 ft					
S					0		SP	Poorly Graded Sand with Gravel, brown (10YR 5/3), loose to medium dense, dry, fine to medium sand, occasional gravel-size concrete debris	20		40	40	
								Total Depth = 1.2 ft; refusal on debris.					
								Collected soil sample S01.					
					2								
					4								
					6								
					8								
					10								
					12								
					14								
					16								
					18								
					20								

LOG OF BORING GROUP8GPJ MWH WC.GDT 7/1/07

MWH

Boring ID: BLBS0040

Borehole Diam. (in.): 3	Total Depth (ft): 0.8	Project: Group 8 Data Gap Sampling	
Northing (ft): 267014.07	Easting (ft): 1784026.61	Job Number: 1891306 / 1891307.021105	Site: Building 56 Landfill
Drill Start Date: 04-02-2007	Start Time: 12:30	Logged By: Mark Davis	Reviewed By: Shelby Valenzuela
Drill Finish Date: 04-02-2007	Finish Time: 12:40	Drilling Contractor: Jacobs & Hefner Assoc.	Field Instrumentation: PID
Depth 1st H_2O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H_2O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: Alex Felix	
Comments: Moderate growth of weeds, asphalt and concrete debris at surface		Well Comp. Date: N/A	Completion Time: N/A
Samplers: Slide hammer with drive sampler		Soil Backfill Date: 04-02-2007	Backfill Time: 12:40

Sample Interval / Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
								Surface Elevation: 1800.0 ft.					
S			5.0		0		SM	Silty Sand, yellowish brown (10YR 5/6), bose, dry, fine to medium sand			35	40	25
					1			Total Depth = 0.8 ft; refusal on bedrock. Collected soil samples S01 and S01SP.					
					2								
					3								
					4								
					5								
					6								
					7								
					8								
					9								
					10								

LOG OF BORING GROUP8GPJ MWHWC.GDT 7/1/07

MWH

Boring ID: BLBS0041

Borehole Diam. (in.): 3	Total Depth (ft): 1.0	Project: Group 8 Data Gap Sampling	
Northing (ft): 2667988.05	Easting (ft): 1784068.47	Job Number: 1891306 / 1891307.021105	Site: Building 56 Landfill
Drill Start Date: 04-02-2007	Start Time: 14:20	Logged By: Mark Davis	Reviewed By: Shelby Valenzuela
Drill Finish Date: 04-02-2007	Finish Time: 14:25	Drilling Contractor: Jacobs & Hefner Assoc.	Field Instrumentation: PID
Depth 1st H_2O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H_2O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: Alex Felix	
Comments: Weeds, boulders, concrete and asphalt debris at surface		Well Comp. Date: N/A	Completion Time: N/A
Samplers: Slide hammer with drive sampler		Soil Backfill Date: 04-02-2007	Backfill Time: 14:25

Sample Interval / Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
								Surface Elevation: 1817.7 ft					
S			4.5		0		SP-SM	Poorly Graded Sand with Silt, yellowish brown (10YR 5/8), medium dense, dry, fine to medium sand			45	45	10
								Total Depth = 1.0 ft; refusal on bedrock.					
								Collected soil sample S01.					
					2								
					4								
					6								
					8								
					10								
					12								
					14								
					16								
					18								
					20								

LOG OF BORING GROUP8.GPJ MWH WC.GDT 7/1/07

MWH

Boring ID: BLBS0047

Borehole Diam. (in.): 3	Total Depth (ft): 0.5	Project: Group 8 Data Gap Sampling	
Northing (ft): 2673164.8	Easting (ft): 1783915.82	Job Number: 1891306 / 1891307.021105	Site: Building 56 Landfill
Drill Start Date: 04-02-2007	Start Time: 13:30	Logged By: Mark Davis	Reviewed By: Shelby Valenzuela
Drill Finish Date: 04-02-2007	Finish Time: 13:35	Drilling Contractor: Jacobs & Hefner Assoc.	Field Instrumentation: N/A
Depth 1st H_2O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H_2O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: Mark Davis	
Comments: Large sandstone boulders, leaf litter, trees, and scrub at surface		Well Comp. Date: N/A	Completion Time: N/A
Samplers: Slide hammer with drive sampler		Soil Backfill Date: 04-02-2007	Backfill Time: 13:35

Sample Interval Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
								Surface Elevation: 1714.3 ft					
S					0		ML	Sandy Silt, dark brown (10YR 3/3), soft, dry, fine sand				30	70
								Total Depth = 0.5 ft; refusal on boulder or bedrock.					
								Collected soil sample S01.					
					1								
					2								
					3								
					4								
					5								
					6								
					7								
					8								
					9								
					10								

LOG OF BORING GROUP8.GPJ MWH WC.GDT 7/1/07

MWH

Boring ID: BLBS0048

Borehole Diam. (in.): 3	Total Depth (ft): 0.5	Project: Group 8 Data Gap Sampling	
Northing (ft): 2673084.04	Easting (ft): 1783963.64	Job Number: 1891306 / 1891307.021105	Site: Building 56 Landfill
Drill Start Date: 04-02-2007	Start Time: 13:15	Logged By: Mark Davis	Reviewed By: Shelby Valenzuela
Drill Finish Date: 04-02-2007	Finish Time: 13:20	Drilling Contractor: Jacobs & Hefner Assoc.	Field Instrumentation: PID
Depth 1st H_2O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H_2O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: Mark Davis	
Comments: Mature trees and shrubs, including poison oak, at surface		Well Comp. Date: N/A	Completion Time: N/A
Samplers: Slide hammer with drive sampler		Soil Backfill Date: 04-02-2007	Backfill Time: 13:20

Sample Interval / Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
					0			Surface Elevation: 1726.5 ft					
S			5.1				ML	Sandy Silt, yellowish brown (10YR 5/6), soft, dry, fine sand				30	70
								Total Depth = 0.5 ft; refusal on bedrock.					
								Collected soil sample S01.					
					1								
					2								
					3								
					4								
					5								
					6								
					7								
					8								
					9								
					10								

LOG OF BORING GROUP8.GPJ MWH WC.GDT 7/1/07

MWH

Boring ID: BLBS0049

Borehole Diam. (in.): 3	Total Depth (ft): 0.5	Project: Group 8 Data Gap Sampling	
Northing (ft): 267060.68	Easting (ft): 1784444.85	Job Number: 1891306 / 1891307.021105	Site: Building 56 Landfill
Drill Start Date: 05-17-2007	Start Time: 12:45	Logged By: Mark Davis	Reviewed By: Shelby Valenzuela
Drill Finish Date: 05-17-2007	Finish Time: 13:05	Drilling Contractor: Jacobs & Hefner Assoc.	Field Instrumentation: N/A
Depth 1st H_2O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H_2O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: Steve Huggett	
Comments: Boulders, concrete debris, and minor weeds and grass at surface		Well Comp. Date: N/A	Completion Time: N/A
Samplers: Slide hammer with drive sampler		Soil Backfill Date: 05-17-2007	Backfill Time: 13:05

Sample Interval / Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
								Surface Elevation: 1791.0 ft					
S					0		SW-SM	Well Graded Sand with Silt and Gravel, light yellowish brown (10YR 6/4), loose, dry, fine to coarse sand	20	20	30	20	10
								Total Depth = 0.5 ft; refusal on bedrock.					
								Collected soil sample S01.					
					1								
					2								
					3								
					4								
					5								
					6								
					7								
					8								
					9								
					10								

LOG OF BORING GROUP8GPJ MWH WC.GDT 7/1/07

MWH

Boring ID: BLBS0050

Borehole Diam. (in.): 3	Total Depth (ft): 1.5	Project: Group 8 Data Gap Sampling	
Northing (ft): 2670635.7	Easting (ft): 1784423.19	Job Number: 1891306 / 1891307.021105	Site: Building 56 Landfill
Drill Start Date: 05-17-2007	Start Time: 13:10	Logged By: Mark Davis	Reviewed By: Shelby Valenzuela
Drill Finish Date: 05-17-2007	Finish Time: 13:35	Drilling Contractor: Jacobs & Hefner Assoc.	Field Instrumentation: PID
Depth 1st H_2O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H_2O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: Steve Huggett	
Comments: Minor weeds and grass with glass fragments at surface		Well Comp. Date: N/A	Completion Time: N/A
Samplers: Slide hammer with drive sampler		Soil Backfill Date: 05-17-2007	Backfill Time: 13:40

Sample Interval / Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
					0			Surface Elevation: 1791.1 ft					
							ML	Sandy Silt, light yellowish brown (10YR 6/4), soft to medium stiff, dry, fine sand, some organics (roothairs)				30	70
S			0.0				SM	Silty Sand, yellow (10YR 7/6), loose to medium dense, dry, fine to medium sand, few gravel	5		30	40	25
					2			Total Depth = 1.5 ft; refusal on bedrock.					
								Collected soil samples S01 and D01.					
					4								
					6								
					8								
					10								
					12								
					14								
					16								
					18								
					20								

LOG OF BORING GROUP8.GPJ MWH WC.GDT 7/1/07

MWH

Boring ID: BLBS0051

Borehole Diam. (in.): 3	Total Depth (ft): 1.0	Project: Group 8 Data Gap Sampling	
Northing (ft): 267057.07	Easting (ft): 1784463.24	Job Number: 1891306 / 1891307.021105	Site: Building 56 Landfill
Drill Start Date: 05-17-2007	Start Time: 12:20	Logged By: Mark Davis	Reviewed By: Shelby Valenzuela
Drill Finish Date: 05-17-2007	Finish Time: 12:35	Drilling Contractor: Jacobs & Hefner Assoc.	Field Instrumentation: PID
Depth 1st H_2O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H_2O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: Steve Huggett	
Comments: Moderate growth of weeds with concrete debris at surface		Well Comp. Date: N/A	Completion Time: N/A
Samplers: Slide hammer with drive sampler		Soil Backfill Date: 05-17-2007	Backfill Time: 12:35

Sample Interval / Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
								Surface Elevation: 1801.2 ft					
S			5.0		0		SM	Silty Sand, yellowish brown (10YR 5/4), bose, dry, fine to medium sand (mostly fine), few gravel	10		15	50	25
								Total Depth = 1.0 ft; refusal on bedrock.					
								Collected soil sample S01.					
					2								
					4								
					6								
					8								
					10								
					12								
					14								
					16								
					18								
					20								

LOG OF BORING GROUP8.GPJ MWH WC.GDT 7/1/07

MWH

Boring ID: BLBS0052

Borehole Diam. (in.): 3	Total Depth (ft): 0.5	Project: Group 8 Data Gap Sampling	
Northing (ft): 2671432.22	Easting (ft): 1784003.69	Job Number: 1891306 / 1891307.021105	Site: Building 56 Landfill
Drill Start Date: 05-16-2007	Start Time: 10:00	Logged By: Mark Davis	Reviewed By: Shelby Valenzuela
Drill Finish Date: 05-16-2007	Finish Time: 10:10	Drilling Contractor: Jacobs & Hefner Assoc.	Field Instrumentation: PID
Depth 1st H_2O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Trowel	
Depth H_2O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: Rob Gilberson	
Comments: Abundant concrete and asphalt debris, minor vegetation at surface		Well Comp. Date: N/A	Completion Time: N/A
Samplers: Hand trowel		Soil Backfill Date: 05-16-2007	Backfill Time: 10:10

Sample Interval / Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
S			1.8		0		SW	Well Graded Sand with Gravel, yellowish brown (10YR 5/4), loose, dry, fine to coarse sand	25	20	25	30	
								Total Depth = 0.5 ft. Abundant cobble-size asphalt and concrete pieces made hand augering difficult; used trowel instead. Collected soil sample S01.					
					1								
					2								
					3								
					4								
					5								
					6								
					7								
					8								
					9								
					10								

LOG OF BORING GROUP8.GPJ MWH WC.GDT 7/1/07

MWH

Boring ID: BLBS0053

Borehole Diam. (in.): 3	Total Depth (ft): 0.8	Project: Group 8 Data Gap Sampling	
Northing (ft): 2669478.8	Easting (ft): 1783992.83	Job Number: 1891306 / 1891307.021105	Site: Building 56 Landfill
Drill Start Date: 05-16-2007	Start Time: 11:40	Logged By: Mark Davis	Reviewed By: Shelby Valenzuela
Drill Finish Date: 05-16-2007	Finish Time: 11:50	Drilling Contractor: Jacobs & Hefner Assoc.	Field Instrumentation: PID
Depth 1st H_2O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H_2O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: Rob Giberson	
Comments: Mature trees, leaf litter, boulders, and minor weeds and grass at surface		Well Comp. Date: N/A	Completion Time: N/A
Samplers: Slide hammer with drive sampler		Soil Backfill Date: 05-16-2007	Backfill Time: 11:50

Sample Interval / Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
								Surface Elevation: 1784.9 ft					
S			0.0		0		SP-SM	Poorly Graded Sand with Silt, brown (10YR 5/3), fine sand, few gravel	5			85	10
					1			Total Depth = 0.8 ft; refusal on bedrock.					
								Collected soil sample S01.					
								Measured headspace with multigas monitor: CO = 0, LEL = 0, H_2S = 0, O_2 = 20.6					
					2								
					3								
					4								
					5								
					6								
					7								
					8								
					9								
					10								

LOG OF BORING GROUP8GPJ MWH WC.GDT 7/1/07

MWH

Boring ID: BLBS0055

Borehole Diam. (in.): 2-1/4	Total Depth (ft): 11.0	Project: Group 8 Data Gap Sampling	
Northing (ft): 2670611.6	Easting (ft): 1784127.95	Job Number: 1891306 /1891307.021105	Site: Building 56 Landfill
Drill Start Date: 05-15-2007	Start Time: 10:20	Logged By: Rob Giberson	Reviewed By: Shelby Valenzuela
Drill Finish Date: 05-15-2007	Finish Time: 10:45	Drilling Contractor: Hydro Geo Spectrum	Field Instrumentation: PID
Depth 1st H_2O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Geoprobe	
Depth H_2O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: Tom Morris	
Comments: Shrubs, weeds, and abundant concrete debris at surface		Well Comp. Date: N/A	Completion Time: N/A
Samplers: Macrocore		Soil Backfill Date: 05-15-2007	Backfill Time: 10:45

Sample Interval / Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
								Surface Elevation: 1816.9 ft.					
S			0.9		0		ML	Sandy Silt, yellowish brown (10YR 5/8), medium stiff, dry, fine sand				35	65
							SM	Silty Sand, yellowish brown (10YR 5/8), medium dense, dry, fine sand				85	15
			1.4		2								
					4								
					6								
					8		ML	Silt with Sand, dark yellowish brown (10YR 4/4), medium stiff to stiff, moist, fine sand				25	75
					10								
S			0.1				SM	Silty Sand, brownish yellow (10YR 6/6), dense, dry, fine sand				70	30
					12			Total Depth = 11.0 ft; refusal on bedrock. Collected soil samples S01 and S02.					
					14								
					16								
					18								
					20								

LOG OF BORING GROUP8GPJ MWHWC.GDT 7/1/07

MWH

Boring ID: BLBS0056

Borehole Diam. (in.): 3	Total Depth (ft): 2.0	Project: Group 8 Data Gap Sampling	
Northing (ft): 2669132.8	Easting (ft): 1783986.4	Job Number: 1891306 / 1891307.021105	Site: Building 56 Landfill
Drill Start Date: 05-17-2007	Start Time: 09:10	Logged By: Mark Davis	Reviewed By: Shelby Valenzuela
Drill Finish Date: 05-17-2007	Finish Time: 09:25	Drilling Contractor: Jacobs & Hefner Assoc.	Field Instrumentation: PID
Depth 1st H_2O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H_2O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: Steve Huggett	
Comments: Shrubs, tree, leaf litter, boulders, and half-buried 15-gal. drum at surface		Well Comp. Date: N/A	Completion Time: N/A
Samplers: Slide hammer with drive sampler		Soil Backfill Date: 05-17-2007	Backfill Time: 09:25

Sample Interval / Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
								Surface Elevation: 1775.3 ft					
S			0.5		0		ML/CL	Clayey Silt with Sand, brown (10YR 5/3), medium stiff, dry, fine to medium sand, few gravel	10		10	15	65
S			0.7		2		SM	Silty Sand, yellow (10YR 7/6), loose to medium dense, dry, fine sand				70	30
								Total Depth = 2.0 ft; refusal on bedrock.					
								Collected soil samples S01 and S02.					

LOG OF BORING GROUP8GPJ MWH WC.GDT 7/1/07

MWH

Boring ID: BLBS0057

Borehole Diam. (in.): 3	Total Depth (ft): 0.6	Project: Group 8 Data Gap Sampling	
Northing (ft): 267194.76	Easting (ft): 1784048.06	Job Number: 1891306 / 1891307.021105	Site: Building 56 Landfill
Drill Start Date: 05-16-2007	Start Time: 10:20	Logged By: Mark Davis	Reviewed By: Shelby Valenzuela
Drill Finish Date: 05-16-2007	Finish Time: 10:35	Drilling Contractor: Jacobs & Hefner Assoc.	Field Instrumentation: PID
Depth 1st H_2O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H_2O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: Rob Gilberson	
Comments: Minor to moderate weeds, grass, shrubs, asphalt debris, boulders at surface		Well Comp. Date: N/A	Completion Time: N/A
Samplers: Slide hammer with drive sampler		Soil Backfill Date: 05-16-2007	Backfill Time: 10:40

Sample Interval / Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
								Surface Elevation: 1770.3 ft					
S			28.2		0		SW-SM	Well Graded Sand with Silt and Gravel, light yellowish brown (10YR 6/4), loose to medium dense, dry, fine to coarse sand, trace rounded cobbles; black plastic sheet buried at approx. 0.4 ft	25	25	20	20	10
					1			Total Depth = 0.6 ft; refusal on boulder or bedrock. Stepped out twice and attempted augering deeper to confirm refusal. Collected soil sample S01.					
					2								
					3								
					4								
					5								
					6								
					7								
					8								
					9								
					10								

LOG OF BORING GROUP8GPJ MWH WC.GDT 7/1/07

MWH

Boring ID: BLBS0058

Borehole Diam. (in.): 3	Total Depth (ft): 0.5	Project: Group 8 Data Gap Sampling	
Northing (ft): 2672000.5	Easting (ft): 1783999.30	Job Number: 1891306 / 1891307.021105	Site: Building 56 Landfill
Drill Start Date: 05-16-2007	Start Time: 09:40	Logged By: Mark Davis	Reviewed By: Shelby Valenzuela
Drill Finish Date: 05-16-2007	Finish Time: 09:50	Drilling Contractor: Jacobs & Hefner Assoc.	Field Instrumentation: PID
Depth 1st H_2O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger and Trowel	
Depth H_2O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: Rob Gilberson	
Comments: Moderate growth of weeds and grass at surface		Well Comp. Date: N/A	Completion Time: N/A
Samplers: Hand trowel and hand auger bucket		Soil Backfill Date: 05-16-2007	Backfill Time: 09:55

Sample Interval	Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
	S			0.5		0		SW-SM	Surface Elevation: 1753.5 ft Well Graded Sand with Silt and Gravel, yellowish brown (10YR 5/4), loose, dry, fine to coarse sand	25	20	25	20	10
									Total Depth = 0.5 ft; refusal on boulder or bedrock. Used trowel and hand auger bucket to get sufficient sample volume. Collected soil samples S01 and S01SP.					
						1								
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING GROUP8.GPJ MWH WC.GDT 7/1/07

MWH

Boring ID: BLBS0060

Borehole Diam. (in.): 3	Total Depth (ft): 0.6	Project: Group 8 Data Gap Sampling		
Northing (ft): 2673191.01	Easting (ft): 1783943.57	Job Number: 1891306 / 1891307.021105	Site: Building 56 Landfill	
Drill Start Date: 05-16-2007	Start Time: 11:00	Logged By: Mark Davis	Reviewed By: Shelby Valenzuela	
Drill Finish Date: 05-16-2007	Finish Time: 11:20	Drilling Contractor: Jacobs & Hefner Assoc.	Field Instrumentation: PID	
Depth 1st H_2O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger		
Depth H_2O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: Rob Gilberson		
Comments: Shrubs, poison oak, leaf litter, boulders and bedrock outcrops at surface		Well Comp. Date: N/A	Completion Time: N/A	
Samplers: Hand trowel		Soil Backfill Date: 05-16-2007	Backfill Time: 11:20	

Sample Interval / Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
								Surface Elevation: 1724.1 ft					
S			0.0		0		SP-SM	Poorly Graded Sand with Silt, yellowish brown (10YR 5/6), loose, dry, fine to medium sand, minor organics (roothairs)			30	60	10
								Total Depth = 0.6 ft; refusal on boulder.					
								Collected soil samples S01 and S01SP.					
					1								
					2								
					3								
					4								
					5								
					6								
					7								
					8								
					9								
					10								

LOG OF BORING GROUP8.GPJ MWH WC.GDT 7/1/07

MWH

Boring ID: BLBS0061

Borehole Diam. (in.): 3	Total Depth (ft): 0.5	Project: Group 8 Data Gap Sampling	
Northing (ft): 2674388.97	Easting (ft): 1783926.44	Job Number: 1891306 / 1891307.021105	Site: Building 56 Landfill
Drill Start Date: 05-16-2007	Start Time: 09:00	Logged By: Mark Davis	Reviewed By: Shelby Valenzuela
Drill Finish Date: 05-16-2007	Finish Time: 09:15	Drilling Contractor: Jacobs & Hefner Assoc.	Field Instrumentation: PID
Depth 1st H_2O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger and Hand Trowel	
Depth H_2O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: Rob Gilberson	
Comments: Shrubs, weeds, leaf litter, and large boulders at surface		Well Comp. Date: N/A	Completion Time: N/A
Samplers: Hand trowel and hand auger bucket		Soil Backfill Date: 05-16-2007	Backfill Time: 09:15

Sample Interval / Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
								Surface Elevation: 1693.5 ft.					
S			0.3		0		SW-SM	Well Graded Sand with Silt and Gravel, yellowish brown (10YR 5/4), loose, dry, fine to coarse sand	30	20	25	20	5
								Total Depth = 0.5 ft; refusal on boulder.					
					1			Used trowel and hand auger bucket to get sufficient sample volume.					
								Collected soil sample S01.					
					2								
					3								
					4								
					5								
					6								
					7								
					8								
					9								
					10								

LOG OF BORING GROUP8.GPJ MWH WC.GDT 7/1/07

MWH

Boring ID: BLBS0062

Borehole Diam. (in.): 3	Total Depth (ft): 1.0	Project: Group 8 Data Gap Sampling	
Northing (ft): 2669313.7	Easting (ft): 1784147.50	Job Number: 1891306 / 1891307.021105	Site: Building 56 Landfill
Drill Start Date: 05-17-2007	Start Time: 07:45	Logged By: Mark Davis	Reviewed By: Shelby Valenzuela
Drill Finish Date: 05-17-2007	Finish Time: 08:15	Drilling Contractor: Jacobs & Hefner Assoc.	Field Instrumentation: PID
Depth 1st H_2O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H_2O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: Steve Huggett	
Comments: Moderate growth of weeds and grass at surface		Well Comp. Date: N/A	Completion Time: N/A
Samplers: Slide hammer with drive sampler		Soil Backfill Date: 05-17-2007	Backfill Time: 08:15

Sample Interval / Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
								Surface Elevation: 1812.5 ft.					
S			3.3		0		SW-SM	Well Graded Sand with Silt and Gravel, brownish yellow (10YR 6/6), loose, dry, fine sand, few medium and coarse sand, common rootlets and roothairs	25	5	10	50	10
							SM	Silty Sand, dark yellowish brown (10YR 4/6), loose, dry, fine to coarse sand (mostly fine)		10	15	50	25
					1			Total Depth = 1.0 ft; refusal on bedrock. Collected soil samples S01 and D01.					
					2								
					3								
					4								
					5								
					6								
					7								
					8								
					9								
					10								

LOG OF BORING GROUP8.GPJ MWH WC.GDT 7/1/07

MWH

Boring ID: BLBS0063

Borehole Diam. (in.): 3	Total Depth (ft): 0.5	Project: Group 8 Data Gap Sampling	
Northing (ft): 2668851.07	Easting (ft): 1784006.05	Job Number: 1891306 / 1891307.021105	Site: Building 56 Landfill
Drill Start Date: 05-17-2007	Start Time: 08:40	Logged By: Mark Davis	Reviewed By: Shelby Valenzuela
Drill Finish Date: 05-17-2007	Finish Time: 08:50	Drilling Contractor: Jacobs & Hefner Assoc.	Field Instrumentation: PID
Depth 1st H_2O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H_2O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: Steve Huggett	
Comments: Boulders, metal and asphalt debris, and half-buried 50-gal. drum at surface		Well Comp. Date: N/A	Completion Time: N/A
Samplers: Hand trowel		Soil Backfill Date: 05-17-2007	Backfill Time: 08:50

Sample Interval / Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
								Surface Elevation: 1797.3 ft					
S			1.4		0		SM	Silty Sand, dark yellowish brown (10YR 4/6), loose, dry, fine to medium sand, few coarse sand, few gravel, common rootlets and roothairs	10	5	30	30	25
								Total Depth = 0.5 ft; refusal on debris.					
								Sampled immediately down gradient of half-buried drum.					
								Collected soil samples S01 and S01SP.					
					1								
					2								
					3								
					4								
					5								
					6								
					7								
					8								
					9								
					10								

LOG OF BORING GROUP8.GPJ MWH WC.GDT 7/1/07

Date: 9/19/07

MONTGOMERY WATSON

Boring #: BLBS0064 Sheet 1 of 1

Project: Group 8 RFI Data Gap Sampling

Job #: 1891306.0111811/ 1891307.0111811 Site: SSFL - BOSULF

Logged By: B. Martorin, PG Reviewed By: SRV

Drilling Contractor: BL HALC

Drill Rig Type/Method: Hand Auger

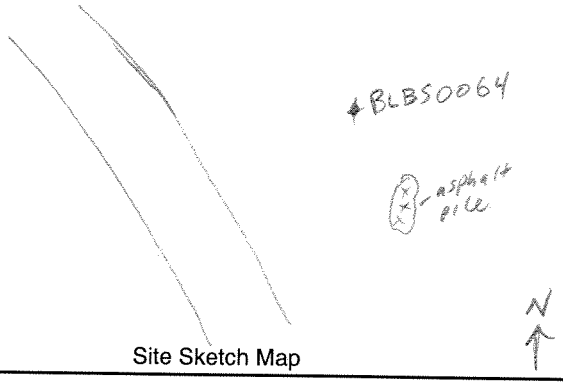
Drillers Name: Steve Huggett

Borehole Diam./Drill Bit Type: 4" Total Depth 13"

Ref. Elev.

Sampler Type: N/A

Site Sketch Map



Depth to 1st Water (▽): N/A Time/Date: N/A

Depth to Water After Drilling (▼): Time/Date: N/A

Depth to other Water Bearing Zones: N/A

Drill Start Time/Date: 920 Drill Finish Time/Date: 925

Well Completion Time/Date: N/A

Soil Boring Backfill Time/Date: 930 (9/19/07)

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Gravel	Sand Coarse	Sand Medium	Sand Fine	Silt/clay
							1	SP	Grassy Surface P.G. Sand w/ Gravel (SP): Lt. yellowish brown, loose, dry, predominantly fine sand (FILL) Bedrock @ 13" (Sandstone - Chats Formation)	10	10	5	75	
							2							
							3							
							4							
							5							
							6							
							7							
							8							
							9							
							10							
							11							
							12							

QA/QC

Date: 9/19/07

MONTGOMERY WATSON

Boring #: BLBS0065 Sheet 1 of 1

Project: Group 8 RFI Data Gap Sampling

Job #: 1891306.0111811/ 1891307.0111811 Site: SSFL - BOUNDARY

Logged By: B. Martin, P.G. Reviewed By: SRV

Drilling Contractor: BL Hall

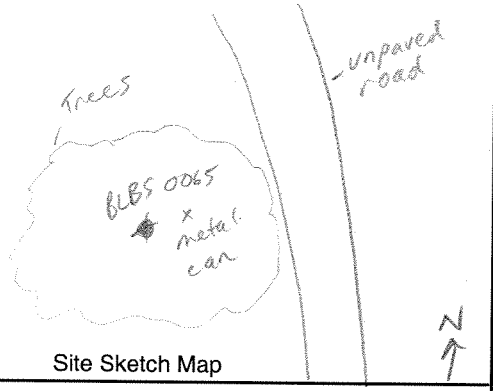
Drill Rig Type/Method: Hand Auger

Drillers Name: Steve Huggett

Borehole Diam./Drill Bit Type: 4" Total Depth 17"

Ref. Elev.

Sampler Type: N/A



Site Sketch Map

Depth to 1st Water (▽): N/A Time/Date: N/A

Depth to Water After Drilling (▼): Time/Date: N/A

Depth to other Water Bearing Zones: N/A

Drill Start Time/Date: 930 Drill Finish Time/Date: 935

Well Completion Time/Date: N/A

Soil Boring Backfill Time/Date: 940 (9/19/07)

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Gravel	Sand Coarse	Sand Medium	Sand Fine	Silt/clay
								SM	SILTY SAND (SM): Med. brown, loose, moist (Native) Surface cover is leaves, brush & highly deteriorated metal cans nearby	5	5	5	45	40
							1		Bedrock @ 17" (Sandstone - Chatsworth Formation)					
							2							
							3							
							4							
							5							
							6							
							7							
							8							
							9							
							10							
							11							
							12							

QA/QC

Date: 9/19/07

MONTGOMERY WATSON

Boring #: BLBS0066 Sheet 1 of 1

Project: Group 8 RFI Data Gap Sampling

Job #: 1891306.0111811/ 1891307.0111811 Site: SSFL - BOSWELL

Logged By: B. Montoya, P.G. Reviewed By: SRV

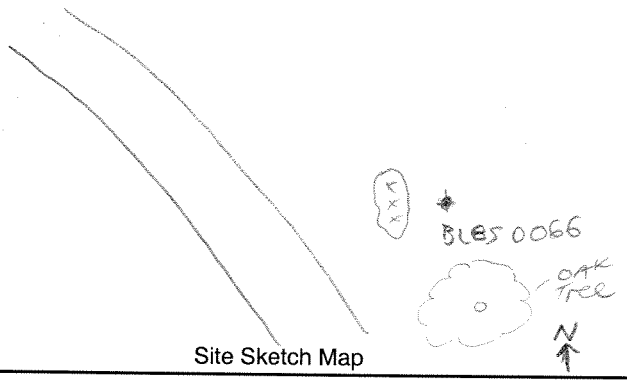
Drilling Contractor: BL Hall

Drill Rig Type/Method: Hand Auger

Drillers Name: S. Huggett

Borehole Diam./Drill Bit Type: 4" Total Depth: Ref. Elev.:

Sampler Type: N/A



Site Sketch Map

Depth to 1st Water (▽): N/A Time/Date: N/A

Depth to Water After Drilling (▼): Time/Date: N/A

Depth to other Water Bearing Zones: N/A

Drill Start Time/Date: 940 Drill Finish Time/Date: 950

Well Completion Time/Date: N/A

Soil Boring Backfill Time/Date: 955 (9/19/07)

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description: Surface cover = leaves, grass. ~6" from borehole is partially buried, deteriorated metal bucket	Estimated % Of: Gravel	Sand: Coarse	Sand: Medium	Sand: Fine	Silt/clay
								SM	SILTY SAND (SM): Dark brown, loose, moist, roots/rootlets (Native)	0	10	10	40	40
							1	SP	P.G. SAND (SP): Lt. yellowish brown, dry, med. dense, roots (wx S.S.)	0	5	5	85	5
							2		Bedrock @ 4' (sandstone - Chats Formation)					
							3							
							4							
							5							
							6							
							7							
							8							
							9							
							10							
							11							
							12							

QA/QC

Date: 9/19/07

MONTGOMERY WATSON

Boring #: BLBS0067 Sheet 1 of 1

Project: Group 8 RFI Data Gap Sampling

Job #: 1891306.0111811/ 1891307.0111811 Site: SSFL - BOUNDARY

Logged By: P. Montesino, P.G. Reviewed By: SRV

Drilling Contractor: BL Hall

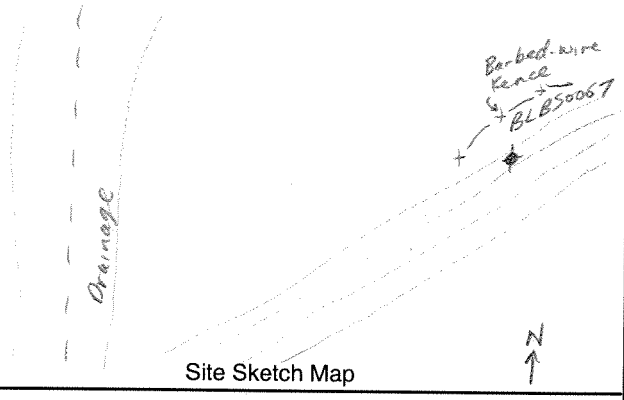
Drill Rig Type/Method: Hand Auger

Drillers Name: BL Hall

Borehole Diam./Drill Bit Type: 4" Total Depth 7"

Ref. Elev.

Sampler Type: N/A



Site Sketch Map

Depth to 1st Water (▽): N/A Time/Date: N/A

Depth to Water After Drilling (▼): Time/Date: N/A

Depth to other Water Bearing Zones: N/A

Drill Start Time/Date: 1030 Drill Finish Time/Date: 1035

Well Completion Time/Date: N/A

Soil Boring Backfill Time/Date: 1040 (9/19/07)

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of: Gravel	Sand: Coarse	Sand: Medium	Sand: Fine	Silt/clay
								SM	On slope, surface cover is grass SILTY SAND (SM): Dark brown, loose, moist (Native)	0	5	5	50	40
							1		Bedrock @ 7" (Sandstone - Chatsworth Formation)					
							2							
							3							
							4							
							5							
							6							
							7							
							8							
							9							
							10							
							11							
							12							

QA/QC

Date: 9/19/07

MONTGOMERY WATSON

Boring #: BLBS 0068 | Sheet 1 of 1

Project: Group 8 RFI Data Gap Sampling

Job #: 1891306.0111811/ 1891307.0111811 Site: SSFL BOSLF

Logged By: B. Martasin, P.G. Reviewed By: SRV

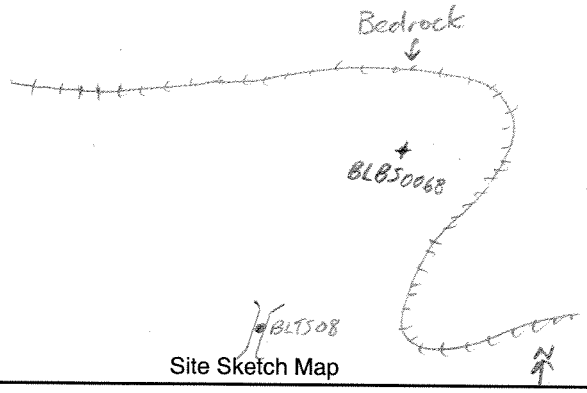
Drilling Contractor: BL Hall

Drill Rig Type/Method: Hand Auger

Drillers Name: S. Huggett

Borehole Diam./Drill Bit Type: 4" | Total Depth: 2' | Ref. Elev.:

Sampler Type: N/A



Site Sketch Map

Depth to 1st Water (▽): N/A Time/Date: N/A

Depth to Water After Drilling (▼): Time/Date: N/A

Depth to other Water Bearing Zones: N/A

Drill Start Time/Date: 1115 Drill Finish Time/Date: 1118

Well Completion Time/Date: N/A

Soil Boring Backfill Time/Date: 1125 (9/19/07)

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of: Gravel	Sand: Coarse	Sand: Medium	Sand: Fine	Silt/clay
								SM	Surface cover is grass SILTY SAND (SM): Med. brown, loose, moist (Nature)	0	10	10	40	40
							1							
							2		Bedrock @ 2' (Sandstone - Chatsworth Formation)					
							3							
							4							
							5							
							6							
							7							
							8							
							9							
							10							
							11							
							12							

QA/QC

Date: 9/19/07

MONTGOMERY WATSON

Boring #: BLBS0069 Sheet 1 of 1

Project: Group 8 RFI Data Gap Sampling

Job #: 1891306.0111811/ 1891307.0111811 Site: SSFL - BOSOUT

Logged By: Reviewed By: SRV

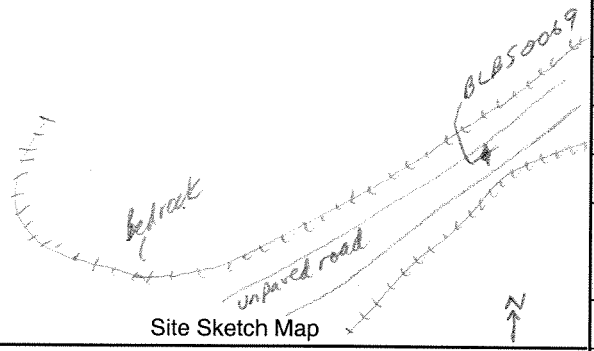
Drilling Contractor: BL Hall

Drill Rig Type/Method: Hand Auger

Drillers Name: S. Huggett

Borehole Diam./Drill Bit Type: 4" Total Depth: Ref. Elev.:

Sampler Type: N/A



Site Sketch Map

Depth to 1st Water (▽): N/A Time/Date: N/A

Depth to Water After Drilling (▼): Time/Date: N/A

Depth to other Water Bearing Zones: N/A

Drill Start Time/Date: 1110 Drill Finish Time/Date: 1112

Well Completion Time/Date: N/A

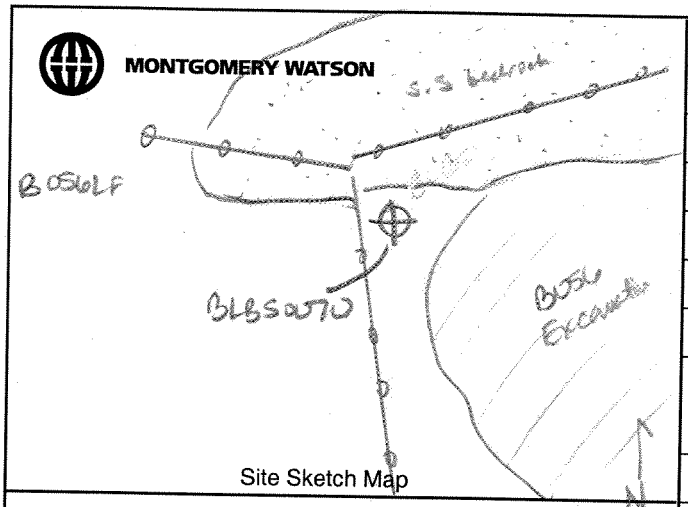
Soil Boring Backfill Time/Date: 1115 (9/19/07)

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of: Gravel	Sand: Coarse	Sand: Medium	Sand: Fine	Silt/clay
									In road, surface is soil					
							0	SM	SILTY SAND (SM): Med. brown, dense, dry	0	0	0	60	40
							1		Bedrock @ 2" (Sandstone - Chats formation)					
							2							
							3							
							4							
							5							
							6							
							7							
							8							
							9							
							10							
							11							
							12							

QA/QC

Date: 9/19/07

MONTGOMERY WATSON



Boring #: BLBS0070 Sheet 1 of 1

Project: Group 8 RFI Data Gap Sampling

Job #: 1891306.0111811/ 1891307.0111811 Site: SSFL - B059LF

Logged By: SRV Reviewed By: SRV

Drilling Contractor: B.L Hall

Drill Rig Type/Method: hand auger

Drillers Name: Steve Huggett

Borehole Diam./Drill Bit Type: 4" Total Depth 1.0'

Ref. Elev. —

Sampler Type: NA

Depth to 1st Water (▽): N/A Time/Date: N/A

Drill Start Time/Date: 1200 Drill Finish Time/Date: 1220

Depth to Water After Drilling (▼): Time/Date: N/A

Well Completion Time/Date: N/A

Depth to other Water Bearing Zones: N/A

Soil Boring Backfill Time/Date: 1220 9/19/07

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of: Gravel	Sand: Coarse	Sand: Medium	Sand: Fine	Silt/clay
							0	SM	grassy surface visible fill at surface concrete + asphalt Silty SAND (SM), yellowish brown (10YR 5/4), loose, dry, trace gravels, subangular,			20	60	20
							1							
							2		refusal @ 1.0', debris (fill) concrete (?)					
							3							
							4							
							5							
							6							
							7							
							8							
							9							
							10							
							11							
							12							

QA/QC

MWH

Boring ID: BLSV0021

Borehole Diam. (in.): 1-1/2	Total Depth (ft): 0.5	Project: Group 8 Data Gap Sampling	
Northing (ft):	Easting (ft):	Job Number: 1891306 / 1891307.021105	Site: Building 56 Landfill
Drill Start Date: 05-14-2007	Start Time: 12:35	Logged By: Adam Norris	Reviewed By: Shelby Valenzuela
Drill Finish Date: 05-14-2007	Finish Time: 12:40	Drilling Contractor: Hydro Geo Spectrum	Field Instrumentation: PID
Depth 1st H_2O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H_2O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: Tom Morris	
Comments: Met refusal at 0.5 ft in three attempts. No soil vapor probe installed.		Well Comp. Date: N/A	Completion Time: N/A
Samplers: No sample collected		Soil Backfill Date: 05-14-2007	Backfill Time: 12:45

Sample Interval / Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
			0.0		0		SM	Silty Sand, brown (10YR 5/3), dry, fine to medium sand (mostly fine), few coarse sand, subangular to subrounded grains, nonplastic fines, some organics (grass and roots)		5	15	60	20
					1			Total Depth = 0.5 ft; refusal on sandstone bedrock in three attempts. No sample collected. No soil vapor probe installed.					
					2								
					3								
					4								
					5								
					6								
					7								
					8								
					9								
					10								

LOG OF BORING GROUP8.GPJ MWH WC.GDT 7/1/07

MWH

Boring ID: BLSW 0001

Borehole Diam. (in.): N/A	Total Depth (ft): 3.0	Project: Group 8 Data Gap Sampling	
Northing (ft):	Easting (ft):	Job Number: 1891264.0111811	Site: Building 56 Landfill
Drill Start Date: 02-14-2007	Start Time: 07:50	Logged By: Alex Felix	Reviewed By:
Drill Finish Date: 02-14-2007	Finish Time: 08:10	Drilling Contractor: N/A	Field Instrumentation: PID
Depth 1st H_2O (ft): N/A	Date/Time: N/A	Drill Rig Type/Method: N/A	
Depth H_2O After Drilling (ft): N/A	Date/Time: N/A	Driller's Name: N/A	

Comments: Water sampling was performed on "Drill" date and time	Well Comp. Date: N/A	Completion Time: N/A
Samplers: Disposal water bailer	Soil Backfill Date: N/A	Backfill Time: N/A

Sample Interval Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
GW					0			Water-filled excavation					
					2								
								Surface water was collected with a disposable bailer approximately 6 ft from south wall of water-filled excavation. The bailer was lowered from top edge of pit to a depth of approximately 3 ft.					
					4								
					6								
					8								
					10								
					12								
					14								
					16								
					18								
					20								

LOG OF BORING GROUP8.GPJ MWH WC.GDT 3/23/07

MONTGOMERY WATSON

Boring #: PT-133 MW#: PZ-124 Sheet 1 of 2

Project: DOE Near-Surface GW

Job #: Site: BOSB Landfill

Logged By: Ben Stewart Reviewed By:

Drilling Contractor: Layne

Drill Rig Type/Method: CME 750 / HSA

Drillers Name: Jose Alvarado

Borehole Diam./Drill Bit Type: 8-in. / Carbide

Total Depth: 31 ft

Ref. Elev.:

Sampler Type: 1.5 foot Split Spoon

Site Sketch Map

Depth to 1st Water (▽): None Time/Date: —

Depth to Water After Drilling (▼): — Time/Date: —

Depth to other Water Bearing Zones: N/A

Drill Start Time/Date: 3/20/03 1440 Drill Finish Time/Date: 3/21/03 1215

Well Completion Time/Date: 3/21/03 1400

Soil Boring Backfill Time/Date: N/A

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis	Casing Type & Size	Annulus Filler	Depth (Feet)	USCS Soil Type	Soil Description	Estimated % Of Gravel	Sand Coarse	Sand Medium	Sand Fine	Silt/clay
						Concrete			Surface: Fill					
							1							
						Portland Type II/II Cement-Aquagel Grout	2							
							3		Concrete debris encountered					
							4							
0.1		Ø	12				5		No return in sample					
		Ø	8											
		Ø	5		4" PVC Blank		6							
							7							
							8		Sandstone: dry, mod. cement., fine-med. gr., yellow brown, nonplastic, micaceous, oxidized	—	—	10	80	10
							9							
0.1		Ø	50/1		2" Schedule 40	Bentonite	10		No return in sample					
							11							
							12							

QA/QC

Boring #: MW#: PZ 124 Project: Boeing SSFL / DOE NSGW Sheet 2 of 2

PID/OVA	Sample Interval	Recovered (in.)	Blow Counts / 6 in.	Retained for Analysis.	Depth (Feet)	USCS Soil Type	Soil Description	Gravel	Estimated % Of Sand: Coarse	Med.	Fine	Silt/Clay
					2							
					3		Harder drilling @ 13'					
					4		-cuttings become grey					
					5							
0.0	↓	2	50/2		6		Sandstone: moist, moderate cement., micaceous, oxidized, nonplastic, gray brown, fine-med gr.	-	-	10	80	10
					7							
					8							
					9							
0.1	↓	3	50/3		20		Sandstone: moist, moderate cement., micaceous, oxidized, nonplastic, olive brown, fine-med gr.	-	-	10	80	10
					1							
					2							
					3							
					4							
3/21/03 1145					25							
0.0	↓	4	50/4		6		Sandstone: moist, moderately cemented, no oxidation, grey, mostly fine grained	-	-	5	90	5
					7							
					8							
					9							
0.0	↓	2	50/2		30		Sandstone, as above, moist, mod-well cemented, no oxid.	-	-	5	90	5
					1		Drilling Refused at 31' TD = 31'					
					2							

Casing Type & Size: (Blank) 2" Diam Schedule 40 PVC Slot Screen (.020" slot)

Annulus Filler: (Natural Monterey Beach Sand) RMC #3 Sand

QA/QC

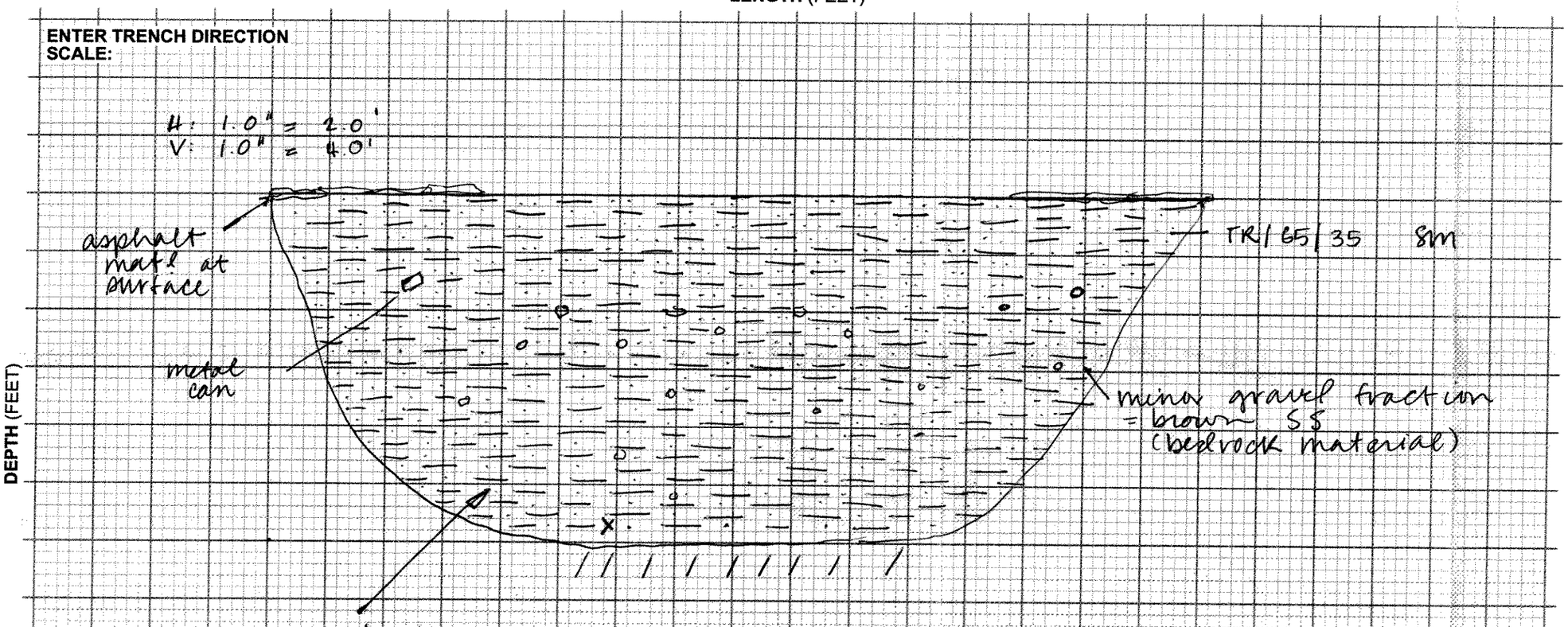
TRENCH LOGS

Project Name: ROCKETDYNE SSFL				**FIELD TRENCH LOG**	
Trench Number: BLTS 01	Project Number: 1890812.0116	Elevation and Datum:		Location: B56 LANDFILL	Sheet 1 of 1
Equipment Supplier: BL HALL	Operator: DAN HALL	Date and Time Started: ~~8/21/03~~ BLK 8/18/03		Date and Time Completed: 8/21/03	Refusal? (Circle One) Yes / No — If Yes Depth =
Equipment Type: EXCAVATOR	Trench Orientation: N20W	Total Depth: 12'		Total Number of Samples:	Photo? (Circle One) Yes / No — No. 2
Bucket Width: 3.5 — Trench Length: 16'	Trench Width: ~4'	No. of Samples: — Bulk: — Grab: 1		Drive: — Hand Auger:	% Man-Made Debris: 5 ~~10~~ % BLK %
Geologist or Hydrogeologist/Date: BRONWYN K. KELLY		Checked by/Date:			Wall of Trench Shown (Circle One) N S E W NE ~~NW~~ SE SW BLK

LENGTH (FEET)

ENTER TRENCH DIRECTION
SCALE:

H: 1.0" = 2.0'
V: 1.0" = 4.0'

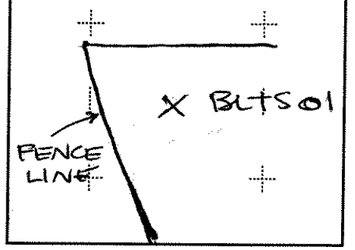


DEPTH (FEET)

SM Silty Sand, dry, brown (5YR?), ~~FR/BK~~ 20/60/20
gravel pieces @ 1/4 ft, metal can, angular to subangular
and debris, v. minor at ~3'
No obvious staining or odor
PID = no reading throughout excavation

MWH

Plan View-Site Location
(Provide Sketch)



EXPLANATION

- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYTICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- G — GEOTECHNICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

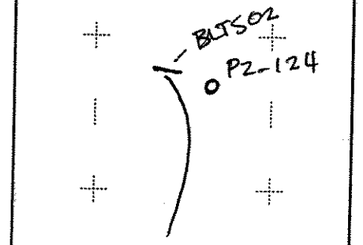
BLTS01

Project Name: ROCKETDYNE SSFL					
Trench Number: BLTS02	Project Number: 1890812.0116	Elevation and Datum:	Location: B56 LANDFILL	Sheet 1 of 1	
Equipment Supplier: BL HALL	Operator: DAN HALL	Date and Time Started: 8/19/03	Date and Time Completed: 8/19/03	Refusal? (Circle One) Yes / No	If Yes Depth = 3.5' bedrock
Equipment Type: EXCAVATOR	Trench Orientation: N15W	Total Depth: ~3.5'	Total Number of Samples: 2	Photo? (Circle One) Yes / No	No.
Bucket Width: 3.5' / Trench Length: 4'	Trench Width: 4'	No. of Samples: 2 / Bulk / Grab	Drive: ✓ / Hand Auger	% Man-Made Debris: 20%	
Geologist or Hydrogeologist/Date: BRONWYN K. KELLY		Checked by/Date		Wall of Trench Shown (Circle One) N S E W NE NW SE SW	

FIELD TRENCH LOG

MWH

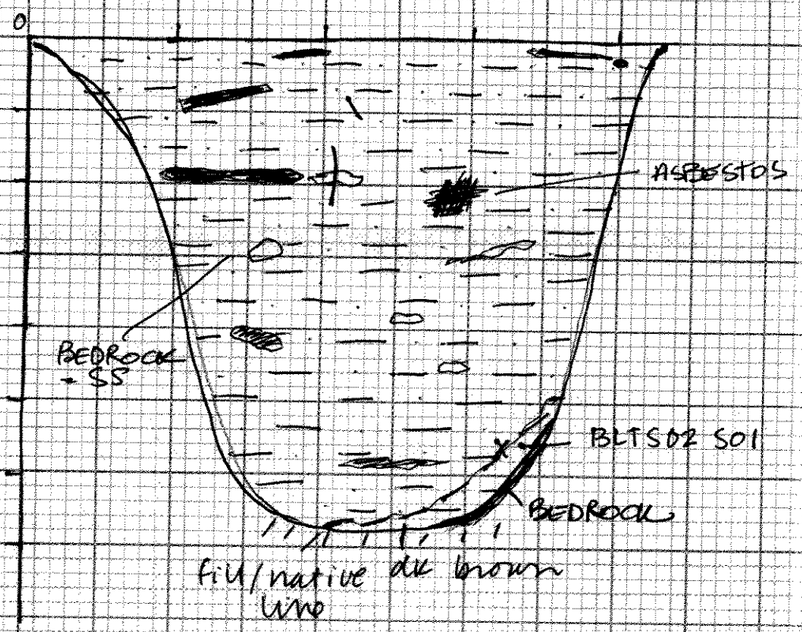
Plan View-Site Location
(Provide Sketch)



LENGTH (FEET)

ENTER TRENCH DIRECTION
SCALE:

H: 1.0" = ~~1'~~ 8'
V: 1.0" = ~~1'~~ 8'



DEPTH (FEET)

Silty Sand, SM, brown (5YR) to dark brown (7YR), dry at surface, moist @ ~2', concrete chunks, metal strapping asphalt + wood material, ~~BRK~~ asbestos suspect material, no visible staining or odor, no readings on PID

EXPLANATION

- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYTICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- G — GEOTECHNICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

BLTS02

Project Name: ROCKETDYNE SSFL					
Trench Number: BLTS03	Project Number: 1890812.0116	Elevation and Datum	Location: B 56 LANDFILL		
Equipment Supplier: B L HALL	Operator: DAN HALL	Date and Time Started: 8/20/03	Date and Time Completed: 8/20/03		
Equipment Type: EXCAVATOR	Trench Orientation: N20W	Total Depth: 6'	Total Number of Samples		
Bucket Width: ~3.5' / Trench Length: ~4'	Trench Width: 4'	No. of Samples: Bulk: Grab: 2	Drive	Hand Auger	
Geologist or Hydrogeologist/Date: BRONWYN K. KELLY		Checked by/Date			

FIELD TRENCH LOG

Sheet 1 of 1

Refusal (Circle One): Yes / No — If Yes: Depth = 6'

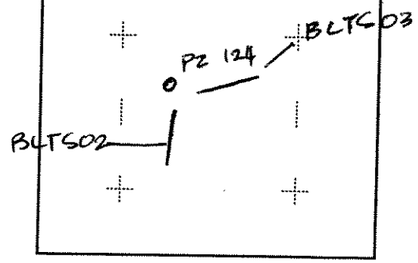
Photo? (Circle One): Yes / No — No.

% Man-Made Debris: 5%

Wall of Trench Shown (Circle One): N / S / E / W / NE / NW / SE / SW

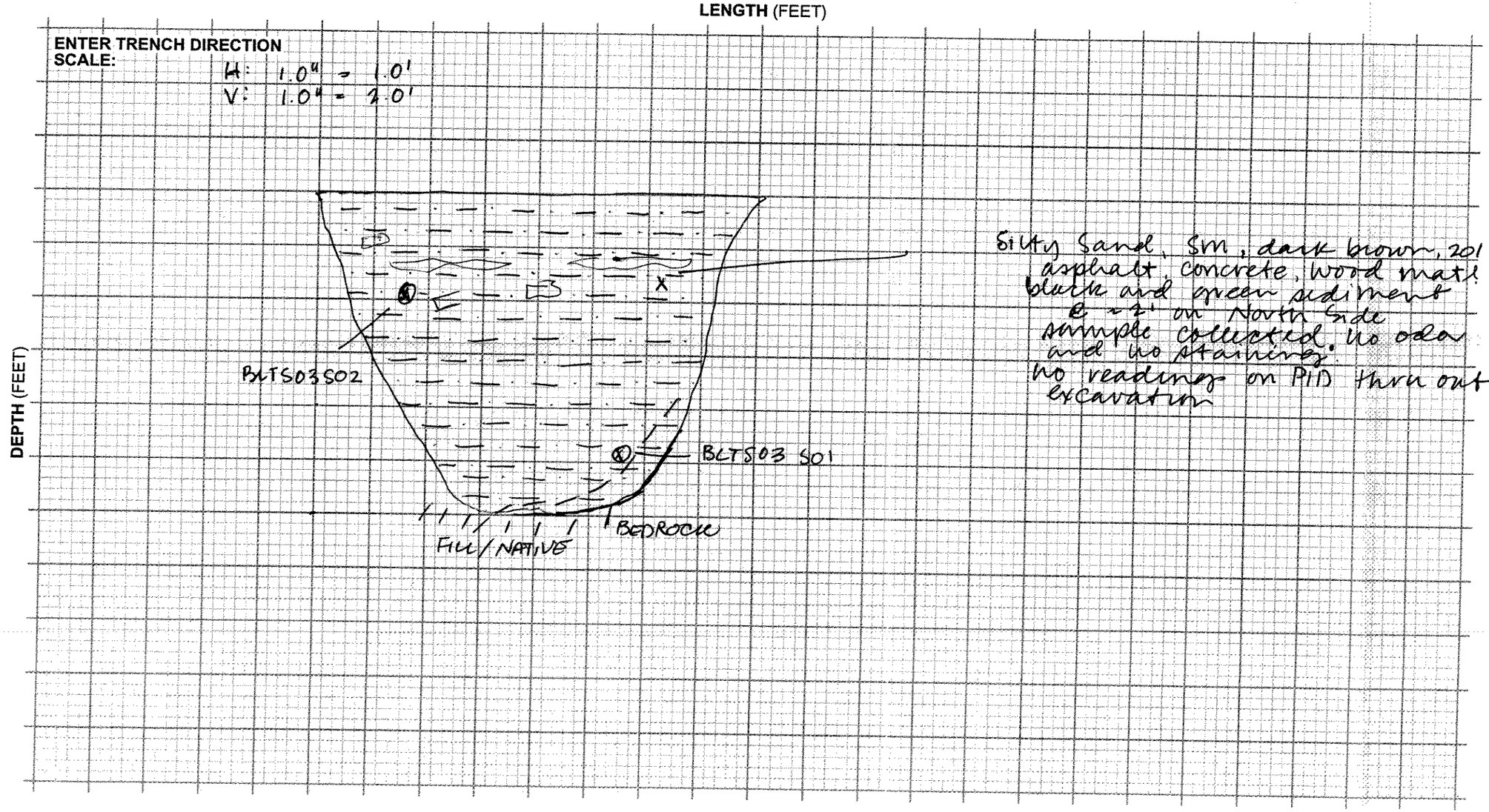
MWH

Plan View-Site Location
(Provide Sketch)



LENGTH (FEET)

ENTER TRENCH DIRECTION
SCALE: H: 1.0" = 1.0'
V: 1.0" = 2.0'



DEPTH (FEET)

Silty Sand, SM, dark brown, 20/40-20/ asphalt, concrete, wood matl black and green sediment @ ~2' on North side sample collected, no odor and no staining, no readings on PID thru out excavation

EXPLANATION

- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYTICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- G — GEOTECHNICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

BLTS03

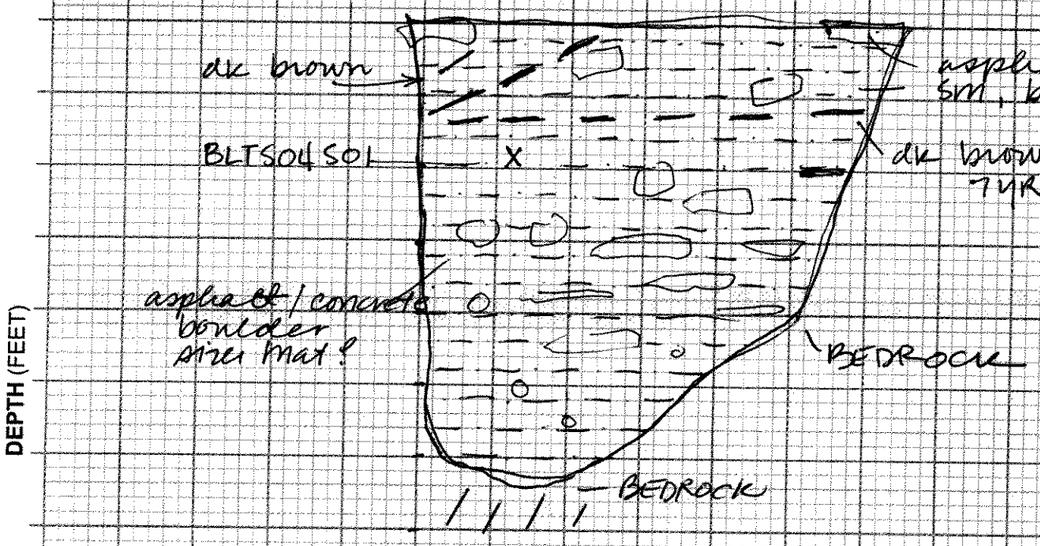
Project Name: ROCKETDYNE SSFL					
Trench Number: BLTS04	Project Number: 1890812.0116	Elevation and Datum:	Location: B 56 LANDFILL	Sheet 1 of 1	
Equipment Supplier: BR HALL	Operator: DAN HALL	Date and Time Started: 8/21/03 0830	Date and Time Completed: 8/21/03 0940	Refusal? (Circle One) Yes / No	If Yes Depth = 8½-12
Equipment Type: EXCAVATOR	Trench Orientation: N20E	Total Depth: 14'	Total Number of Samples: 1	Photo? (Circle One) Yes / No	No.
Bucket Width: 3.5 / Trench Length:	Trench Width: ~~4'~~ -6'	No. of Samples: 1 / Bulk: / Grab: 1	Drive: / Hand Auger:	% Man-Made Debris: 5-10%	
Geologist or Hydrogeologist/Date: BRONWYN K. KELLY		Checked by/Date:		Wall of Trench Shown (Circle One) N S E W NE NW SE SW	

FIELD TRENCH LOG

MWH

LENGTH (FEET)

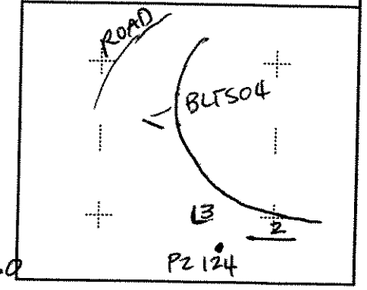
ENTER TRENCH DIRECTION
SCALE: H: 1.0" = 20"
V: 1.0" = 4.0



DEPTH (FEET)

Silty Sand, SM, brown (5YR) dry, concrete, wood material, 10/30/60 traces of asbestos mat? at surface moved off, abundant chunks of asphalt, metal piece, green plastic bag @ 4', Silty Sand SM brown and dry; Bedrock @ ~8.5' weathered sandstone tan, hard on eastern end 12' on western side

Plan View-Site Location
(Provide Sketch)



EXPLANATION

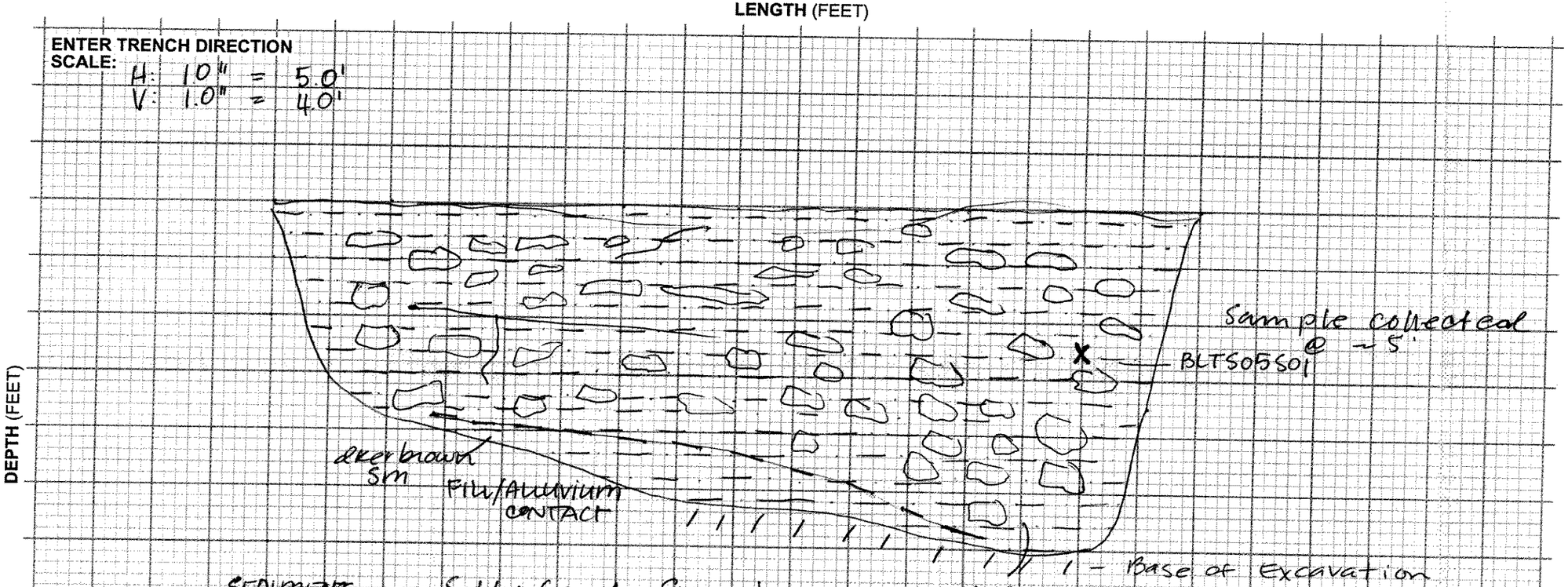
- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYTICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- G — GEOTECHNICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

BLTS04

Project Name: ROCKETDYNE SSFL				**FIELD TRENCH LOG**	
Trench Number: BLTS04~~BK~~05	Project Number: 1890812.0116	Elevation and Datum:		Location: B 56 LANDFILL	Sheet 1 of 1
Equipment Supplier: BL HALL	Operator: DAN HALL	Date and Time Started: 8/21/03		Date and Time Completed: 8/21/03	Refusal? (Circle One) Yes / No — If Yes Depth =
Equipment Type: EXCAVATOR	Trench Orientation: E/W	Total Depth: 8.5		Total Number of Samples: 1	Photo? (Circle One) Yes / No — No.
Bucket Width: 3.5' — Trench Length: ~~BK9.5~~ 40'	Trench Width: 4'	No. of Samples: Bulk: Grab: 1		Drive: Hand Auger:	% Man-Made Debris: 15%
Geologist or Hydrogeologist/Date: BRONWYN K. KELLY		Checked by/Date:			Wall of Trench Shown (Circle One) N S E W NE NW SE SW

LENGTH (FEET)

ENTER TRENCH DIRECTION
SCALE: H: 10" = 5.0'
V: 1.0" = 4.0'

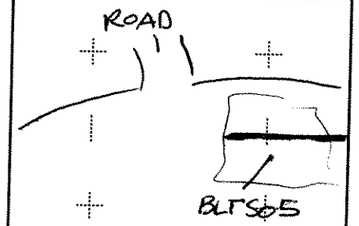


DEPTH (FEET)

SEDIMENT — Silty Sand, SM, brown, 10-20/50/30, dry
abundant asphalt and concrete
metal debris in make up gravel content
no odor (no readings on PID)
no visible staining
frags of bedrock mat'l, subangular
Bedrock at base of excavation

MWH

Plan View-Site Location
(Provide Sketch)



EXPLANATION

- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYTICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- G — GEOTECHNICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

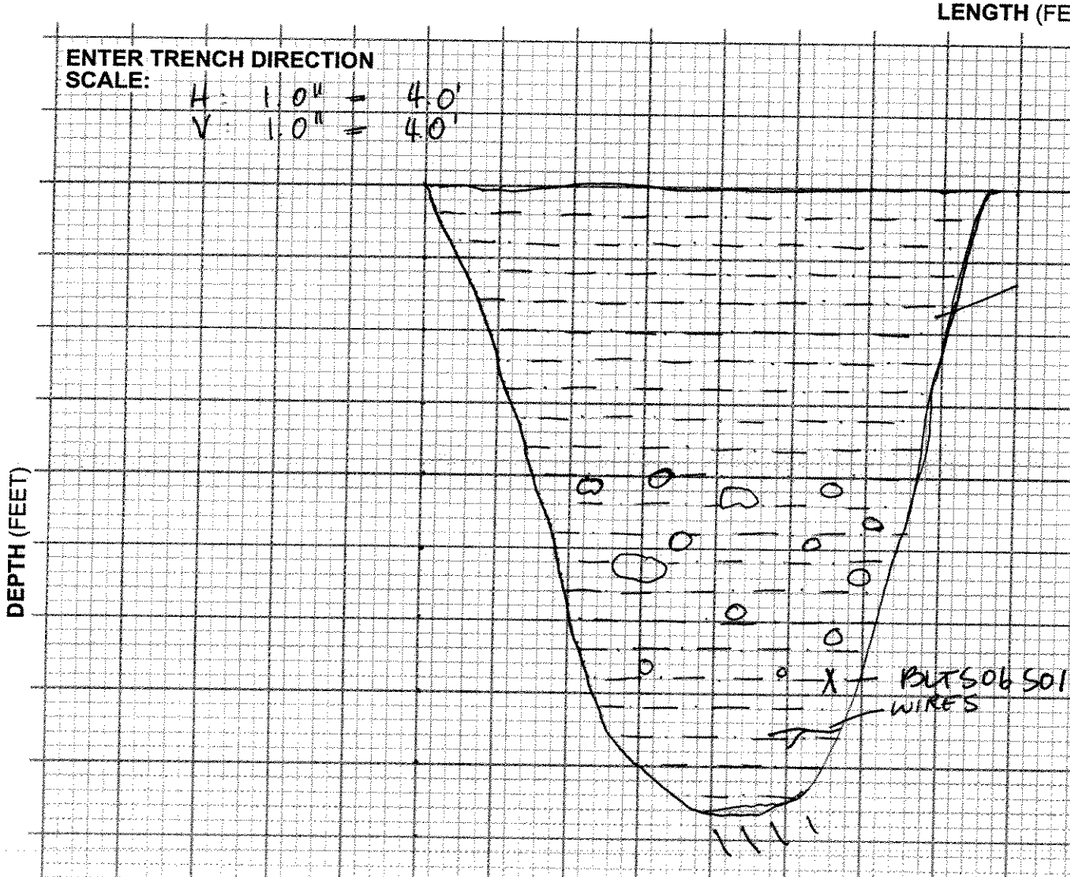
BLTS05

Project Name: ROCKETDYNE SSFL				**FIELD TRENCH LOG**	
Trench Number: BLTS06	Project Number: 1890812.0116	Elevation and Datum:		Location: B56 LANDFILL	Sheet 1 of 1
Equipment Supplier: B. HALL	Operator: DAN HALL	Date and Time Started: 8/21/03		Date and Time Completed: 8/21/03	Refusal? (Circle One) Yes / No — If Yes Depth =
Equipment Type: EXCAVATOR	Trench Orientation: E/W	Total Depth: 17'		Total Number of Samples:	Photos (Circle One) Yes / No — No.
Bucket Width: 3.5' — Trench Length: 14.5'	Trench Width: 3.5'-4'	No. of Samples: — Bulk: — Grab:		Drive: — Hand Auger: 1	% Man-Made Debris: 2%
Geologist or Hydrogeologist/Date: BRONWYN W. KELLY		Checked by/Date:			Wall of Trench Shown (Circle One) N S E W NE NW SE SW

LENGTH (FEET)

ENTER TRENCH DIRECTION
SCALE: H: 1.0" = 4.0'
V: 1.0" = 4.0'

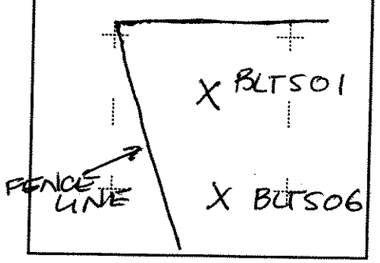
DEPTH (FEET)



Silty Sand
SM, brown 5YR, TR/60/40
fine sand and silt
Construction debris @ 8' (10–30)
asbestos material > gravel content increase to 10
No readings from PID (no odor)
No staining
Bedrock at base of excavation

MWH

Plan View-Site Location
(Provide Sketch)



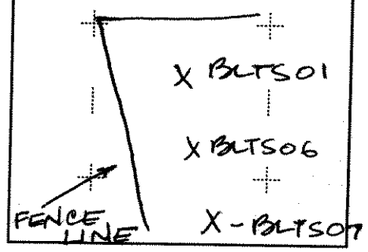
EXPLANATION

- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYTICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- G — GEOTECHNICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

Project Name: ROCKETDYNE SSFL				**FIELD TRENCH LOG**	
Trench Number: BLTS07	Project Number: 1890812.0116	Elevation and Datum:		Location: B 56 LANDFILL	Sheet 1 of 1
Equipment Supplier: BL HALL	Operator: DAN HALL	Date and Time Started: 8/22/03		Date and Time Completed: 8/22/03 1138	Refusal? (Circle One) Yes / No — If Yes Depth =
Equipment Type: EXCAVATOR	Trench Orientation: E/W	Total Depth: 16'		Total Number of Samples	Photo? (Circle One) Yes / No — No.
Bucket Width: 3.5 — Trench Length: 18.7	Trench Width: 4'	No. of Samples: — Bulk: — Grab:		Drive — Hand Auger	% Man-Made Debris: 20%
Geologist or Hydrogeologist/Date: BRONWYN K. KELLY		Checked by/Date:			Wall of Trench Shown (Circle One) N / S / E / W / NE / NW / SE / SW

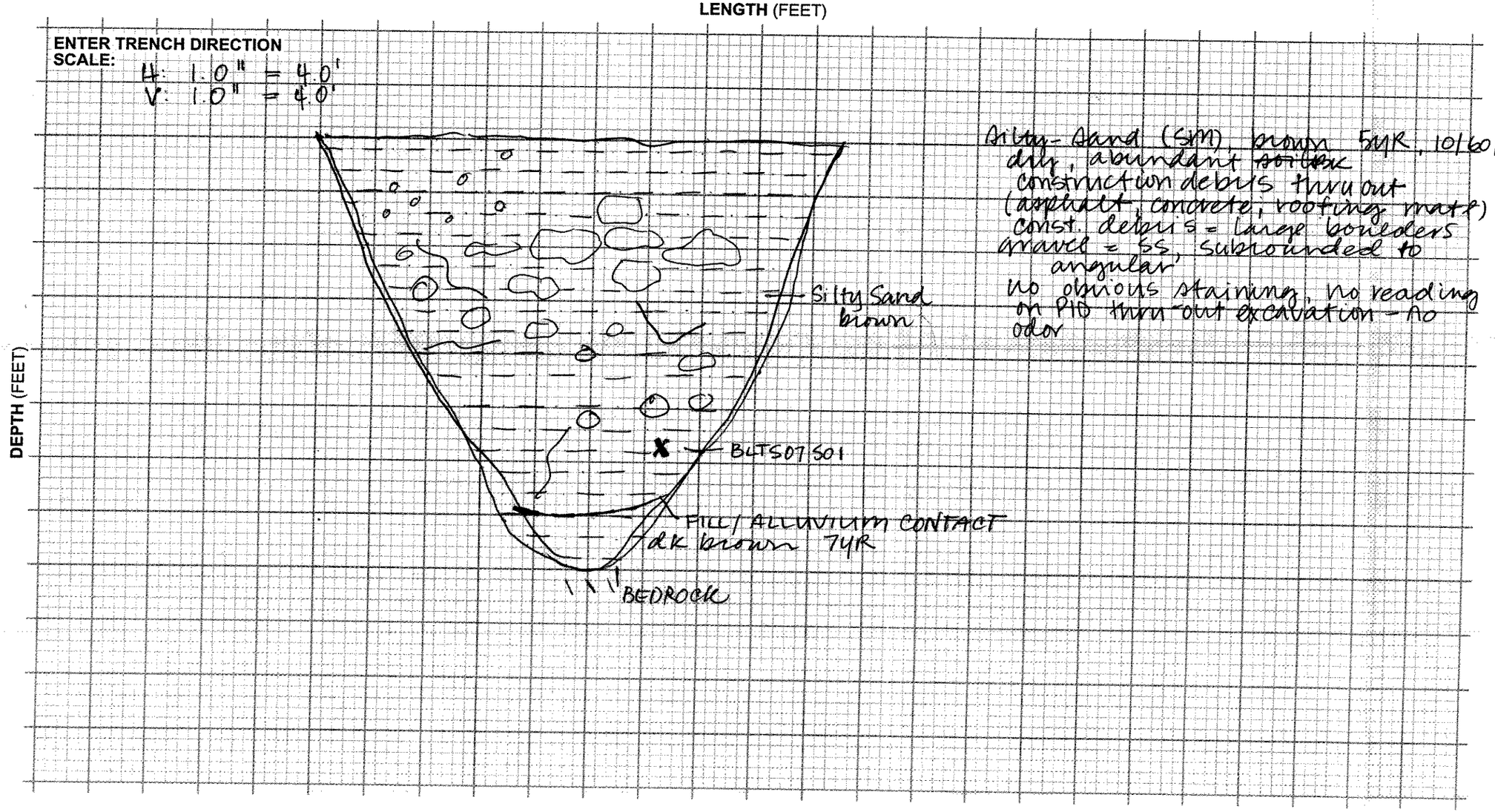
MWH

Plan View-Site Location
(Provide Sketch)



LENGTH (FEET)

ENTER TRENCH DIRECTION
SCALE: H: 1.0" = 4.0'
V: 1.0" = 4.0'



DEPTH (FEET)

Dirty - sand (SM), brown 5YR, 10/60/30 dry, abundant construction debris thru out (asphalt, concrete, roofing matl) const. debris = large boulders gravel = ss, subrounded to angular
no obvious staining, no reading on PID thru-out excavation - no odor

EXPLANATION

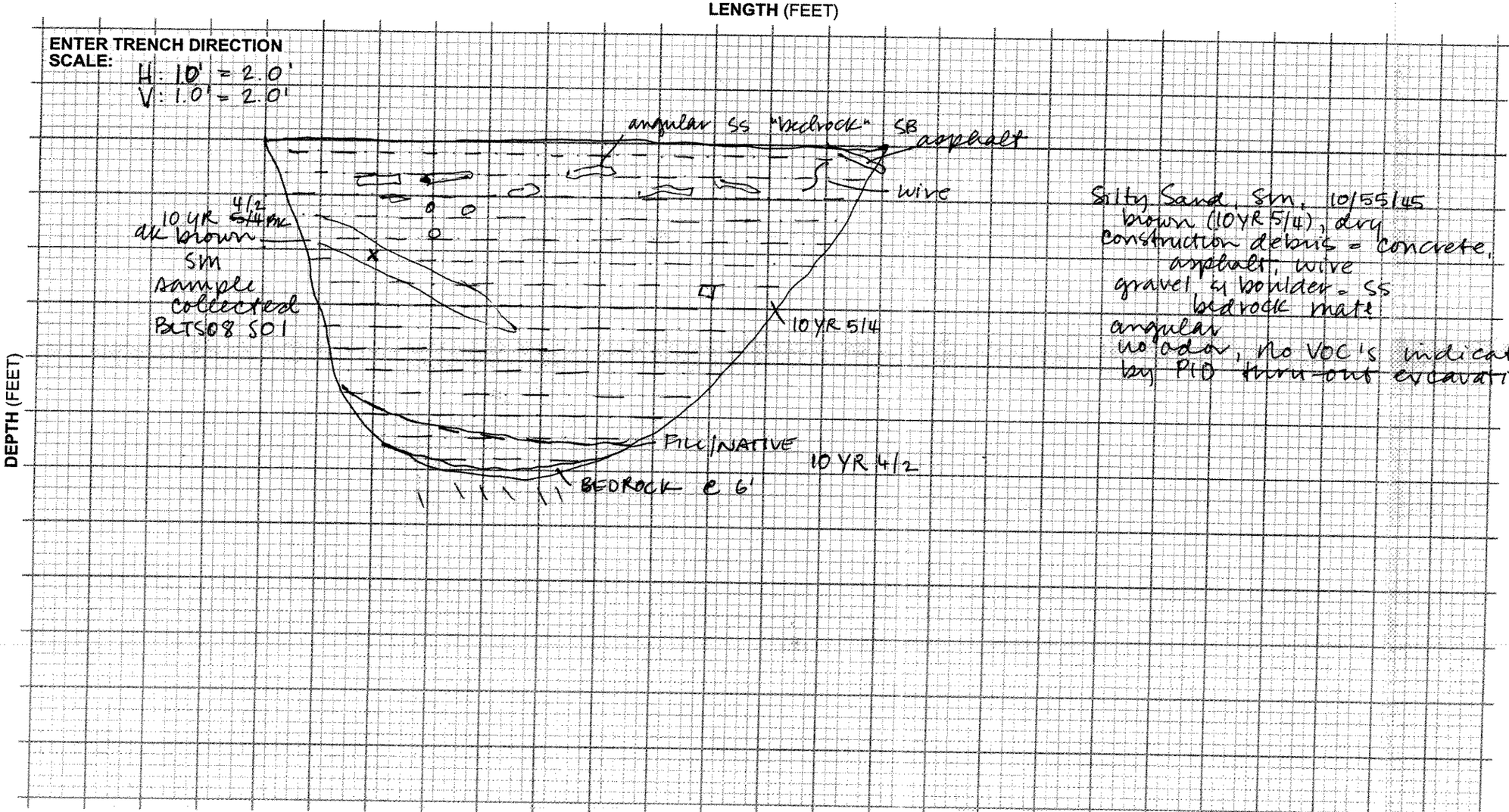
- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYTICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- G — GEOTECHNICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

Project Name: ROCKETDYNE SSFL				**FIELD TRENCH LOG**	
Trench Number: BLTS08	Project Number: 189081 2.0116	Elevation and Datum:		Location: BS6 LANDFILL	Sheet 1 of 1
Equipment Supplier: BC HALL	Operator: DAN HALL	Date and Time Started: 8/22/03		Date and Time Completed: 8/22/03	Refusal? (Circle One) Yes / No — If Yes Depth = 6' BGS
Equipment Type: EXCAVATOR	Trench Orientation: N/S	Total Depth: 6.0'		Total Number of Samples: 1	Photo? (Circle One) Yes / No — No.
Bucket Width: 3.5 — Trench Length: 12'	Trench Width: 4	No. of Samples: — Bulk: — Grab:		Drive: — Hand Auger: 1	% Man-Made Debris: 2-5%
Geologist or Hydrogeologist/Date: BRONWYN KELLY		Checked by/Date:			Wall of Trench Shown (Circle One): N S E W NE NW SE SW

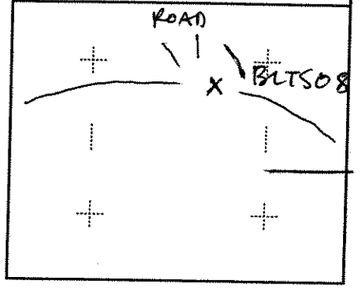
LENGTH (FEET)

DEPTH (FEET)

ENTER TRENCH DIRECTION
SCALE: H: 10' = 2.0'
V: 1.0' = 2.0'



Plan View-Site Location
(Provide Sketch)



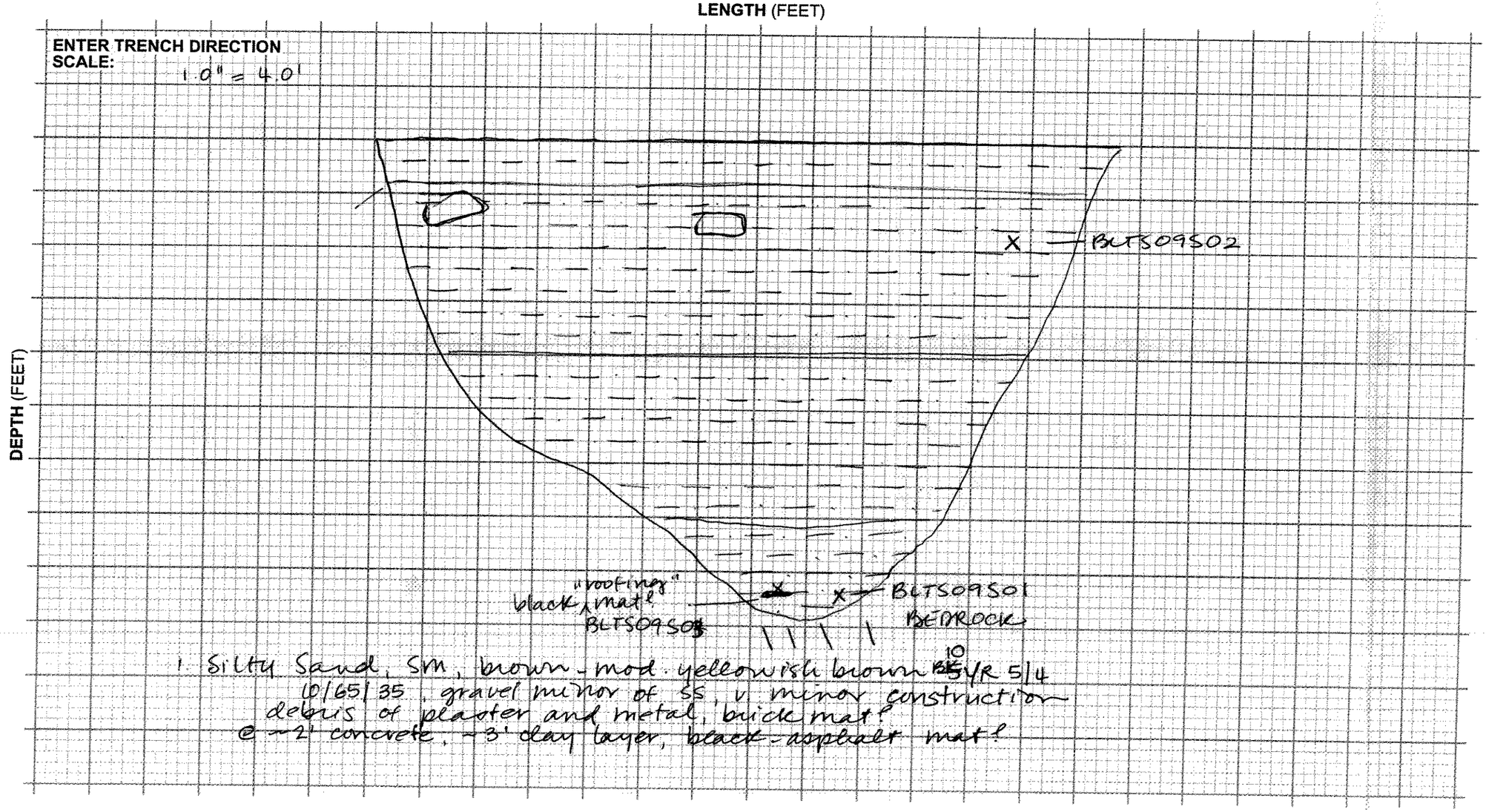
EXPLANATION

- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYTICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- G — GEOTECHNICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

Project Name: ROCKETDYNE SSFL				**FIELD TRENCH LOG**	
Trench Number: BLTS09	Project Number: 1890812.0116	Elevation and Datum		Location: B56 LANDFILL	Sheet 1 of 1
Equipment Supplier: B&L HALL	Operator: DAN HALL	Date and Time Started: 8/22/03		Date and Time Completed: 8/22/03	Refusal? (Circle One) Yes / No — If Yes, Depth =
Equipment Type: EXCAVATOR	Trench Orientation: N/S	Total Depth: 18'		Total Number of Samples	Photo? (Circle One) Yes / No — No.
Bucket Width: 3.5' — Trench Length: ~7	Trench Width: 4'	No. of Samples	Bulk / Grab	Drive / Hand Auger	% Man-Made Debris: 5-10 %
Geologist or Hydrogeologist/Date: PRONUNN K. KELLY		Checked by/Date			Wall of Trench Shown (Circle One) N S E W NE NW SE SW

LENGTH (FEET)

ENTER TRENCH DIRECTION
SCALE: 1.0" = 4.0'

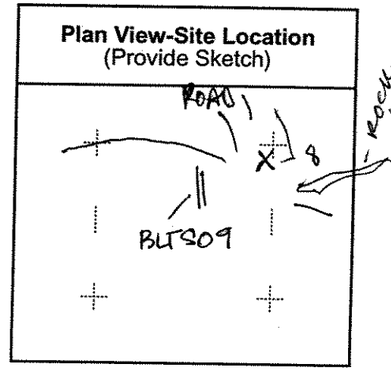


DEPTH (FEET)

1. Silty Sand, SM, brown - mod. yellowish brown 10YR 5/4 10/65/35, gravel minor of SS, v. minor construction debris of plaster and metal, brick mat? @ ~2' concrete, ~3' clay layer, black - asphalt mat?

MWH

Plan View-Site Location
(Provide Sketch)



EXPLANATION

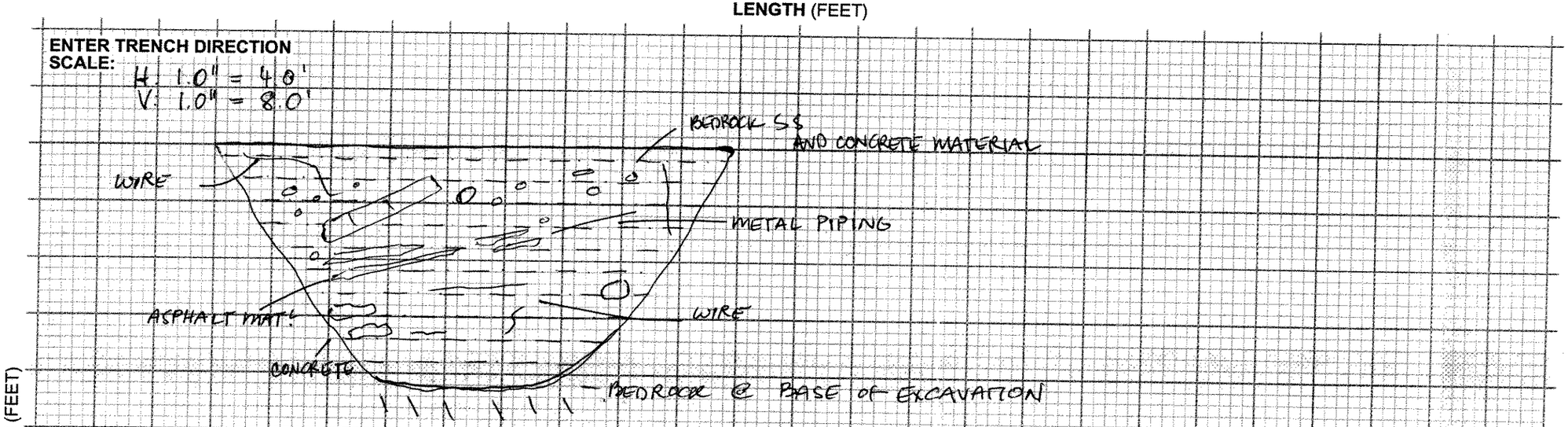
- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYTICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- G — GEOTECHNICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

FIELD TRENCH LOG

Project Name: ROCKETDYNE SSFL				Location: B56 LANDFILL	Sheet 1 of 1
Trench Number: BLTS10	Project Number: 1890812.0116	Elevation and Datum		Date and Time Completed: 8/25/03 1200	Refusal? (Circle One) Yes / No — If Yes Depth =
Equipment Supplier: BL HALL	Operator: DAN HALL	Date and Time Started: 8/25/03 0800		Total Number of Samples	Photo? (Circle One) Yes / No — No.
Equipment Type: EXCAVATOR	Trench Orientation: N/S	Total Depth: 17'		Drive / Hand Auger	% Man-Made Debris: 40%
Bucket Width: ~3.5 — Trench Length: 17	Trench Width: 4.0'	No. of Samples / Bulk / Grab			Wall of Trench Shown (Circle One) N S E W NE NW SE SW
Geologist or Hydrogeologist/Date: BRONWYN K. KELLY		Checked by/Date			

LENGTH (FEET)

ENTER TRENCH DIRECTION
SCALE: H: 1.0" = 4.0'
V: 1.0" = 8.0'

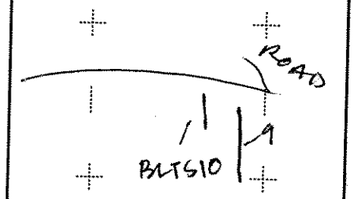


DEPTH (FEET)

1. Silty Sand, SM to GM, Gravelly Silty Sand, 20/60/20
brown 10YR 5/4, gravel = SS and const. debris, angular
Asbestos containing material @ ~3' - roofing mat?, and drywall
dry
Silty Sand, 10/60/30 @ ~5' mt/clay and f sand
Bedrock at 17'
No odor or ~~PID~~ VOC readings on PID thru-out excavation

MWH

Plan View-Site Location
(Provide Sketch)



EXPLANATION

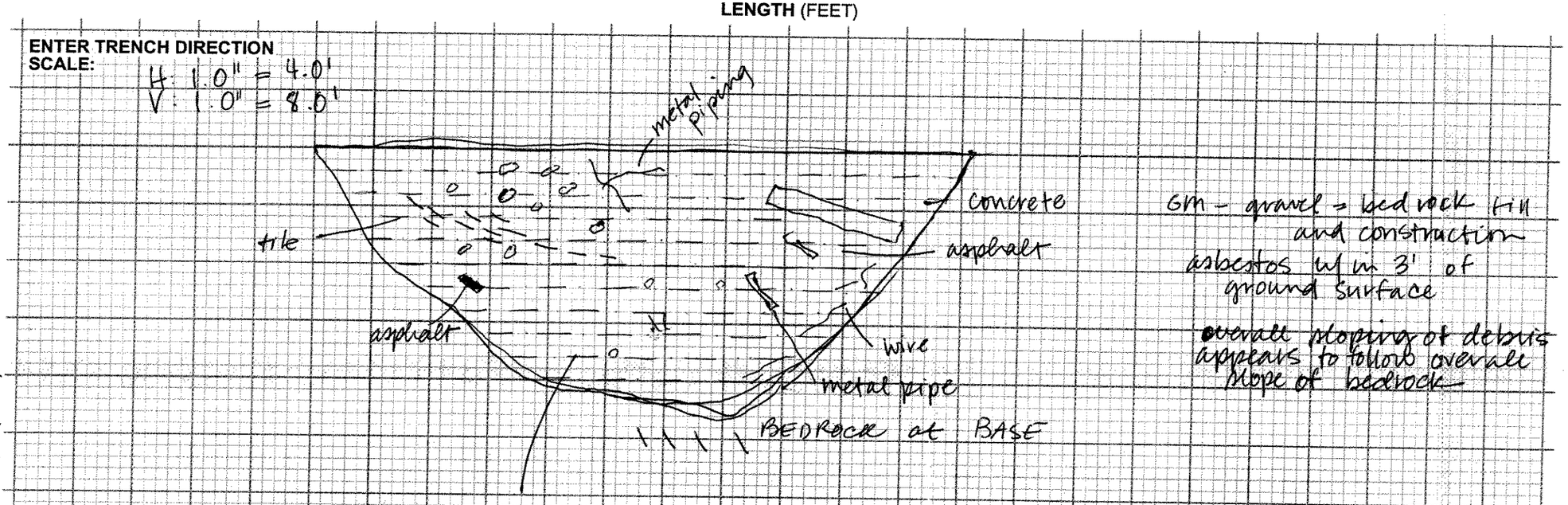
- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYTICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- G — GEOTECHNICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

Project Name: ROCKETDYNE SSFL				**FIELD TRENCH LOG**	
Trench Number: BLTS11	Project Number: 1890812.0116	Elevation and Datum:		Location: B56 LANDFILL	Sheet 1 of 1
Equipment Supplier: BL HALL	Operator: DAN HALL	Date and Time Started: 8/25/03		Date and Time Completed: 8/26/03	Refusal? (Circle One) Yes / No — If Yes: Depth =
Equipment Type: EXCAVATOR	Trench Orientation: N/S	Total Depth: 17'		Total Number of Samples:	Photos (Circle One) Yes / No — No.
Bucket Width: ~3.5' / Trench Length: 22'	Trench Width: 4'	No. of Samples:	Bulk: / Grab:	Drive: / Hand Auger:	% Man-Made Debris: 60%
Geologist or Hydrogeologist/Date: BRONWYN K. KELLY		Checked by/Date:			Wall of Trench Shown (Circle One) N S E W NE NW SE SW

LENGTH (FEET)

DEPTH (FEET)

ENTER TRENCH DIRECTION
SCALE: H: 1.0" = 4.0'
V: 1.0" = 8.0'



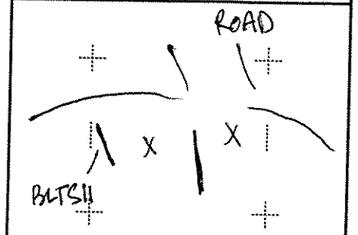
GM - gravel - bedrock fill and construction asbestos w/in 3' of ground surface

overall sloping of debris appears to follow overall slope of bedrock

Silty - gravels, GM, gravel - sand - silt mixture, 20/30/50 (GR/FS/CL %)
10YR 5/4
gravels - SS, subangular
Large debris of concrete, asphalt, metal, plastics, wire and Asbestos (?) material
No odor or staining, No readings on PID - air monitoring equip.
turn-out excavation

MWH

Plan View-Site Location
(Provide Sketch)



EXPLANATION

- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYTICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- G — GEOTECHNICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

FIELD TRENCH LOG

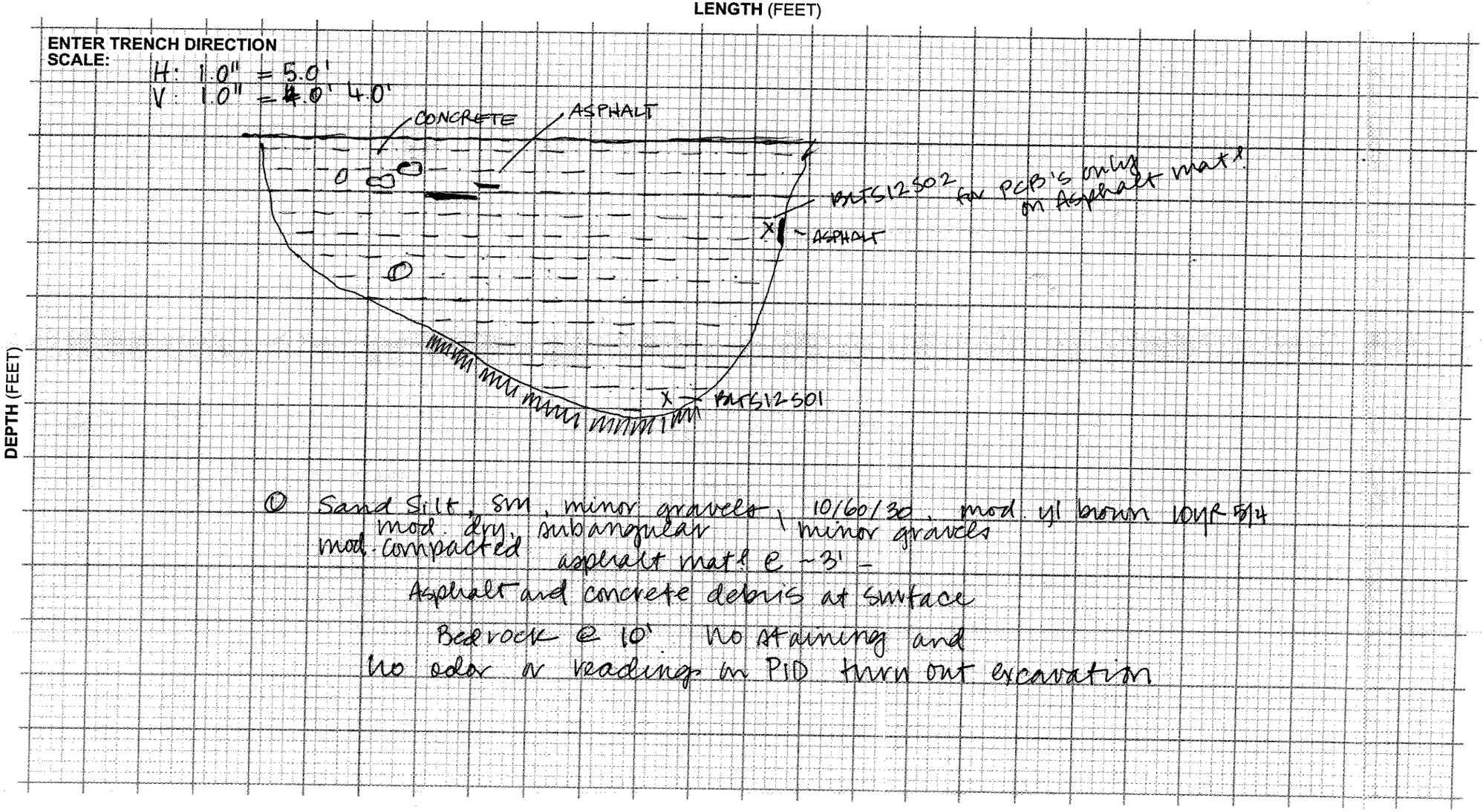
MWH

Project Name: ROCKETDYNE SSFL				Location: BG6 LANDFILL	Sheet 1 of 1
Trench Number: BLTS12	Project Number: 1890812.0116	Elevation and Datum		Date and Time Completed: 08/26/03	Refusal? (Circle One) Yes / No — If Yes: Depth =
Equipment Supplier: B& HALL	Operator: DAN HALL	Date and Time Started: 08/26/03		Total Number of Samples: 5	Photo? (Circle One) Yes / No — No.
Equipment Type: EXCAVATOR	Trench Orientation: E/W	Total Depth: 10'		Drive	Hand Auger: 3
Bucket Width: ~3.5'	Trench Length: 24'	Trench Width: 4'	No. of Samples: Bulk / Grab: 2		% Man-Made Debris: 5%
Geologist or Hydrogeologist/Date: BRONWYN K. KELLY		Checked by/Date			Wall of Trench Shown (Circle One) N S E W NE NW SE SW

LENGTH (FEET)

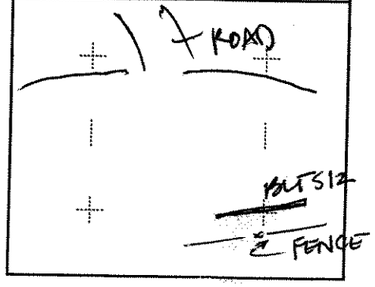
ENTER TRENCH DIRECTION
SCALE: H: 1.0" = 5.0'
V: 1.0" = ~~4.0'~~ 4.0'

DEPTH (FEET)



① Sand Silt, SM, minor gravels, 10/60/30, mod. yl brown 10yr 5/4 mod. dry, subangular / minor gravels mod. compacted asphalt mat'l @ ~3' -
Asphalt and concrete debris at surface
Bedrock @ 10' No staining and no odor or readings on PID turn out excavation

Plan View-Site Location
(Provide Sketch)



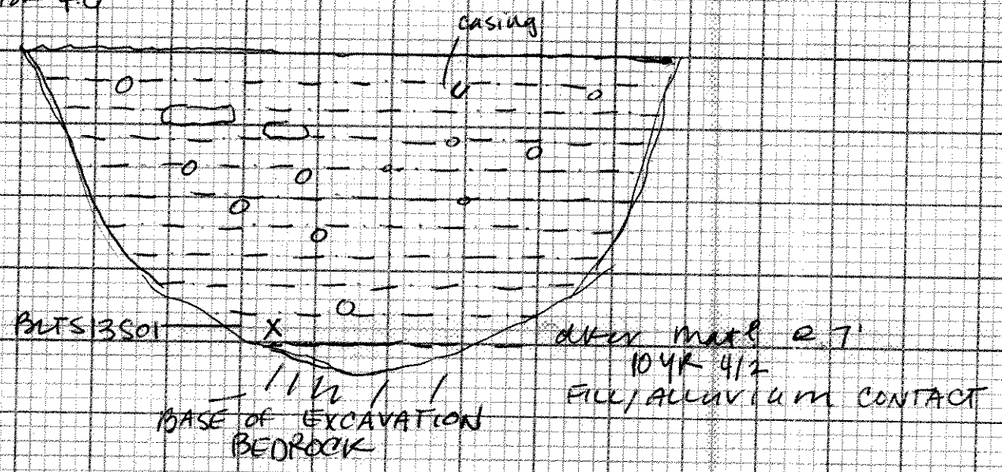
EXPLANATION

- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYTICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- G — GEOTECHNICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

Project Name: ROCKETDYNE SSFL				**FIELD TRENCH LOG**	
Trench Number: BLTS13	Project Number: 1890812.0116	Elevation and Datum		Location: B56 LANDFILL	Sheet 1 of 1
Equipment Supplier: BL HALL	Operator: DAN HALL	Date and Time Started: 9/2/03		Date and Time Completed: 9/2/03	Refusal? (Circle One) Yes / No — If Yes Depth:
Equipment Type: EXCAVATOR	Trench Orientation: N/S	Total Depth: 9'		Total Number of Samples: 2	Photo? (Circle One) Yes / No — No.
Bucket Width: ~3.5' / Trench Length: 16'	Trench Width: 4'	No. of Samples: Bulk: Grab: 1 ~~2~~		Drive: Hand Auger: 1	% Man-Made Debris: 5%
Geologist or Hydrogeologist/Date: BRONWYN K. KELLY		Checked by/Date			Wall of Trench Shown (Circle One): N S E W NE NW SE SW

LENGTH (FEET)

ENTER TRENCH DIRECTION
SCALE: H: 1.0" = 4.0'
V: 1.0" = ~~2.0~~ 4.0'

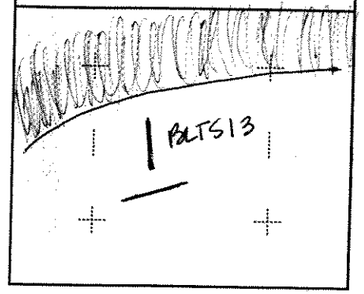


DEPTH (FEET)

GM/SM Gravel-f sand-silt mixture 20/60/20
mod to poorly sorted, mod compacted
yl. brown 10YR 5/4, minor concrete and asphalt mat?
no odors~~/~~ or staining, no reading on PID
thru-out excavation

MWH

Plan View-Site Location
(Provide Sketch)



EXPLANATION

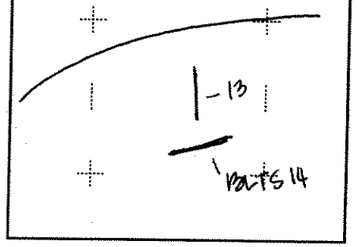
- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYTICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- G — GEOTECHNICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

FIELD TRENCH LOG

Project Name: ROCKETDYNE SSFL				Location: B56 LANDFILL	Sheet 1 of 1
Trench Number: BLTS 14	Project Number: 1890812.0116	Elevation and Datum		Date and Time Completed: 9/2/03	Release (Circle One) Yes / No — If Yes Depth =
Equipment Supplier: BL HALL	Operator: DAN HALL	Date and Time Started: 9/2/03		Total Number of Samples	Photos (Circle One) Yes / No — No.
Equipment Type: EXCAVATOR	Trench Orientation: E/W	Total Depth: 18'		Drive / Hand Auger	% Man-Made Debris: 20 %
Bucket Width: 3.5' — Trench Length: 26'	Trench Width: 4'	No. of Samples / Bulk / Grab			Year of Trench Shown (Circle One) N S E W NE NW SE SW
Geologist or Hydrogeologist/Date: BRONWYN K. KELLY		Checked by/Date			

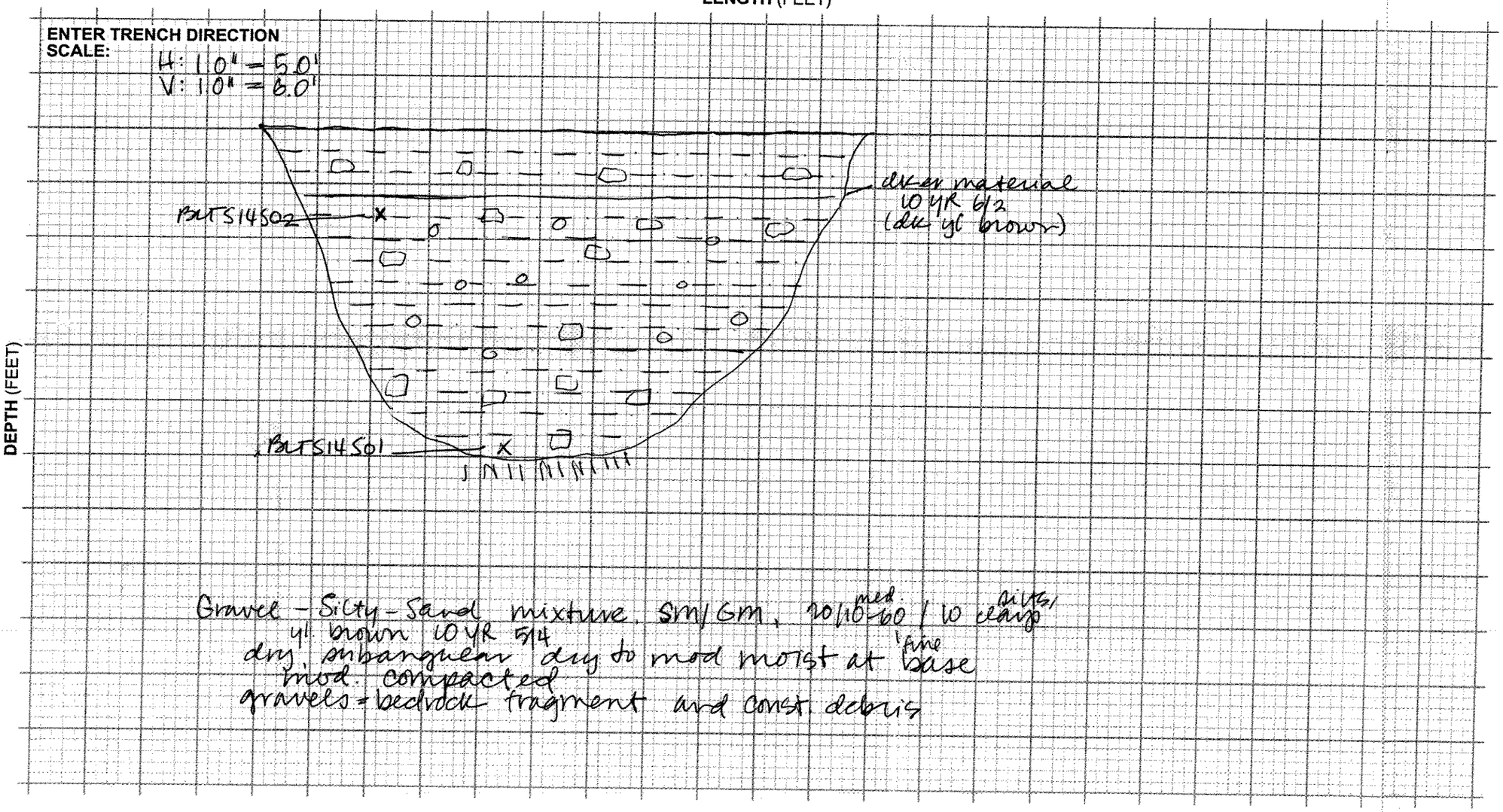
MWH

Plan View-Site Location
(Provide Sketch)



LENGTH (FEET)

ENTER TRENCH DIRECTION
SCALE: H: 1"=5.0'
V: 1"=6.0'



DEPTH (FEET)

Gravel - Silty - Sand mixture. SM/GM. 20/10 med-60 / 10 silts/clays
4" brown 10YR 5/4 fine
dry, subangular dry to mod moist at base
mod. compacted
gravels = bedrock fragment and const. debris

EXPLANATION

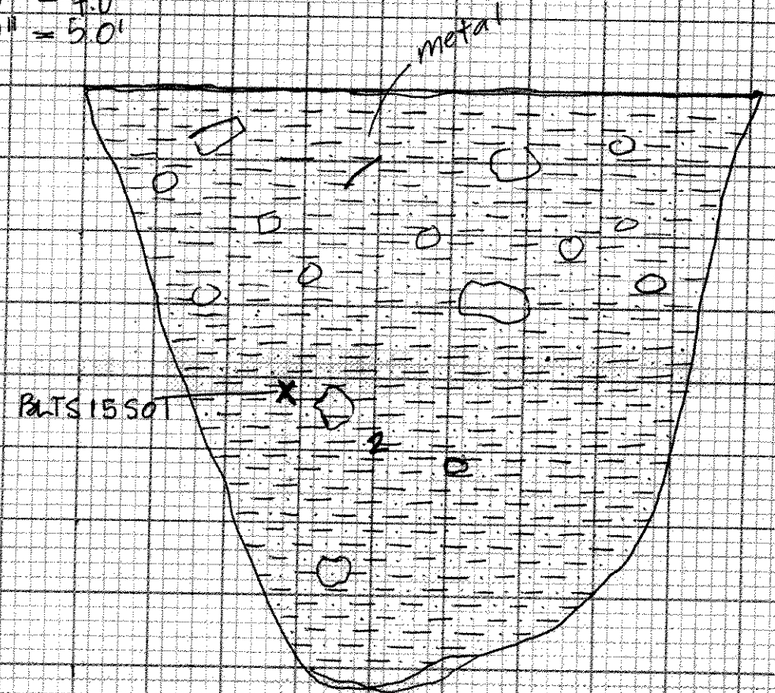
- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYTICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- G — GEOTECHNICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

FIELD TRENCH LOG

Project Name: ROCKETDYNE SSFL					
Trench Number: BLTS 15	Project Number: 1890812.0116	Elevation and Datum:	Location: BLG LANDFILL	Sheet 1 of 1	
Equipment Supplier: BL HALL	Operator: DAN HALL	Date and Time Started: 9/2/03	Date and Time Completed: 9/2/03	Refusal? (Circle One) Yes / No — If Yes Depth =	
Equipment Type: EXCAVATOR	Trench Orientation: N80E	Total Depth: 22'	Total Number of Samples:	Photos? (Circle One) Yes / No — No.	
Bucket Width: ~3.5' — Trench Length: 18'	Trench Width: 4'	No. of Samples: — Bulk: — Grab:	Drive: — Hand Auger:	% Man-Made Debris: 20-40%	
Geologist or Hydrogeologist/Date: BRONWYN K. KELLY		Checked by/Date:		Wall of Trench Shown (Circle One): N S E W NE NW SE SW	

LENGTH (FEET)

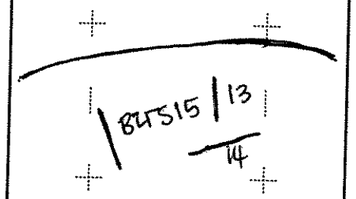
ENTER TRENCH DIRECTION
SCALE: H: 1.0" = 4.0'
V: 1.0" = 5.0'



1. SM/GM Gravel-sand-silt mixture 10/60-60/20
brown, 10YR 5/4, dry, compacted
Gravel = const. debris (concrete, metal debris and bedrock matl, reddish brown (5YR 4/4)
~8' bgs large const. debris
2. SM, Sand Silt minor fines FR-10/20(med)-60(fine sand)/10
no readings on PID thru-out excavation

MWH

Plan View-Site Location
(Provide Sketch)



EXPLANATION

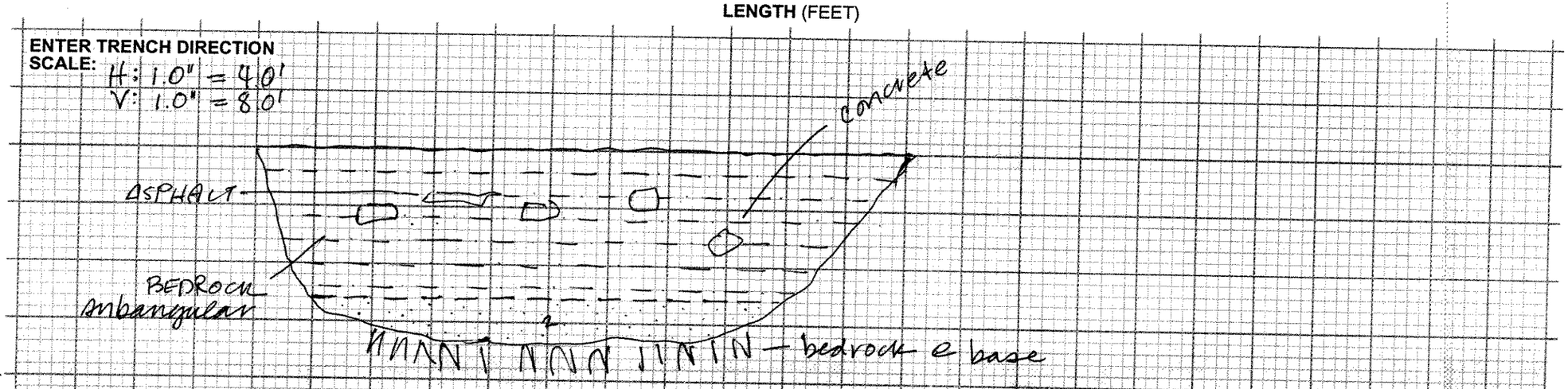
- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYTICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- G — GEOTECHNICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

Project Name: ROCKETDYNE SSFL				**FIELD TRENCH LOG**	
Trench Number: BLTS16	Project Number: 1890812.0116	Elevation and Datum:		Location: B56 LANDFILL	Sheet 1 of 1
Equipment Supplier: B& HALL	Operator: DAN HALL	Date and Time Started: 9/2/03		Date and Time Completed: 9/2/03	Refusal? (Circle One) Yes No — If Yes Depth =
Equipment Type: EXCAVATOR	Trench Orientation: N17E	Total Depth: 13'		Total Number of Samples:	Photo? (Circle One) Yes No — No.
Bucket Width: ~3.5' — Trench Length: 22'	Trench Width: 4'	No. of Samples:	Bulk: Grab:	Drive: Hand Auger:	% Man-Made Debris: 20%
Geologist or Hydrogeologist/Date: BRONWYN K. KELLY		Checked by/Date:			Wall of Trench Shown (Circle One) N S E W NE NW SE SW

LENGTH (FEET)

DEPTH (FEET)

ENTER TRENCH DIRECTION
SCALE: H: 1.0" = 4.0'
V: 1.0" = 8.0'

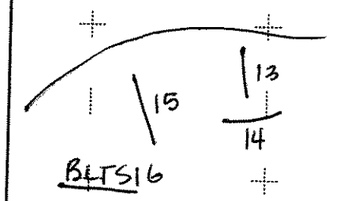


1 SM, Silty-sand, brown 10YR 5/4, 20/10-50/20 compacted, Gravels = const. debris and bedrock material

2 Becoming sandier, ~~SSBL~~ SP, 10/10 med - 70 fine / TR lt. 10YR 7/4, well sorted, mod compacted
No reading on PID during excavation
No staining observed

MWH

Plan View-Site Location
(Provide Sketch)



EXPLANATION

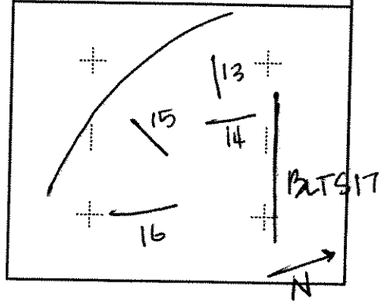
- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYTICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- G — GEOTECHNICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

FIELD TRENCH LOG

Project Name: ROCKETDYNE SSFL				Location: B56 LANDFILL	Sheet 1 of 1
Trench Number: BLTS 17	Project Number: 1890812.0116	Elevation and Datum		Date and Time Completed: 9/2/03	Refusal? (Circle One) (Yes) No — If Yes Depth =
Equipment Supplier: BL HALL	Operator: DAN HALL	Date and Time Started: 9/2/03		Total Number of Samples	Photo? (Circle One) (Yes) No — No.
Equipment Type: EXCAVATOR	Trench Orientation: N40E	Total Depth: 12'		Drive / Hand Auger	% Man-Made Debris: 25%
Bucket Width: 3.5' / Trench Length: 40'	Trench Width: 4'	No. of Samples / Bulk / Grab			Wall of Trench Shown (Circle One) N S E W NE NW SE SW
Geologist or Hydrogeologist/Date: BRONWYN K. KELLY		Checked by/Date			

MWH

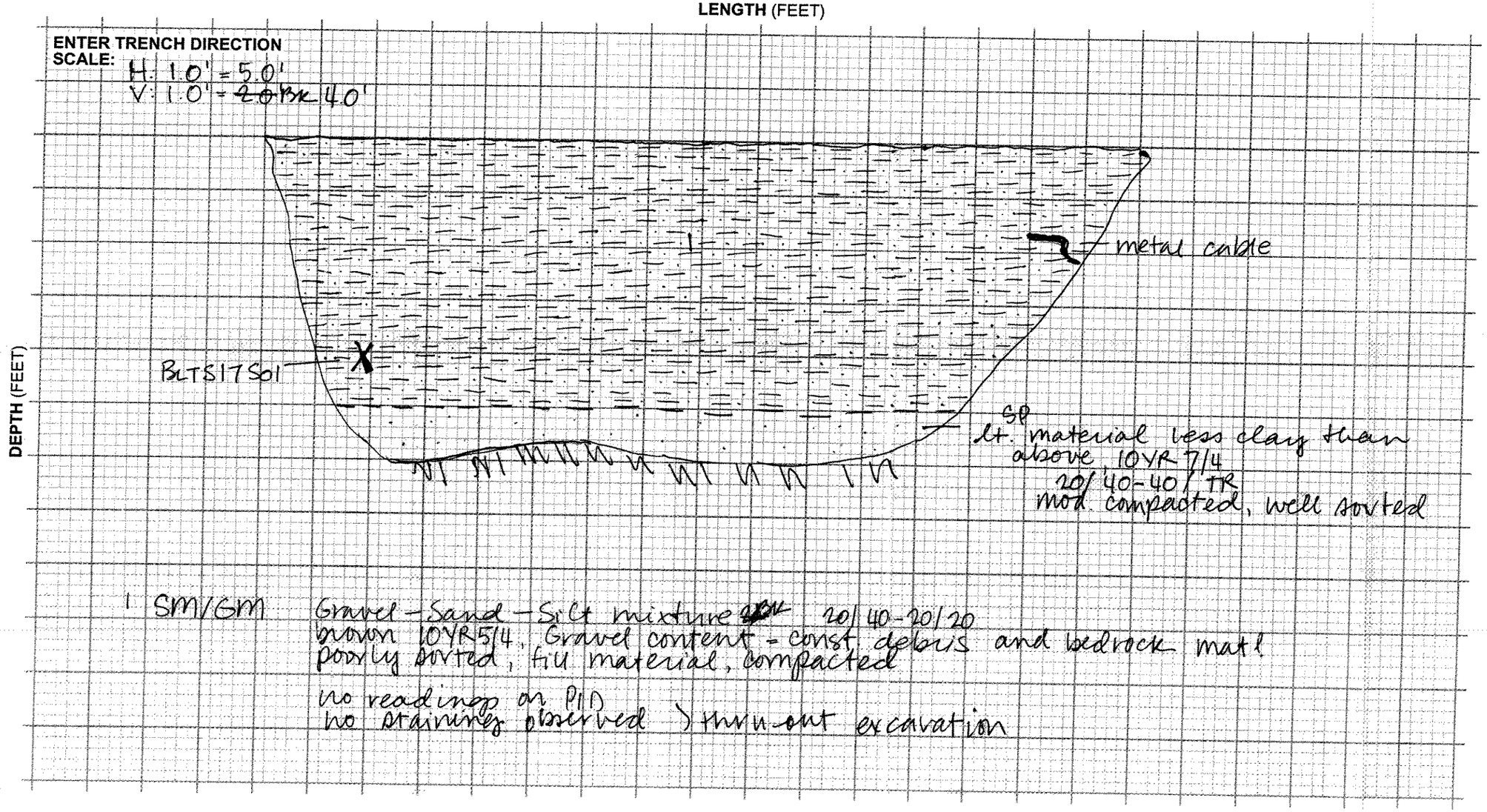
Plan View-Site Location
(Provide Sketch)



LENGTH (FEET)

ENTER TRENCH DIRECTION
SCALE: H: 1.0' = 5.0'
V: 1.0' = ~~2.0~~ Bk 40'

DEPTH (FEET)



1 SM/GM Gravel-Sand-Silt mixture ~~20%~~ 20/40-20/20
brown 10YR 5/4, Gravel content = const. debris and bedrock matl
poorly sorted, fill material, compacted
no readings on PID
no staining observed } throughout excavation

EXPLANATION

- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYTICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- G — GEOTECHNICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

Project Name: ROCKETDYNE SSFL				**FIELD TRENCH LOG**	
Trench Number: BLTS18	Project Number: 1890812.0116	Elevation and Datum:		Location: B56 LANDFILL	Sheet 1 of 1
Equipment Supplier: BL HALL	Operator: DAN HALL	Date and Time Started: 9/2/03		Date and Time Completed: 9/2/03	Refusal? (Circle One) Yes No — If Yes Depth =
Equipment Type: EXCAVATOR	Trench Orientation: N40E	Total Depth: 13		Total Number of Samples	Photo? (Circle One) Yes No — No.
Bucket Width: ~3.5' — Trench Length: 15.5'	Trench Width: 4'	No. of Samples	Bulk / Grab	Drive / Hand Auger	% Man-Made Debris
Geologist or Hydrogeologist/Date: BRONWYN K. KELLY		Checked by/Date			Wall of Trench Shown (Circle One) N S E W NE NW SE SW

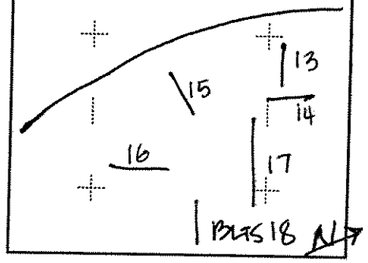
LENGTH (FEET)

ENTER TRENCH DIRECTION
SCALE: H: 1.0' =
V: 1.0' =

DEPTH (FEET)

SM SILTY SAND, brown 10YR 5/4
minor gravel 10/20-60/10
Gravels = SS - bedrock debris
subangular mod. compacted
no odor, no staining observed
no const. debris

Plan View-Site Location
(Provide Sketch)



EXPLANATION

- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYTICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- G — GEOTECHNICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

FIELD TRENCH LOG

Project Name: ROCKETDYNE SSFL				Location: B56 LANDFILL	Sheet 1 of 1
Trench Number: BLTS19	Project Number: 1890812.0116	Elevation and Datum:		Date and Time Completed: 9/2/03	Retrieval? (Circle One) Yes / No — If Yes Depth =
Equipment Supplier: BL HALL	Operator: DAN HALL	Date and Time Started: 9/2/03		Total Number of Samples: ~~0~~ 1	Photo? (Circle One) Yes / No — No.
Equipment Type: EXCAVATION ~~OR~~ Backhoe	Trench Orientation: E/W	Total Depth: 13'		Drive:	Hand Auger:
Bucket Width: 3.5	Trench Length: 15.5'	Trench Width: 4'	No. of Samples:	Bulk:	Grab:
Geologist or Hydrogeologist/Date: BRONWYN K. KELLY		Checked by/Date:			% Man-Made Debris: 0
					Wall of Trench Shown (Circle One): N S E W NE NW SE SW

LENGTH (FEET)

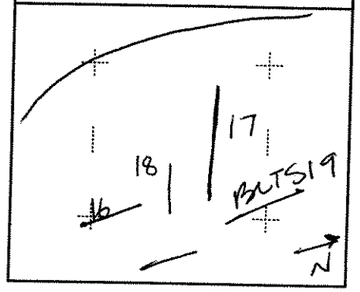
ENTER TRENCH DIRECTION
SCALE: H: 1.0' =
V: 1.0" =

DEPTH (FEET)

SM Silty Sand 10/10-60/20
10YR 5/4 mod brown, minor gravel
of SS-bedrock mat'l
no odor, no staining
└ PID readings were not recorder above 0 thru-out excavations
no const. debris
mod. compacted

MWH

Plan View-Site Location
(Provide Sketch)



EXPLANATION

- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYTICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- G — GEOTECHNICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

Project Name: ROCKETDYNE SSFL			
Trench Number: BLTS20.	Project Number: 1890812.0116	Elevation and Datum:	
Equipment Supplier: BL HALL	Operator: DAN HALL	Date and Time Started: 9/3/03	
Equipment Type: EXCAVATOR	Trench Orientation: N300W	Total Depth: 19.5 feet	
Bucket Width: ~3.5 / Trench Length: ~21 feet	Trench Width: 4.0 feet	No. of Samples: / Bulk: / Grab:	
Geologist or Hydrogeologist/Date: BRONWYN K. KELLY / 10/21/03		Checked by/Date:	

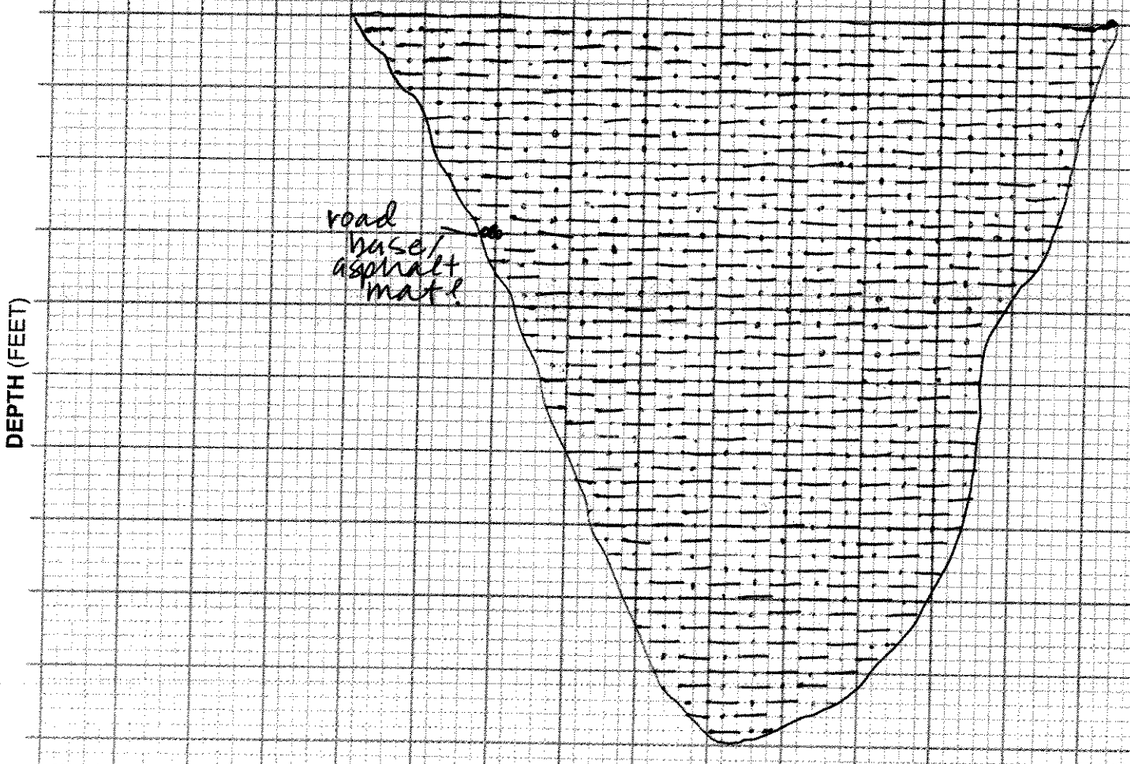
FIELD TRENCH LOG

Location: B56 LANDFILL		Sheet 1 of 1
Date and Time Completed: 9/3/03		Refusal? (Circle One) Yes / No — If Yes Depth =
Total Number of Samples		Photos (Circle One) Yes / No — No.
Drive	Hand Auger	% Man-Made Debris: 0-2%
		Wall of Trench Shown (Circle One): N S E W NE NW SE SW

LENGTH (FEET)

ENTER TRENCH DIRECTION
SCALE: H: 1.0" = 4.0'
V: 1.0" = 4.0'

DEPTH (FEET)



SM Silty Sand, 5/60/35, brown 10YR 5/4 minor gravel content = SS matl (blasted from B56 pit) no odor no staining, v. minor construction debris at 6' and removed from test pit loc., mod-well compacted no readings thru-out excavation on PID

MWH

Plan View-Site Location
(Provide Sketch)

EXPLANATION

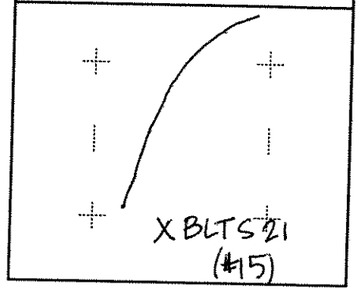
- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYTICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- G — GEOTECHNICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

Project Name: ROCKETDYNE SSFL					
Trench Number: BLTS 21	Project Number: 189081 2.0116	Elevation and Datum:	Location: B56 LANDFILL		Sheet 1 of 1
Equipment Supplier: BL HALL	Operator: DAN HALL	Date and Time Started: 9/3/03	Date and Time Completed: 9/3/03		Refusal? (Circle One) Yes / No — If Yes Depth = 5
Equipment Type: EXCAVATOR	Trench Orientation:	Total Depth: 5'	Total Number of Samples:		Photo? (Circle One) Yes / No — No.
Bucket Width: ~3.5' — Trench Length: 10'	Trench Width: 4'	No. of Samples: — Bulk: — Grab:	Drive: — Hand Auger:		% Man-Made Debris: 0
Geologist or Hydrogeologist/Date: BRONWYN K. KELLY / 10/21/03		Checked by/Date:			Wall of Trench Shown (Circle One): N S E W NE NW SE SW

FIELD TRENCH LOG

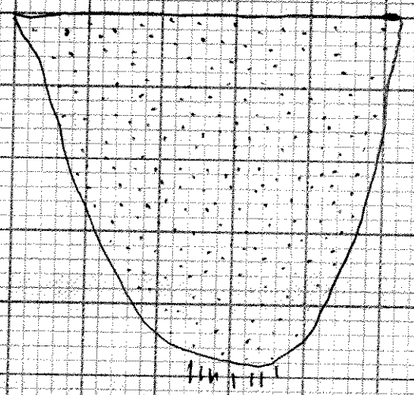
MWH

Plan View-Site Location
(Provide Sketch)



LENGTH (FEET)

ENTER TRENCH DIRECTION
SCALE: H: 1.0" = 4.0'
V: 1.0" = 2.0'



SP- Fine/Silty Sand, 10/60/20-30
brown 10YR 5/4
little gravels of SS fragments
fractured, subangular
soft sed., clean and dry
No readings on PID, run-out excavations
No debris uncovered during ~~BX~~ "

DEPTH (FEET)

EXPLANATION

- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYTICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- G — GEOTECHNICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

FIELD TRENCH LOG

Project Name: ROCKETDYNE SSFL				Location: B56 LANDFILL	Sheet 1 of 1
Trench Number: BLTS 22	Project Number: 1890812.0116	Elevation and Datum		Date and Time Completed: 9/3/03	Retrieval? (Circle One) Yes / No — If Yes Depth = 4'
Equipment Supplier: B&H HALL	Operator: DAN HALL	Date and Time Started: 9/3/03		Total Number of Samples	Photo? (Circle One) Yes / No — No.
Equipment Type: EXCAVATOR	Trench Orientation: N80E	Total Depth: 4ft		Drive / Hand Auger	% Man-Made Debris: 10%
Bucket Width: ~3.5 feet — Trench Length: 10 feet	Trench Width: 4 feet	No. of Samples / Bulk / Grab			Wall of Trench Shown (Circle One): N S E W NE NW SE SW
Geologist or Hydrogeologist/Date: BRONWYN K. KECLY / 10/21/03		Checked by/Date			

LENGTH (FEET)

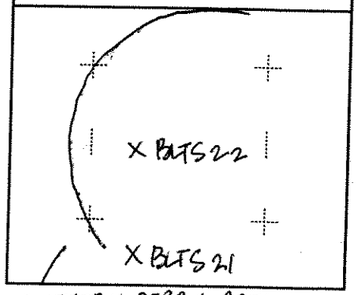
ENTER TRENCH DIRECTION
SCALE: H: 1.0" = 2.0'
V: 1.0" = 2.0

SP/SM Silty Sand, 10/60-70/20 minor gravel = SS matl tan (Grayish orange 10YR 7/4) Asphalt at surface minor construction debris boulder-~~fracture~~ fractured bedrock

DEPTH (FEET)

MWH

Plan View-Site Location
(Provide Sketch)



SOUTHERN DEBRIS AREA

EXPLANATION

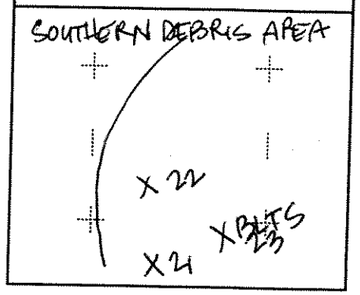
- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYTICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- G — GEOTECHNICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

FIELD TRENCH LOG

Project Name: ROCKETDYNE SSFL			Location: B56 LANDFILL	Sheet 1 of 1
Trench Number: BLTS 23	Project Number: 1890812.0116	Elevation and Datum:	Date and Time Completed: 9/3/03	Refusal? (Circle One) Yes / No — If Yes Depth = 3.5 ft
Equipment Supplier: BL HALL	Operator: DAN HALL	Date and Time Started: 9/3/03	Total Number of Samples:	Photo? (Circle One) Yes / No — No.
Equipment Type: EXCAVATOR	Trench Orientation: N175E	Total Depth: 3.5 ft	Drive / Hand Auger:	% Man-Made Debris
Bucket Width: ~3.5ft — Trench Length: 9 ft	Trench Width: 4 ft	No. of Samples / Bulk / Grab:		Wall of Trench Shown (Circle One): N S E W NE NW SE SW
Geologist or Hydrogeologist/Date: BRONWYN KELLY		Checked by/Date:		

MWH

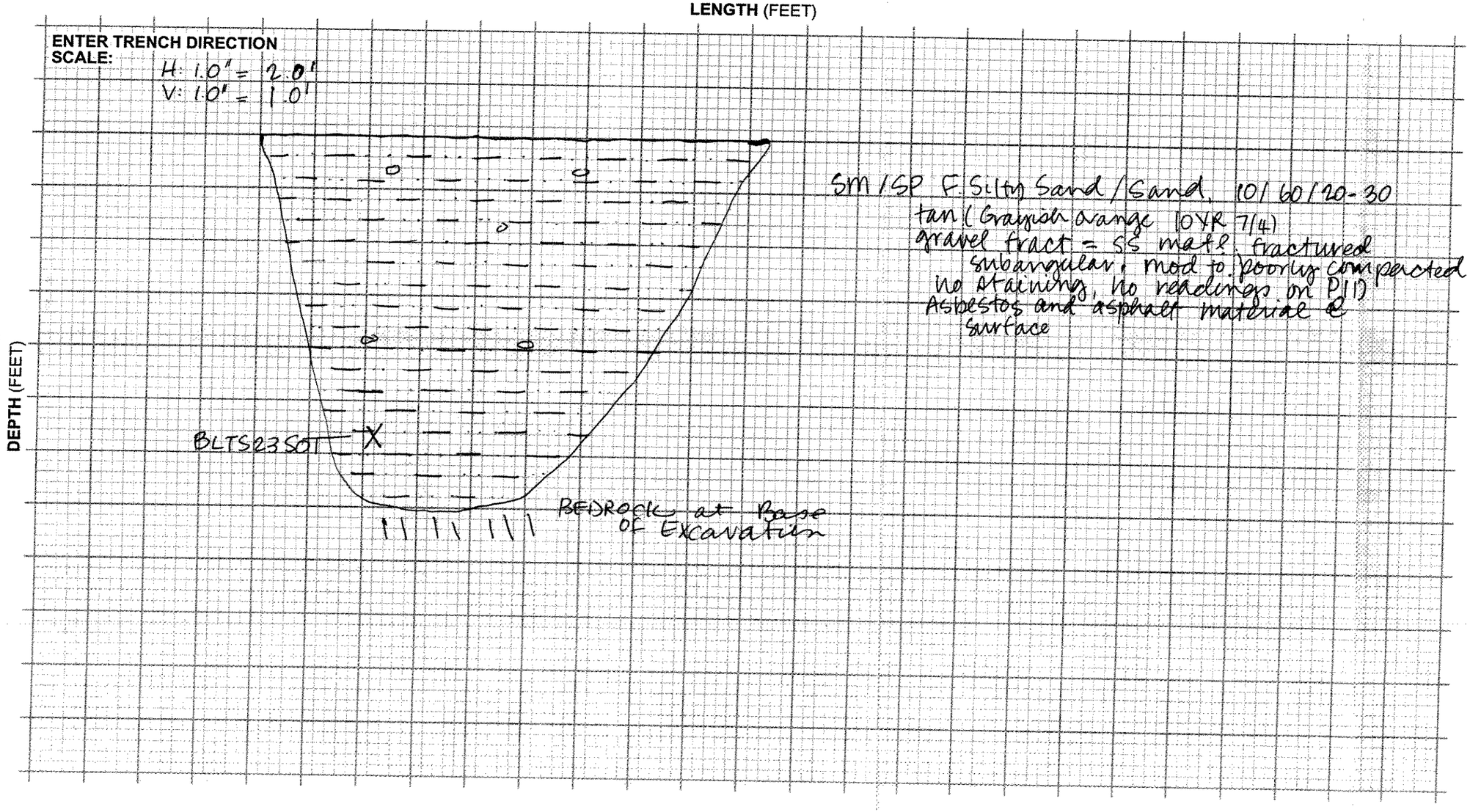
Plan View-Site Location
(Provide Sketch)



LENGTH (FEET)

ENTER TRENCH DIRECTION
SCALE: H: 1.0" = 2.0'
V: 1.0" = 1.0'

DEPTH (FEET)



EXPLANATION

- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYTICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- G — GEOTECHNICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

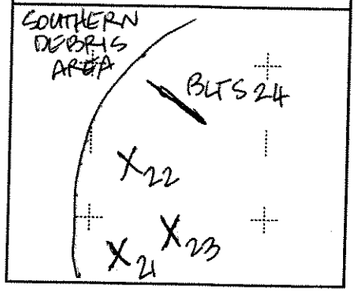
Project Name: ROCKETDYNE SSFL					
Trench Number: BTS 24	Project Number: 1890812.0116	Elevation and Datum			
Equipment Supplier: B. HALL	Operator: DAN HALL	Date and Time Started: 9/3/03			
Equipment Type: EXCAVATOR	Trench Orientation: N280E	Total Depth: 12 ft			
Bucket Width: ~3.5 / Trench Length: 28ft	Trench Width: 4 ft	No. of Samples	Bulk	Grab	
Geologist or Hydrogeologist/Date: BRONWYN K. KELLY/10/21/03		Checked by/Date			

FIELD TRENCH LOG

Location: B56 LANDFILL		Sheet 1 of 1
Date and Time Completed: 9/3/03		Refusal? (Circle One) (Yes) No — If Yes Depth = 12'
Total Number of Samples		Photo? (Circle One) (Yes) No — No.
Drive	Hand Auger	% Man-Made Debris: 10%
		Wall of Trench Shown (Circle One): N S E W NE NW SE SW

MWH

Plan View-Site Location
(Provide Sketch)



LENGTH (FEET)

ENTER TRENCH DIRECTION
SCALE: H: 1.0" = 4.0'
V: 1.0" = 4.0

DEPTH (FEET)

BEDROCK

SM/GM 20-30/60/20
Sand/Silt/Gravels mix.
Gravels & boulder size fraction = sandstone matl
orangish gray tan matl
10 YR 7/4
Top 1' = asphalt and concrete debris
subangular, 95 = fract and broken
little fine
no staining, no readings on PID thru-out excavation

EXPLANATION

- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYTICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- G — GEOTECHNICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

Project Name: ROCKETDYNE SSFL				**FIELD TRENCH LOG**	
Trench Number: BLT525	Project Number: 1890812.0116	Elevation and Datum:		Location: B56 LANDFILL	Sheet 1 of 1
Equipment Supplier: B. HALL	Operator: DAN HALL	Date and Time Started: 9/3/03		Date and Time Completed:	Refusal? (Circle One) Yes No — If Yes Depth =
Equipment Type: EXCAVATOR	Trench Orientation: N85E	Total Depth: 9'-4'		Total Number of Samples:	Photo? (Circle One) Yes No — No.
Bucket Width: ~3.5 — Trench Length: 26'	Trench Width: 4'	No. of Samples: — Bulk: — Grab:		Drive: — Hand Auger:	% Man-Made Debris
Geologist or Hydrogeologist/Date: BRONWYN KELLY /		Checked by/Date:			Wall of Trench Shown (Circle One) N S E W NE NW SE SW

LENGTH (FEET)

ENTER TRENCH DIRECTION
SCALE: H: 1.0" = 4.0'
V: 1.0" = 2.0'

DEPTH (FEET)

BEDROCK

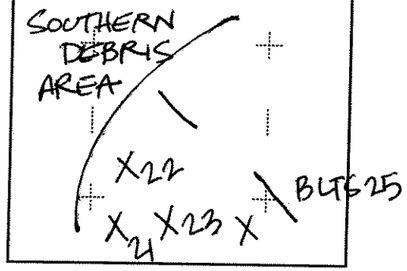
BEDROCK

mod. brown "darker material = alluvium
10YR 3/4

GM Sand, Silt, Gravel mixture, 20/60/20
Asphalt const debris (metal) at surface
tan 10YR 7/4 Gravels = sandstone material
subangular; mod compacted
no readings (PID), no staining thru-out excavation
West end of trench, bedrock @ 4'
Bedrock exposed thruout trench, East side = 9'

MWH

Plan View-Site Location
(Provide Sketch)



EXPLANATION

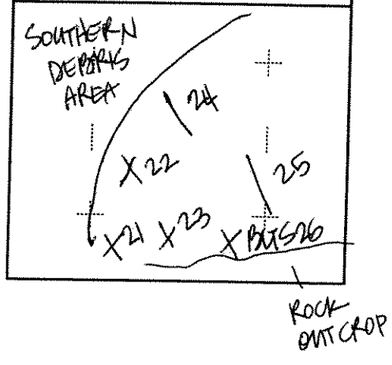
- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYTICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- G — GEOTECHNICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

FIELD TRENCH LOG

MWH

Project Name: ROCKETDYNE SSFL			Location: B56 LANDFILL	Sheet 1 of 1
Trench Number: BLTS 26	Project Number: 1890812.0116	Elevation and Datum:	Date and Time Completed: 9/3/03	Refusal? (Circle One) Yes / No — If Yes Depth =
Equipment Supplier: BL HALL	Operator: DAN HALL	Date and Time Started: 9/3/03	Total Number of Samples:	Photo? (Circle One) Yes / No — No.
Equipment Type: EXCAVATOR	Trench Orientation:	Total Depth: 8 ft	Drive / Hand Auger:	% Man-Made Debris
Bucket Width: ~3.5 — Trench Length: 13.0 ft	Trench Width: 4.0 ft	No. of Samples / Bulk / Grab:		Wall of Trench Shown (Circle One) N S E W NE NW SE SW
Geologist or Hydrogeologist/Date: BRONWYN KELLY		Checked by/Date:		

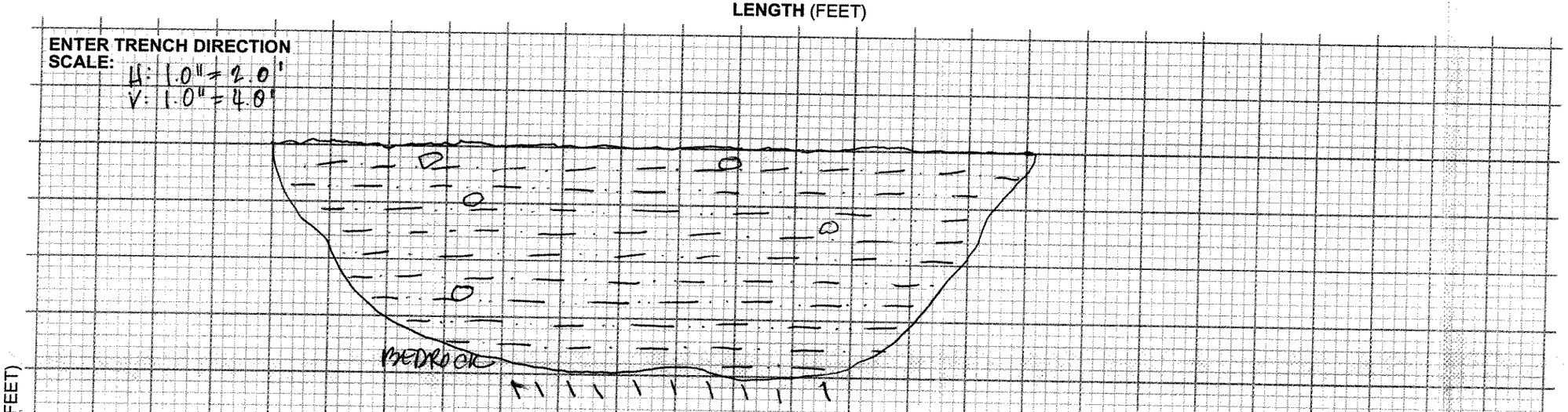
Plan View-Site Location
(Provide Sketch)



LENGTH (FEET)

ENTER TRENCH DIRECTION
SCALE: H: 1.0" = 2.0'
V: 1.0" = 4.0'

DEPTH (FEET)



Sand / Silt mixture, SM, minor gravels 10/60/30
tan 10YR 7/4, along exposed bedrock
Gravel fraction = Subangular fragments of bedrock sandstone matrix
No staining, no odor — no readings indicated on PID, no debris

EXPLANATION

- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYTICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- G — GEOTECHNICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

Project Name: ROCKETDYNE SSFL				**FIELD TRENCH LOG**	
Trench Number: BLTS 27	Project Number: 1890812.0116	Elevation and Datum:		Location: B56 LANDFILL	Sheet 1 of 1
Equipment Supplier: BL HALL	Operator: DAN HALL	Date and Time Started: 9/3/03		Date and Time Completed: 9/3/03	Refusal? (Circle One) Yes No — If Yes Depth =
Equipment Type: EXCAVATOR	Trench Orientation: N50 E	Total Depth: 7		Total Number of Samples	Photo? (Circle One) Yes No — No.
Bucket Width: ~3.5 — Trench Length: 14 feet	Trench Width: 4 feet	No. of Samples	Bulk / Grab	Drive / Hand Auger	% Man-Made Debris
Geologist or Hydrogeologist/Date: BRONWYN KELLY		Checked by/Date			Wall of Trench Shown (Circle One) N S E W NE NW SE SW

MWH

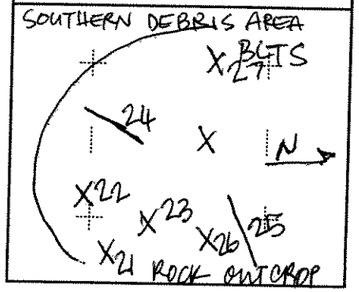
LENGTH (FEET)

ENTER TRENCH DIRECTION
SCALE: H: 1.0" = 2.0'
V: 1.0" = 2.0'

DEPTH (FEET)

SP/GP fine Sandy Silt/Gravel mixture, 20/10-60(f)/10
minor gravel fraction of SS matl, subangular, fractured
brown 10YR 7/4, mod compacted, dry
construction debris at surface only
incl. asbestos(?) containing material
no staining, no odor, no readings on PID thru-out
excavation: Hard bedrock material @ 7'

Plan View-Site Location
(Provide Sketch)



EXPLANATION

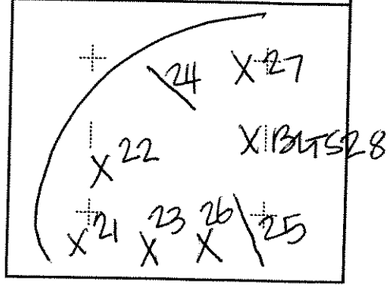
- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYTICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- G — GEOTECHNICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

FIELD TRENCH LOG

Project Name: ROCKETDYNE SSFC					
Trench Number: BLTS 28	Project Number: 1890812.0116	Elevation and Datum:	Location: BS6 LANDFILL	Sheet 1 of 1	
Equipment Supplier: BL HALL	Operator: DAN HALL	Date and Time Started: 9/3/03	Date and Time Completed: 9/3/03	Refusal? (Circle One) Yes / No — If Yes Depth =	
Equipment Type: EXCAVATOR	Trench Orientation: N310W	Total Depth: 12'	Total Number of Samples:	Photo? (Circle One) Yes / No — No.	
Bucket Width: ~3.5 / Trench Length: 16'	Trench Width: 4'	No. of Samples: / Bulk: / Grab:	Drive: / Hand Auger:	% Man-Made Debris: 0%	
Geologist or Hydrogeologist/Date: BRONWYN KELLY		Checked by/Date:		Wall of Trench Shown (Circle One) N S E W NE NW SE SW	

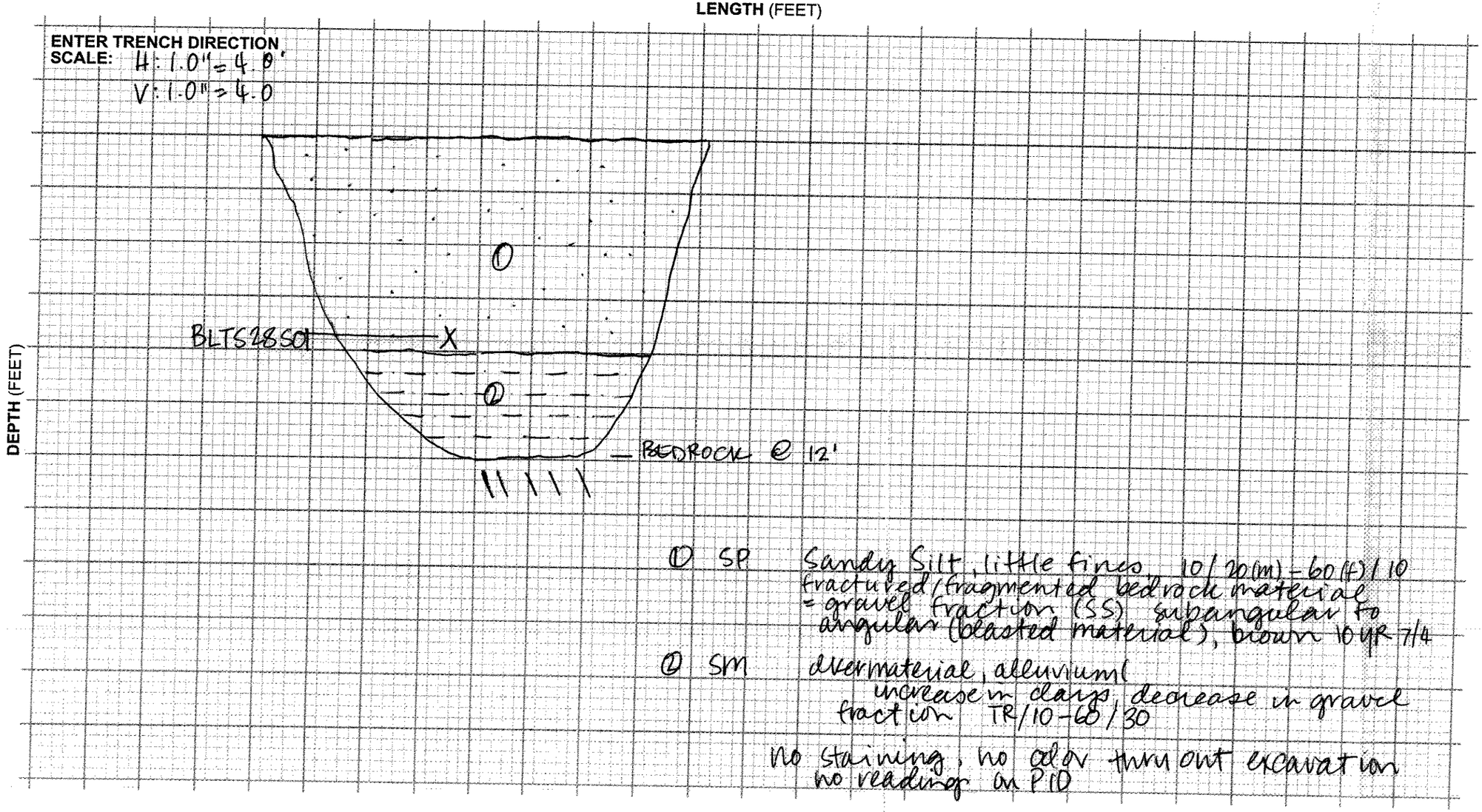
MWH

Plan View-Site Location
(Provide Sketch)



LENGTH (FEET)

ENTER TRENCH DIRECTION
SCALE: H: 1.0" = 4.0'
V: 1.0" = 4.0



DEPTH (FEET)

① SP Sandy Silt, little fines, 10/20(M)-60(F)/10 fractured/fragmented bedrock material = gravel fraction (SS) subangular to angular (blasted material), brown 10YR 7/4

② SM dver material, alluvium(increase in clays, decrease in gravel fraction TR/10-60/30

no staining, no odor thru out excavation no readings on PID

EXPLANATION

- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYTICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- G — GEOTECHNICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

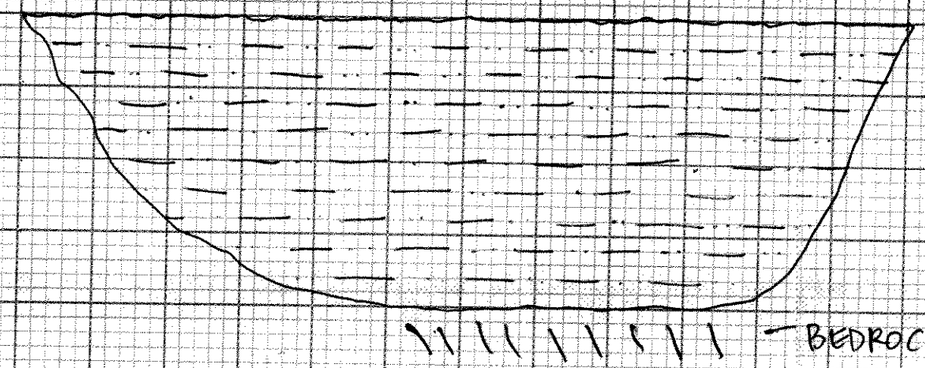
FIELD TRENCH LOG

MWH

Project Name: ROCKETDYNE SSFL				Location: B56 LANDFILL	Sheet 1 of 1
Trench Number: BATS 29	Project Number: 1890812.0116		Elevation and Datum	Date and Time Completed: 9/3/03	Refusal? (Circle One) (Yes) No — If Yes Depth =
Equipment Supplier: BL HALL	Operator: DAN HALL		Date and Time Started: 9/3/03	Total Number of Samples	Photo? (Circle One) (Yes) No — No.
Equipment Type: EXCAVATOR	Trench Orientation: N10E		Total Depth: 4	Drive / Hand Auger	% Man-Made Debris: 0%
Bucket Width: ~3.5' — Trench Length: 12'	Trench Width: 4'	No. of Samples	Bulk / Grab		Wall of Trench Shown (Circle One) N S E W NE NW SE SW
Geologist or Hydrogeologist/Date: BRONWYN K. KELLY			Checked by/Date		

LENGTH (FEET)

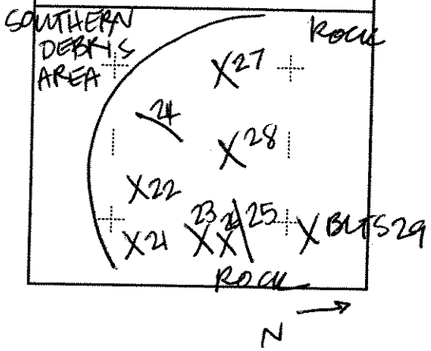
ENTER TRENCH DIRECTION
SCALE: H: 1.0" = 2.0'
V: 1.0" = 2.0'



DEPTH (FEET)

SM Silty sand mixture, brown 10YR7/4, 10/60/20 boulders and gravels = SS material, frag., and angular
no staining, no odor turn out excavation
no reading on PID

Plan View-Site Location
(Provide Sketch)



EXPLANATION

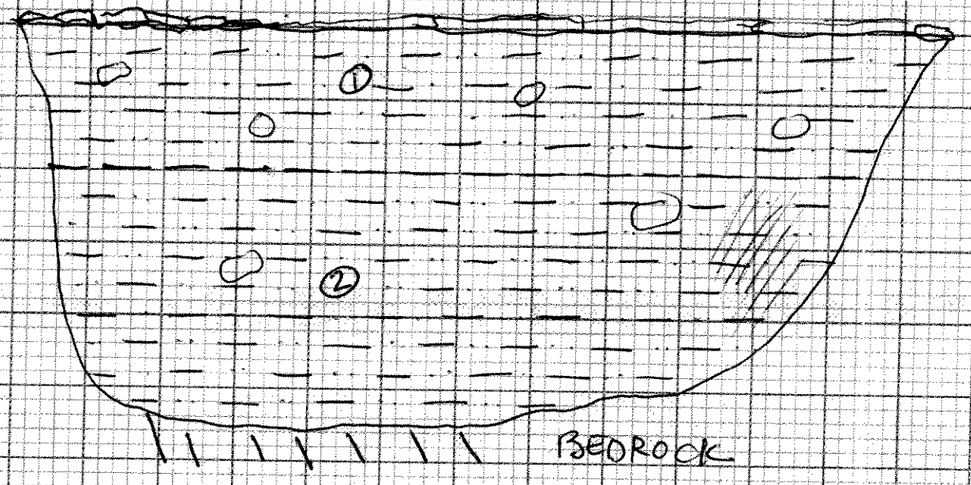
- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYTICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- G — GEOTECHNICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

Project Name: ROCKETDYNE SSFL				**FIELD TRENCH LOG**	
Trench Number: BLTS 30	Project Number: 1890812.0116	Elevation and Datum		Location: B56 LANDFILL	Sheet 1 of 1
Equipment Supplier: B. HALL	Operator: DAN HALL	Date and Time Started: 9/3/03		Date and Time Completed: 9/3/03	Refusal? (Circle One) Yes No — If Yes Depth =
Equipment Type: EXCAVATOR	Trench Orientation: N10E	Total Depth: 11		Total Number of Samples	Photo? (Circle One) Yes No — No.
Bucket Width: ~3.5 ft — Trench Length: 25 ft	Trench Width: 4 ft	No. of Samples	Bulk / Grab	Drive / Hand Auger	% Man-Made Debris
Geologist or Hydrogeologist/Date: BRONWYN KELLY		Checked by/Date			Wall of Trench Shown (Circle One) N S E W NE NW SE SW

MWH

LENGTH (FEET)

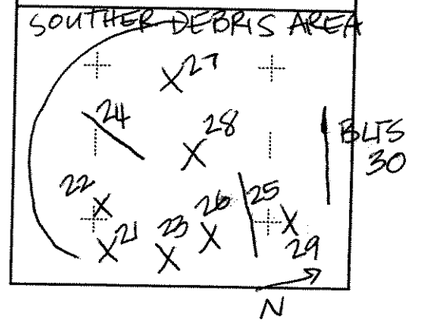
ENTER TRENCH DIRECTION
SCALE: H: 1.0" = 4.0'
V: 1.0" = 4.0'



DEPTH (FEET)

1. SM Sand / Silt / Gravel / fines mixture, 20 (Gravel) / 60 (med. fine sand) / 20 (Silt/Cky) lt. brown 10YR 7/4, mod compacted, no oder, no staining, concrete / asphalt / piping at surface. Gravel = SS material, frag ang-
2. SM Sand / Silt mixture, mod brown - reddish brown "alluvium" 5YR 3/4 orangish at north end, 10YR 6/6??, compacted no odors, no readings thru out excavation

Plan View-Site Location
(Provide Sketch)



EXPLANATION

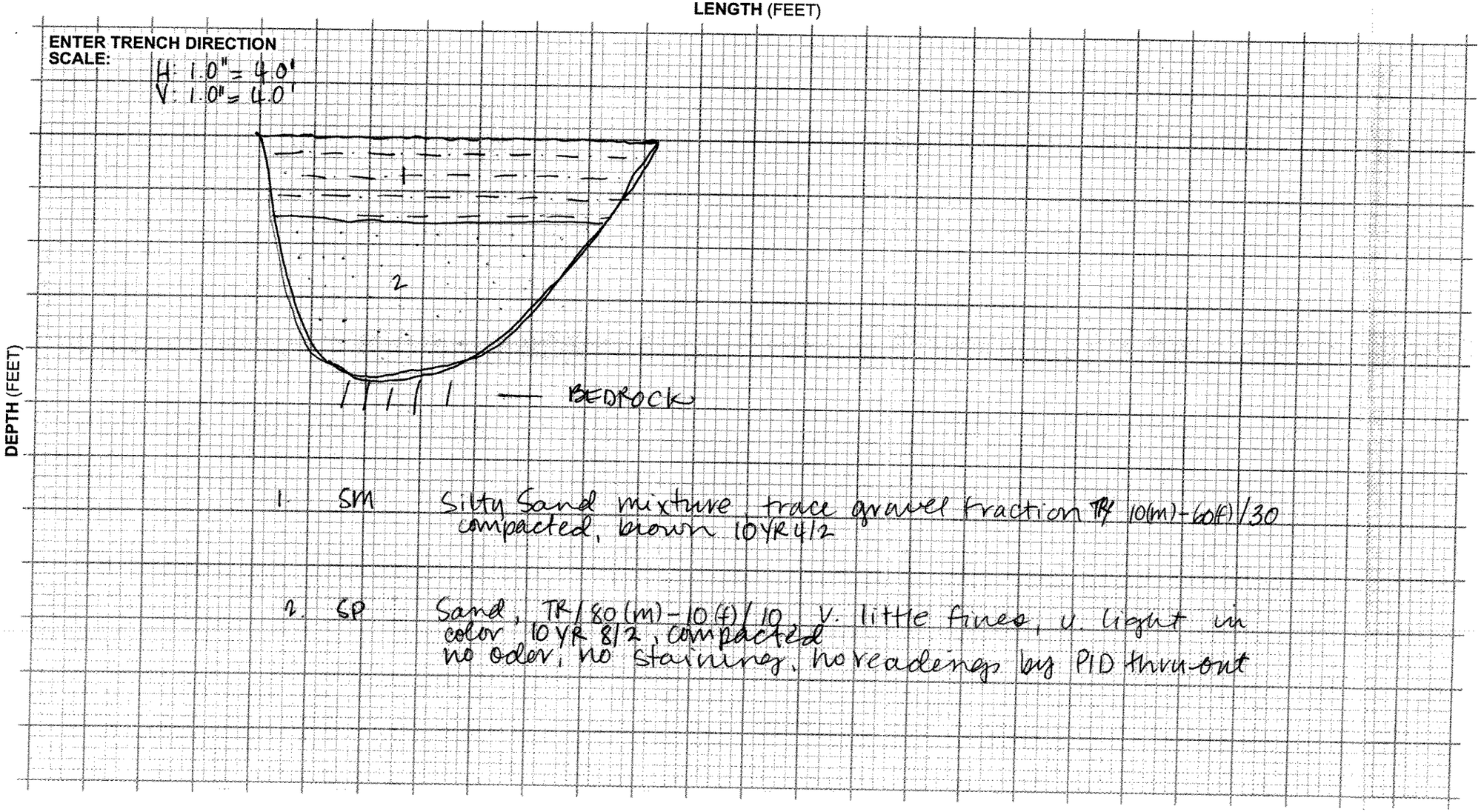
- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYTICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- G — GEOTECHNICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

Project Name: ROCKETDYNE SSFL				**FIELD TRENCH LOG**	
Trench Number: BLTS 31	Project Number: 1890812.0116	Elevation and Datum:		Location: B56 LANDFILL	Sheet 1 of 1
Equipment Supplier: BLKAU	Operator: DAN CAW	Date and Time Started: 9/3/03		Date and Time Completed: 9/3/03	Refusal? (Circle One) Yes No — If Yes Depth =
Equipment Type: EXCAVATOR	Trench Orientation: N2E	Total Depth: 9 ft		Total Number of Samples:	Photo? (Circle One) Yes No — No.
Bucket Width: ~3.5 — Trench Length: 14 ft	Trench Width: 4 ft	No. of Samples: — Bulk: — Grab:		Drive: — Hand Auger:	% Man-Made Debris
Geologist or Hydrogeologist/Date: BRONWYN KELLY		Checked by/Date:			Wall of Trench Shown (Circle One) N S E W NE NW SE SW

LENGTH (FEET)

ENTER TRENCH DIRECTION
SCALE: H: 1.0" = 4.0'
V: 1.0" = 4.0'

DEPTH (FEET)

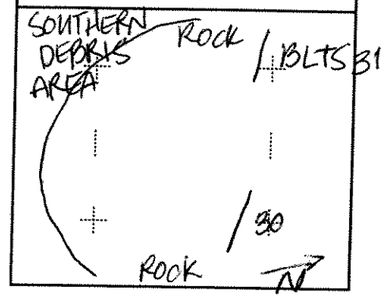


1. SM Silty Sand mixture, trace gravel fraction TR/ 10(m)-60(f)/30 compacted, brown 10YR 4/2

2. SP Sand, TR/80(m)-10(f)/10, V. little fines, v. light in color, 10YR 8/2, compacted no odor, no staining, no readings by PID thru-out

MWH

Plan View-Site Location
(Provide Sketch)



EXPLANATION

- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYTICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- G — GEOTECHNICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

FIELD TRENCH LOG

MWH

Project Name: ROCKETDYNE SSFL			Location: BSG LANDFILL	Sheet 1 of 1
Trench Number: BLTS32	Project Number: 1890812.0116	Elevation and Datum:	Date and Time Completed: 9/3/03	Refusal? (Circle One) Yes / No — If Yes Depth =
Equipment Supplier: BL HALL	Operator: DAN HALL	Date and Time Started: 9/3/03	Total Number of Samples:	Photos? (Circle One) Yes / No — No.
Equipment Type: EXCAVATOR	Trench Orientation: N40E	Total Depth: 3'		
Bucket Width: ~3.5' — Trench Length: ~~10~~ BL	Trench Width: 4'	No. of Samples: — Bulk: — Grab:	Drive: — Hand Auger:	% Man-Made Debris: 0%
Geologist or Hydrogeologist/Date: BRONWYN K. KELLY		Checked by/Date:		Wall of Trench Shown (Circle One): N S E W NE NW SE SW

LENGTH (FEET)

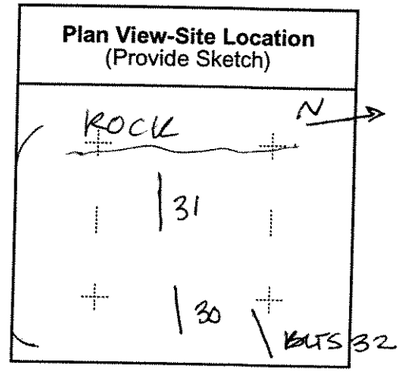
ENTER TRENCH DIRECTION
SCALE: H: 1.0" = ~~1.0~~ BL 2.0'
V: 1.0" = ~~1.0~~ 2.0'

DEPTH (FEET)

BEDROCK at base of excavation

G S (m-f) Silts/clays
SP/SM - fine sand → 101 20-60/10
silty sand, brown 10YR 7/4, fill material of SS gravel and boulder size of SS frag at top 1'
darker brown "alluvium" just above bedrock
no staining, no odor, no readings by PID
mod. compacted

Plan View-Site Location
(Provide Sketch)



EXPLANATION

- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYTICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- G — GEOTECHNICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

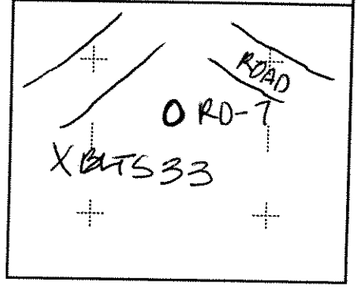
Project Name: BKAPNC ROCKETDYNE SSFL					
Trench Number: BKTS 33	Project Number: B890812.0116	Elevation and Datum			
Equipment Supplier: B. HALL	Operator: DAN HALL	Date and Time Started: 9/4/03			
Equipment Type: EXCAVATOR	Trench Orientation: N30E	Total Depth: 7'			
Bucket Width: 3.5' / Trench Length: 10'	Trench Width: 4'	No. of Samples	Bulk	Grab	
Geologist or Hydrogeologist/Date: BRONWYN KELLY		Checked by/Date			

FIELD TRENCH LOG

Location: BKG LANDFILL		Sheet 1 of 1
Date and Time Completed: 9/4/03		Refusal? (Circle One) Yes / No — If Yes Depth =
Total Number of Samples		Photo? (Circle One) Yes / No — No.
Drive	Hand Auger	% Man-Made Debris: 10%
		Wall of Trench Shown (Circle One) N S E W NE NW SE SW

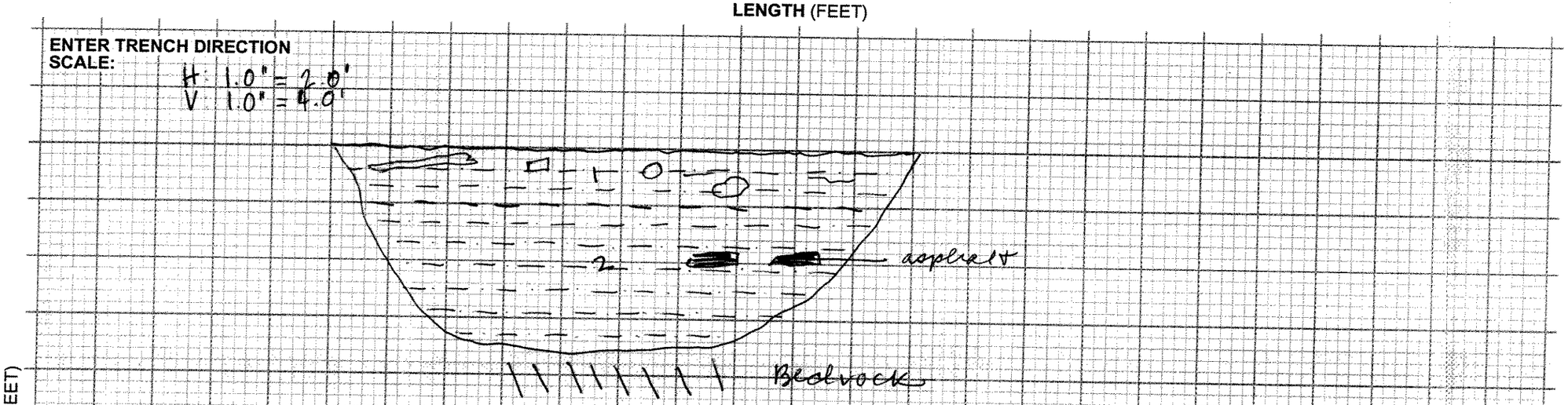
MWH

Plan View-Site Location
(Provide Sketch)



LENGTH (FEET)

ENTER TRENCH DIRECTION
SCALE: H 1.0" = 2.0'
V 1.0" = 4.0'



DEPTH (FEET)

1. SM Sand silt mixture, 10/60/30, brown ~~10 YR 7/4 BK~~ 10 YR 4/2 debris in top 1' of asphalt, plastic, brick, cobbles and boulders no odor or staining, compacted

2. SM Sand silt, slightly gravelly, less silt than above 10/70/20, brown 10 YR 5/4 gravel fraction = SS material subangular to angular asphalt material at 4' no odor or staining, compacted

no readings by PID throughout excavation

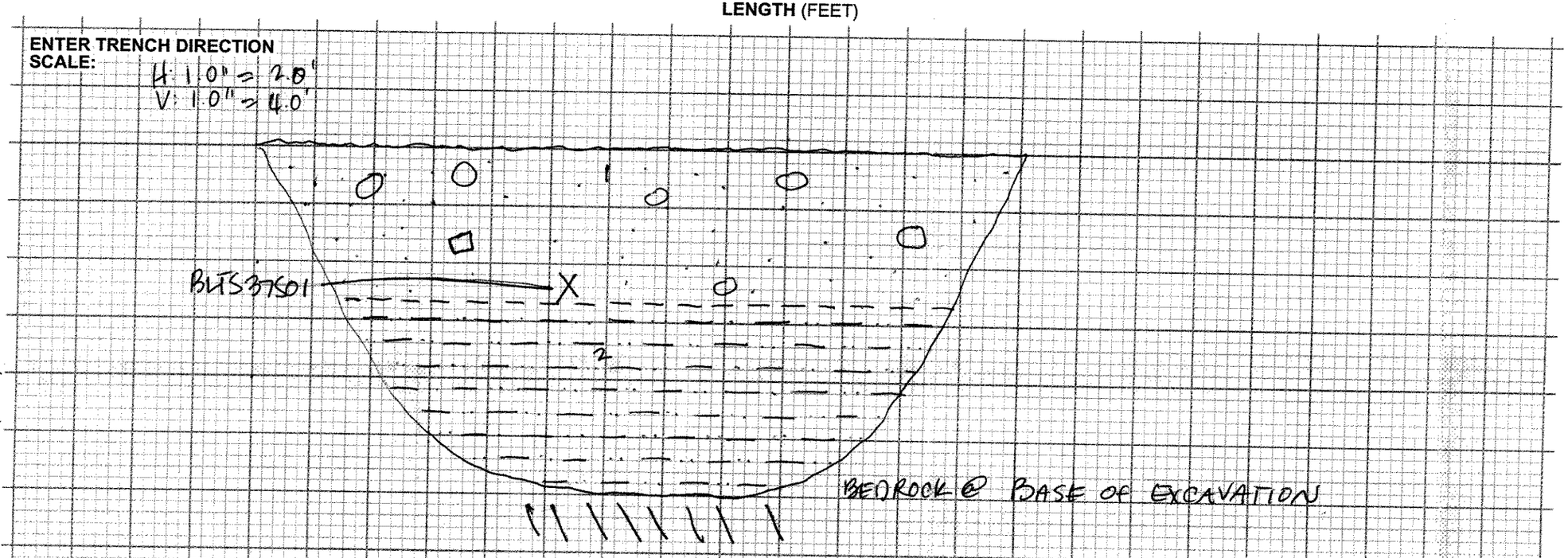
EXPLANATION

- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYTICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- G — GEOTECHNICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

Project Name: ROCKETDYNE SSFL				**FIELD TRENCH LOG**	
Trench Number: BTS 37	Project Number: 190812.0116	Elevation and Datum:		Location: B56 LANDFILL	Sheet 1 of 1
Equipment Supplier: BL HALL	Operator: DAN HALL	Date and Time Started: 9/4/03		Date and Time Completed: 9/4/03	Refusal? (Circle One) Yes / No — If Yes Depth =
Equipment Type: EXCAVATOR	Trench Orientation: N80E	Total Depth: 12		Total Number of Samples: 1	Photo? (Circle One) Yes / No — No.
Bucket Width: 3.5 — Trench Length: 13	Trench Width: 4	No. of Samples: — Bulk: — Grab:		Drive: — Hand Auger:	% Man-Made Debris: 5–10 %
Geologist or Hydrogeologist/Date: BRONWYN K. KELLY		Checked by/Date:			Wall of Trench Shown (Circle One): N S E W NE NW SE SW

LENGTH (FEET)

ENTER TRENCH DIRECTION
SCALE: H: 1.0" = 2.0'
V: 1.0" = 4.0'

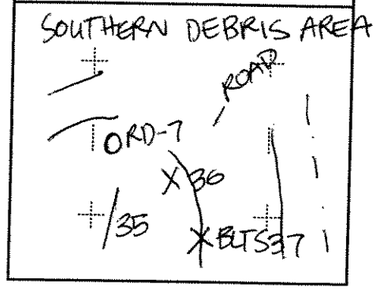


DEPTH (FEET)

1 SP / Sand, minor silts and gravels 20/70/10
gravels = sandstone, angular to subangular
light color brownish 10YR 7/4
becoming darker in color at ~ 2½-3' (10YR 4/2)
mod compacted
SM Sand/silt, clay mixture, TR/70/30
dk brown 10YR 4/2
compacted, alluvium?
no readings by PID, no odor, no staining thruout excavation

MWH

Plan View-Site Location
(Provide Sketch)



EXPLANATION

- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYTICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- G — GEOTECHNICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

Project Name: ROCKETDYNE SSFL					
Trench Number: BLTC 36	Project Number: 1890812.016	Elevation and Datum:	Location: B56 LANDFILL	Sheet 1 of 1	
Equipment Supplier: BY HAND	Operator: DAN HAND	Date and Time Started: 9/4/03	Date and Time Completed: 9/4/03	Refusal? (Circle One) Yes / No	If Yes Depth =
Equipment Type: EXCAVATOR	Trench Orientation:	Total Depth: 17	Total Number of Samples:	Photo? (Circle One) Yes / No	No.
Bucket Width: 3.5' / Trench Length: 15'	Trench Width: 4'	No. of Samples: / Bulk: / Grab:	Drive: / Hand Auger: 1	% Man-Made Debris: 0%	
Geologist or Hydrogeologist/Date: BRONWYN K. KELLY		Checked by/Date:		Wall of Trench Shown (Circle One) N S E W NE NW SE SW	

FIELD TRENCH LOG

MWH

LENGTH (FEET)

ENTER TRENCH DIRECTION
SCALE: H: 1.0" = ~~20.0'~~ 4.0'
V: 1.0" = 8.0'

DEPTH (FEET)

1

2

3

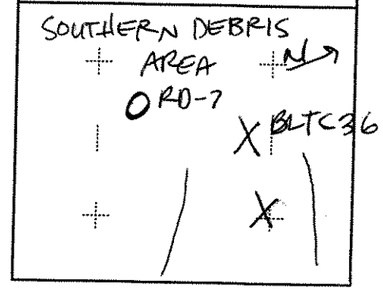
X diker organic rich material

SM SILT SAND MIXTURE, MINOR GRAVELS 10/60/30
of SS material dk brown 10 YR 4/2 to 10YR 2/2
compacted, subang to angular

SP SAND 10/80/10, lighter in color 10YR 7/4
well sorted, ~~compacted~~ loose loosely compacted
gravels of frag. SS material
no odor, no staining, no readings on PID thru-out
excavations

SM SILT SAND MIXTURE, organic 10YR/60/30
compacted, moist

Plan View-Site Location
(Provide Sketch)



EXPLANATION

- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYTICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- G — GEOTECHNICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

FIELD TRENCH LOG

Project Name: ROCKETDYNE SSFL				Location: B56 LANDFILL	Sheet 1 of 1
Trench Number: BLTS35	Project Number: 1890812.0116	Elevation and Datum		Date and Time Completed: 9/4/03	Refusal? (Circle One) Yes / No — If Yes Depth =
Equipment Supplier: BX HAUL	Operator: DAN HAUL	Date and Time Started: 9/4/03		Total Number of Samples	Photo? (Circle One) Yes / No — No.
Equipment Type: EXCAVATOR	Trench Orientation: N S	Total Depth: ~~8'~~ BK 5'		Drive / Hand Auger	% Man-Made Debris: 0%
Bucket Width: 3.5' — Trench Length: 26'	Trench Width: 4'	No. of Samples	Bulk / Grab		Wall of Trench Shown (Circle One) N S E W NE NW SE SW
Geologist or Hydrogeologist/Date: ~~BAYBK~~ BRONWYN KELLY		Checked by/Date			

LENGTH (FEET)

ENTER TRENCH DIRECTION
SCALE: H: 1.0" = 4.0
V: 1.0" = 2.0

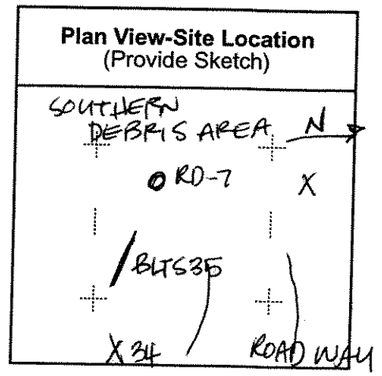
DEPTH (FEET)

BEDROCK

Gravel, Sand, Silt (minor) mixture 30/60/10
gravels = bedrock SS mat^l, subangular, lt brown 10YR 7/4
no readings by PID, no staining
loosely compacted

MWH

Plan View-Site Location
(Provide Sketch)



EXPLANATION

- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
- X — ANALYTICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- G — GEOTECHNICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

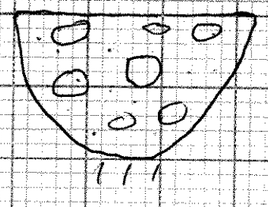
FIELD TRENCH LOG

Project Name: ~~BJC~~ ROCKETDYNE SSFL				Location: BLG LANDFILL	Sheet 1 of 1
Trench Number: BLTS 38	Project Number: 1890812.0116	Elevation and Datum		Date and Time Completed: 9/4/03	Refusal? (Circle One) Yes / No — If Yes Depth =
Equipment Supplier: BL HALL	Operator: DAN HALL	Date and Time Started: 9/4/03		Total Number of Samples	Photo? (Circle One) Yes / No — No.
Equipment Type: EXCAVATOR	Trench Orientation	Total Depth: 4		Drive / Hand Auger	% Man-Made Debris
Bucket Width: 3.5	Trench Length	Trench Width: 4	No. of Samples / Bulk / Grab		
Geologist or Hydrogeologist/Date: BRONWYN W. KELLY		Checked by/Date			Wall of Trench Shown (Circle One) N S E W NE NW SE SW

LENGTH (FEET)

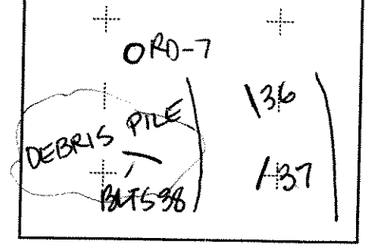
DEPTH (FEET)

ENTER TRENCH DIRECTION
SCALE: H: 1.0" = 2.0'
V: 1.0" = ~~2.0~~ 4.0'



Exploratory trench per Peter Bailey's request / DTSC
test pit
in debris pile
SP/GM Sand / Gravel mixture 20/70/10
lt brown 10YR 7/4
loose to mod compacted
gravels of SS material, angular/subangular
no debris ~~at~~ in trench
ones at surface

Plan View-Site Location
(Provide Sketch)



EXPLANATION

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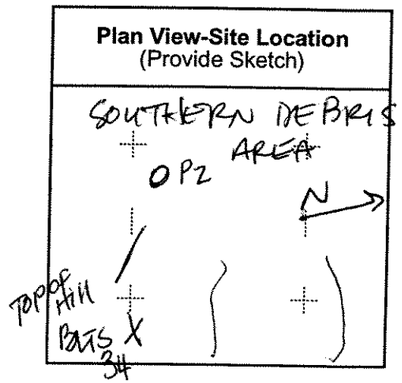
- SHADING TO DENOTE STAINING
- BASE OF EXCAVATION
- SHOW LOCATIONS AND TYPES OF ALL MAJOR DEBRIS

FIELD TRENCH LOG

MWH

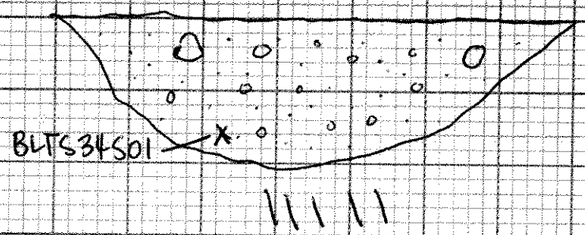
Project Name: ROCKETDYNE SSFL					
Trench Number: BLTS 34	Project Number: 890812.0116	Elevation and Datum:	Location: BG LANDFILL	Sheet 1 of 1	
Equipment Supplier: B HALL	Operator: DAN HALL	Date and Time Started: 9/4/03	Date and Time Completed: 9/4/03	Refusal? (Circle One) Yes / No	If Yes Depth =
Equipment Type: EXCAVATOR	Trench Orientation: N/S	Total Depth: 4'	Total Number of Samples: 1	Photo? (Circle One) Yes / No	No.
Bucket Width: 3.5 / Trench Length: 7'	Trench Width: 4'	No. of Samples: 1 / Bulk / Grab	Drive / Hand Auger	% Man-Made Debris: 0%	
Geologist or Hydrogeologist/Date: BRONWYN K. KELLY		Checked by/Date		Wall of Trench Shown (Circle One) N S E W NE NW SE SW	

Plan View-Site Location
(Provide Sketch)



LENGTH (FEET)

ENTER TRENCH DIRECTION
SCALE: H: 1.0" = 2.0'
V: 1.0" = 4.0'



DEPTH (FEET)

GP Sand, Gravel mixture, 30/60/10
little fines, gravels - SS material (bedrock)
lt brown 10YR 7/4
loose (compaction)
Bedrock at ~~4~~ 4'
no odor, no staining, no readings by PID

EXPLANATION

- SOIL TYPE CONTACT (SHARP)
- OTHER CONTACT (AS INDICATED ON LOG)
- FILL/NATIVE BOUNDARY
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- G — GEOTECHNICAL SAMPLE LOCATION (WRITE SAMPLE NUMBER OUT TO SIDE)
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LANDFILL SAMPLING

Notes on Sampling

Samples were collected in either 4- or 16-oz glass jars. Samples for analysis of volatile organic constituents (VOC) were collected with a slide hammer in 2-in. x 6-in. brass cylinders. The ends were capped with Teflon sheets and plastic caps and sealed with clear plastic tape. Because a limited number of samples were to be analyzed for volatile organic constituents, samples were, in general, taken from zones which were judged to have the potential for containing those constituents. These judgments were based on the presence of soil mottling, staining, discoloration, or odor. In the Burn Pit cells, samples were taken from trenches because the trench was located in an area which generally was disturbed.

Trench LF-1 **03/30/87** **12:50 — 13:30**

The trench was approximately 35 ft long and 4 to 6 ft deep. The top 2 ft of soil was composed of light brown silty sand with some sandstone cobbles. There was one small zone, 1 ft thick, of dark brown silty sand. From 2 ft to total depth, the soil was medium brown silty sand. Three 4-oz samples were collected from the bottom of the trench at 15:10 (LF-11, LF-12, LF-13). No VOA sample was taken. There were no suspicious materials found. There were no odors and no positive readings from the "Miran" sniffer.

Trench LF-2 **03/30/87** **13:30 — 13:50**

The trench was approximately 25 ft long and 6 to 10 ft deep. At the west end of the trench, asphalt chunks and charred wood were found on the surface. The soil was composed of light brown silty sand with Chatsworth Formation sandstone cobbles. The soil beneath the surface appeared to be undisturbed. Three 4-oz samples were collected at 8 ft in from the stake, 10 ft deep (LF-21, LF-22, LF-23). No unusual odors were noted.

Trench LF-3 **03/30/87** **13:50 — 14:15**

The trench was 15 ft long and 10 to 12 ft deep. The soil was composed of light brown silty sand with sandstone cobbles. A 1-ft-thick zone of flaky material was observed at the surface. Four-oz glass sample LB-34 was taken 3 ft in from the stake at the surface. Three 4-oz samples were collected 6 ft in from the stake, 12 ft down, at 14:15 (LF-31, LF-32, LF-33). No unusual odors were noted.

Trench LF-4 **03/30/87** **14:15 — 14:30**

The trench was 15 ft long and 10 ft deep. The top 2 to 3 ft of material was composed of medium brown silty sand with construction debris (metal, concrete, asphalt, etc.). From 3 ft to total depth, the soil was light brown silty sand with

sandstone cobbles. Three 4-oz samples were collected 6 ft in from the stake, 6 ft down, at 14:30 (LF-41, LF-42, LF-43). No unusual odors were noted.

Trench LF-5 03/30/87 — Completed 03/31/87 15:20 —

The trench was approximately 15 ft long and 12 ft deep. The top 3.5 ft of soil was composed of medium brown clayey sand with some silt. Pieces of wood and concrete were observed. From 3.5 to 5 ft, soil was dark brown mottled stiff clay with building debris (concrete, rebar, etc.) present. From 5 ft to total depth, the soil was yellowish brown clayey sand, probably weathered Chatsworth Formation. Four 4-oz samples and one ziplock bag were collected 12 ft in from the stake, 12.5 ft deep (LB-5-1, 2, 3, 4, and 5). No unusual odor was noted.

Trench LF-6 03/31/87 9:40 — 10:05

The trench was approximately 15 ft long and 9 ft deep. Soil was light brown clayey silt with no building debris. Collected one VOA sample (LF-6), 6 ft in from stake and 9 ft down. Five 4-oz samples were collected 6 ft in from the stake, 9 ft down (LF-6-1, 2, 3, 4, and 5). No unusual odor was noted. A VOA sample was taken from this location because a VOA sample was needed from the central region of the Landfill.

SAMPLES COLLECTED FROM RAVINE NORTHWEST OF LANDFILL (DENOTED LFR-)

All samples were collected for volatile organic analysis with a slide hammer ~8 in. below surface at bottom of drainage. The samples were collected in order to determine if any volatile organic constituents had leached from the Landfill into the soils of the small ephemeral drainage which runs along the northwest of the Landfill.

LFR-1

Sample was collected at 14:27 at upstream edge of Landfill, west of well RD-7.

LFR-2

Sample was collected approximately 100 ft downstream of LFR-1, adjacent to area where 55-gal drums were visible in the side of the slope. Metal trash and construction debris were present in immediate vicinity.

LFR-3

Sample was collected approximately 300 ft downstream of LFR-2. LFR-3 was at the edge of Landfill furthest downstream.