SCS ENGINEERS







Construction Quality Assurance Report

Olympic View Sanitary Landfill
Port Orchard, Washington

Presented to:

WASTE MANAGEMENT

2400 West Union Avenue
Englewood, CO 80110-5354

Presented by:

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May 2008
File No. 07207006.01

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EXECUTIVE SUMMARY

This report presents information describing the quality of construction for the replacement of gas extraction wells and subsequent cover penetration repairs at the Olympic View Sanitary Landfill (OVSL). Details contained herein describe general project background information, general quality assurance activities, component specific construction monitoring, and supporting documentation. The chapters describing component specific construction monitoring address design, construction sequence/schedule, construction methods, and construction quality assurance (CQA) for their respective work element (construction component). Supporting documentation provides detailed results of all activities including: general inspection activities, meetings, review of data, visual observations, measurements, and field testing.

1.0 INTRODUCTION

The purpose of this report is to provide documentation that the 2008 gas extraction well installation and cover penetration repairs at OVSL have been conducted in a manner that meets the general intent of design in accordance with Waste Management, Inc. (WM) requirements.

1.1 SITE LOCATION AND DESCRIPTION

The closed OVSL facility is located on approximately 400 acres in Sections 3 and 10, Township 23N, Range 1W of the Willamette Meridian, Kitsap County, Washington. The facility is situated on an upland area approximately 10 miles southwest of the city of Bremerton. The facility address is 10015 SW Barney White Road, Port Orchard, Washington. The closed refuse fill area covers approximately 65 acres of the site. A site vicinity map is shown on Figure 1, and a site plan is presented on Figure 2.

The OVSL facility accepted municipal solid waste between 1967 and 2003. Landfill closure was completed in 2004, in accordance with Washington Administrative Code (WAC) 173-351. Landfill closure included construction of a landfill gas monitoring system, an active landfill gas collection and treatment system, a leachate collection and treatment system, a storm water drainage control system, and a final cover. The final cover consists of:

- 6-inch thick, low permeability soil
- 60-mil geomembrane
- Geonet composite
- 12-inch drainage layer
- Geotextile fabric
- 12-inches of vegetative topsoil and cover soil

The active landfill gas collection system consists of a total of 89 well heads (70 vertical wells, 7 horizontal wells, and gas extraction from 12 leachate collection riser connections) connected to a flare station.

1.2 BACKGROUND

SCS conducted a landfill gas control system evaluation in the winter and spring of 2006. In the evaluation, SCS noted design, construction, and operations and maintenance issues which prevented optimal extraction of LFG at the site.

Inspection of the well heads in January 2006 found that the majority (if not all) of the well head control assemblies needed to be repaired or replaced to allow for accurate flow measurements. Additionally, based on observed vacuum measurements and noticeable

surging, there were several locations along the conveyance pipe suspected of either being partially or fully obstructed or separated. Based on the observed gas composition, vacuum, and flow measurements, there were also many gas extraction wells suspected of either being partially or fully obstructed by water and/or collapsed well pipe (casing).

In the fall of 2006, SCS conducted additional investigations, repairs, and modifications to the gas system. Work included replacing well head control assemblies and associated flex hose, replacing PVC couplings with HDPE couplings on well heads, investigation/inspection and testing of the conveyance pipe, minor repairs, investigation/inspection of isolation valves, installation of sampling ports along the conveyance pipe, video inspection of a portion of the gas wells, and video inspection of a portion of the conveyance pipe.

During the first half of 2007, SCS performed several investigational and repair activities on the gas system and landfill. This work included well field balancing, video inspection of all wells not previously inspected including associated riser and lateral piping, investigation/inspection of isolation valves not previously inspected, surface emissions monitoring (SEM), perimeter probe monitoring, and installation of piping and well head control assembly at the LCO-4 location.

During the second half of 2007, SCS completed further investigations, repairs, and modifications to the landfill and gas system. Work performed during this time included well field balancing, installing and modifying well head control assemblies, repairing the lateral and header junction piping, replacing existing PVC Tees with HDPE Tees, investigating and repairing cover penetration seals, installing flow monitoring ports, investigating cover geomembrane locations, and retaining wall installation.

In early 2008, SCS completed the replacement of condensate trap No. 1. This report summarizes the installation of new gas collection wells and abandonment of deficient wells.

1.3 GENERAL DESCRIPTION OF WORK PERFORMED

- Installation of new gas extraction wells and cover penetration seals
- Abandonment of inoperable gas extraction wells
- Replacement of cover penetration seals for abandoned gas collection wells

1.4 PROJECT PARTIES AND RESPONSIBILITIES

Organizations and primary personnel participating in this construction project include:

• Owner	Waste Management, Inc. John Schrott
• CQA Consultant	SCS Engineers Ted Massart

- Surveyor — Parametrix, Inc. Clark Rowland
- Drilling & Well Installation Contractor — Terra Engineering & Construction Corporation Bob Acker
- Geosynthetics Contractor — Northwest Linings & Geotextile Products, Inc. Allen Whipple

1.5 DEFINITIONS

Quality Control (QC)

A planned system of inspections used to directly monitor and control the quality of a construction project (EPA, 1986). Construction quality control is normally performed by the contractor, and is necessary to achieve quality in the constructed or installed system. Construction quality control (CQC) refers to measures taken by the contractor to determine compliance with the requirements for materials and workmanship as stated in the plans and specifications for the project.

Quality Assurance (QA)

A planned system of activities that provides the owner and/or permitting agency assurance that the facility was constructed as specified in the design (EPA, 1986). Construction quality assurance includes inspections, verifications, audits, and evaluations of materials and workmanship necessary to determine and document the quality of the constructed facility. Construction quality assurance (CQA) refers to measures taken by the QA organization to assess if the contractor is in compliance with the plans and specifications for the project.

1.6 RELATED DOCUMENTS

The following documents define the scope of work and services for the implementation of construction of the gas extraction wells and cover system penetration seals.

- Summary of Completed Work 2007, Landfill Gas System Repairs, Modifications & Investigation, Olympic View Sanitary Landfill, March 2008 (SCS Engineers)

2.0 GAS EXTRACTION WELL CONSTRUCTION

This section discusses the work associated with the construction of the landfill gas extraction wells.

2.1 REFERENCE DRAWINGS

The following drawing is relevant to the gas extraction well construction:

- Figure 3, provided by Waste Management (WM)

2.2 DESIGN CLARIFICATIONS, MODIFICATIONS, ADDITIONS AND DELETIONS

The following clarifications, modifications, additions, and deletions are relevant to the gas collection system:

- Modification of gravel pack to extend 2-feet above slotted pipe
- Modification of upper bentonite seal to terminate at 6-inches below existing HDPE geomembrane cover and fill to cover depth with clean soil

2.3 CONSTRUCTION SEQUENCE AND SCHEDULE

Well construction and installation activities occurred from February 25, through March 8, 2008. The gas collection pipe construction and installation was conducted after the well installation and was completed in mid-March.

2.4 CONSTRUCTION METHODS

Construction of the landfill gas extraction wells consisted of drilling a 36-inch diameter boring to a specified depth using an IMT AF-130 drill rig with a barrel auger. Once the final depth of the boring was reached, approximately 2 feet of gravel was placed on the bottom. The extraction wells were constructed in 40-foot segments and placed into the boring. The slotted portion of the gas extraction well was factory fabricated using 6-inch diameter, slotted, Schedule 80 PVC. The slotting of pipe was done in accordance with the drawings provided. Each 40-foot section was lowered into the boring and secured while the next section was connected with Schedule 80 PVC couplings that were glued to each section and secured with four stainless steel screws inserted into each end of the coupling at approximately 90 degrees from each other. The final section of pipe was solid 6-inch diameter Schedule 80 PVC pipe set to protrude approximately 2 feet above the existing ground surface.

Once the well was in place, the annulus between the well piping and boring was backfilled with gravel around the slotted portion of the well. The gravel was placed to approximately two feet above the top of the slotted piping. The gravel consisted of round to sub-round 1 to 1.5-inch diameter rock. A 2-foot thick lower bentonite layer was placed above the gravel to inhibit air and water intrusion into the well. Clean soil was used to backfill above the lower bentonite layer to approximately 4-feet below ground surface. A second bentonite layer, approximately 1 foot thick, was placed above the soil layer to approximately 6-inches below the existing geomembrane cover. The lower and upper bentonite seals were hydrated with approximately 50 and 15-gallons of water, respectively. The final 6-inches below the geomembrane cover were backfilled with clean soil to create a working surface during geomembrane repairs.

The original extraction wells were abandoned by cutting, filling with bentonite, and capping below the ground surface. The new extraction wells were connected to the original lateral piping by welding a 90-degree elbow to the existing piping and extending the lateral to the new riser location for each well.

2.5 CQA ACTIVITIES

The CQA personnel were on site daily to verify that the landfill gas collection system was installed according to the drawings and specifications. Verification included visual observations and boring/completion log documentation. Documentation for this verification process is found in Appendix A. Verification included:

- Visual examination of boring cuttings
- Temperature measurements of the refuse at approximately 20-foot intervals
- Verification that backfill materials met the requirements of the drawings and specifications
- Verification that pipe materials met the requirements of the drawings and specifications
- Verification that extraction wells were installed according to drawings and specifications
- Documenting observations and measurements

Based on visual observation, the new gas extraction wells were installed in general accordance with the drawings as documented in Appendix A.

3.0 COVER GEOMEMBRANE REPAIRS

This section discusses the work associated with the repair of the geomembrane component of the cover system and cover penetration seals associated with the gas extraction wells.

3.1 REFERENCE DRAWINGS AND SPECIFICATIONS

WM personnel provided verbal direction on design and construction of the cover penetration seal. Figure 4 presents the detail of how the cover penetration seals were constructed. SCS relied on industry standards and internal specifications for verifying the quality of construction.

3.2 CONSTRUCTION SEQUENCE AND SCHEDULE

The majority of the cover geomembrane repair activities took place from March 14 through 17, 2008 with final completion of the repairs occurring on April 25, 2008. Inclement weather created delays during the geomembrane repair activities.

Cover repair activities consisted of installing geomembrane patches around the top tier extraction wells followed by the lower tier wells. Quality control testing and repairs, if needed, followed after initial replacement patch installation.

3.3 CONSTRUCTION METHODS

Installation of the cover patches consisted of deploying circular geomembrane patches and welding the patch to the existing cover geomembrane using extrusion welding techniques. Quality control measures included checking welding machines for proper welding parameters, trial welds, and testing seams for leaks. The following provides a brief general description of installation, testing methods, and sequence for a typical day's installation.

Prior to welding, each extrusion welding machine is checked for proper operating temperature, extrusion speed, and operator speed. This is done by conducting trial welds on small strips of geomembrane material. Trial welds are tested in the field using a field tensiometer to verify the welds meet strength requirements. If a test fails, the machine is adjusted and the process is repeated until the trial weld seam strength test passes. This ensures that welding machines are operating correctly before field welding commences.

The cover repair patches were trimmed to overlap the existing geomembrane cover by 4- to 6-inches. After the patches were trimmed they were heat tacked to the existing cover geomembrane with a hot air leister. During the heat tacking, some patches required cuts within the cover patch to allow the geomembrane material to lie flat without wrinkles or folds. All overlapping geomembrane seams were heat tacked prior to grinding. Grinding of the seam

areas was performed with a circular hand-held electric grinder. Once the seam areas were prepped and cleared of moisture and soil, welding of all seams was conducted using an extrusion machine.

The majority of the seams were tested using a vacuum box and soap solution. Seams were required to hold a vacuum of at least 5 pounds per square inch (psi) for 15 seconds or more without leaks to pass testing. Some of the seams were on severely sloping or undulating terrain. In these locations, a seal was unable to be achieved between the vacuum box and the geomembrane.

Any locations that failed vacuum box testing were documented on the appropriate CQA form. Failed locations were subsequently ground with the hand-held grinder and welded over with the extrusion machine. All failed tests were retested with the vacuum box after repairs were made.

Vertical seams along the well sleeve and circular seams at the sleeve-cover patch intersection were not vacuum tested because a seal between the vacuum box and the geomembrane material could not be attained. General procedure for testing these types of seams incorporates the use of a metal wire and subsequent spark testing to ensure no leaks. However, no spark testing was conducted during CQA testing activities.

A single stainless steel hose clamp with a worm gear fastener was affixed around a neoprene collar placed over the geomembrane near the top of the geomembrane sleeve. Butyl caulking was used to seal the top of the neoprene collar with the extraction well piping.

3.4 CQA ACTIVITIES

The SCS CQA Monitors verified the geomembrane was installed according to industry standards. Documentation for this verification process is found in Appendix B. Inspection for installation conformance included:

- Verifying installation procedures were met
- Verifying correct welding parameters were used
- Verifying seam integrity (leak testing)
- Verifying defects were repaired and tested

During installation of the cover patches, quality assurance monitoring was conducted by daily inspection of placement, trial welding, and testing of geomembrane material. Visual observation was made of seams for leaks.

As part of the geomembrane installer's quality control, information was recorded by the geomembrane installer to document that the geomembrane had been installed as specified. This documentation, the installer’s Trial Weld Form, is provided in Appendix B.

Verification that installation procedures were being met was accomplished by:

- Observing storage, handling, and installation of repair materials
- Observing correct overlap of geomembrane patch materials
- Observing cleaning of welding surfaces and welding of seams
- Visually inspecting all seams for defects after welding was completed
- Documenting welding information on geomembrane panel
- Collecting documentation from the Geosynthetic Contractor

Verification of correct welding parameters was met by:

- Observing trial welds on the same surface that welding was to be conducted
- Observing the Contractor's seam peel and shear testing of trial welds
- Reviewing test results of trial weld peel and shear tests
- Collecting documentation from the Contractor

Verification that seams were leak-free was met by:

- Observation of all vacuum testing of seams
- Verifying results of all vacuum testing of seams
- Documenting test results on geomembrane patch forms

Seam leak testing was conducted for all seams and repairs for the entire length of welds except the geomembrane sleeves and other locations as previously mentioned. Where possible, seam leak testing was conducted by vacuum box testing. Where seam leak testing did not pass, the leak was located, repaired, and retested. All vacuum box testing of seams was observed by the CQA Monitor.

Verification of locating, repairing and testing of defects and damage was met by:

- Visually inspecting all patches for defects and damage
- Visually observing repairs and leak testing
- Documenting repairs, welding information, location and test results on geomembrane patch forms

Based on a review of trial weld testing, seam leak testing, and visual observations, the cover patches of the landfill cover system were installed in general accordance with industry standards as documented in Appendix B. However, the Geosynthetic Contractor performed geomembrane patching and testing at location No. 83XX (upslope from GW-28) without a CQA Monitor present.

4.0 PROTECTIVE SOIL COVER AND VEGETATION

This section discusses the work associated with the replacement of protective soil cover and vegetation layers disturbed during gas extraction well installation.

4.1 REFERENCE DRAWINGS AND SPECIFICATIONS

The soil was replaced to match the surrounding soil cover, graded, reseeded, and covered with straw. No drawings or specifications were provided regarding the protective cover soil and vegetation layers. In lieu of a specification for the protective soil cover and vegetation layers, they were placed to match the surrounding ground surface.

4.2 CONSTRUCTION SEQUENCE AND SCHEDULE

The soil cover and vegetation replacement activities occurred from March 15 through 17 and April 20 through May 3, 2008. Weather delays associated with the geomembrane repair activities lengthened the soil and vegetation replacement schedule. In general, placement of the protective soil cover material was performed after the installation of the geomembrane cover repairs. The vegetation restoration was then performed after the protective soil cover replacement.

4.3 CONSTRUCTION METHODS

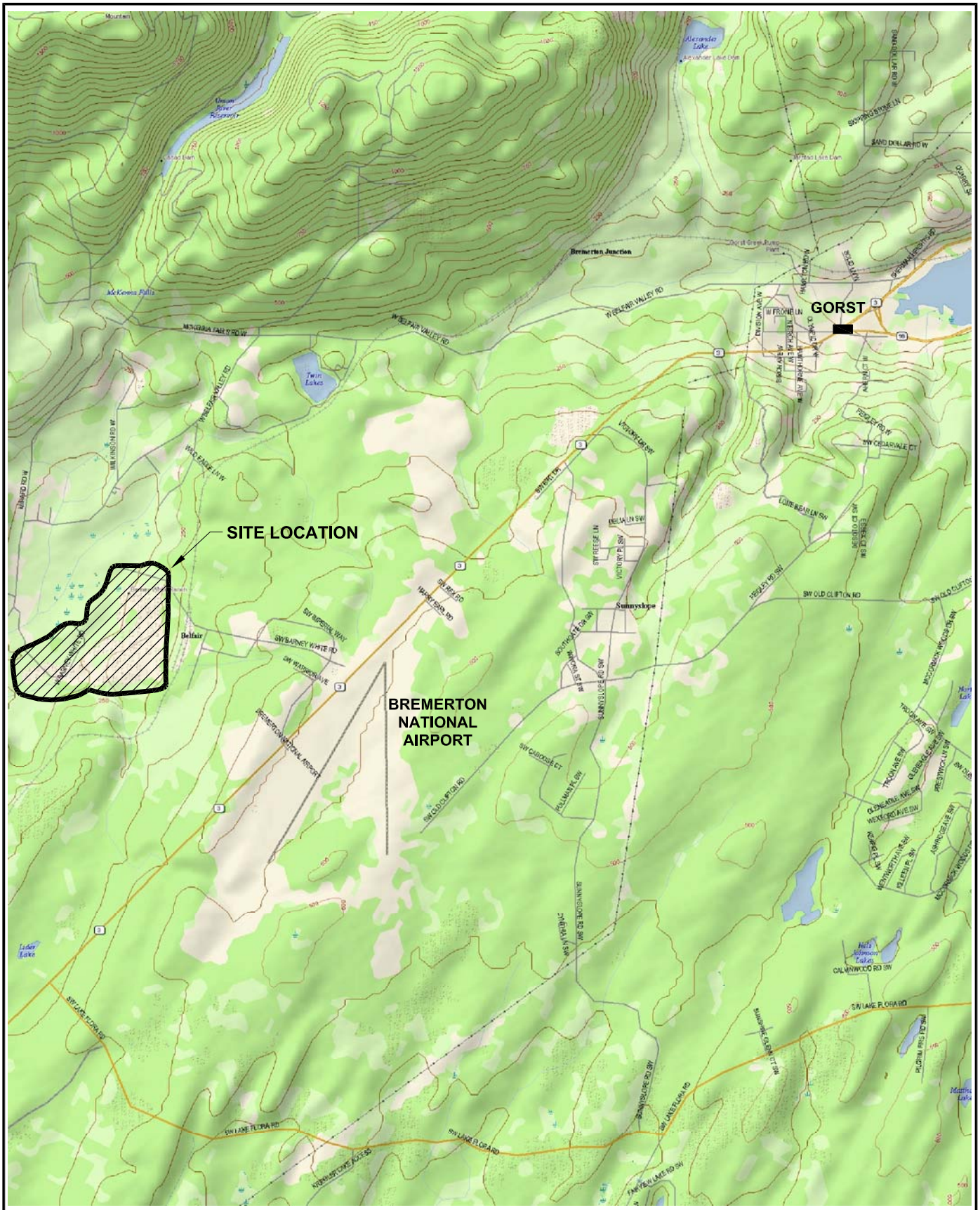
Replacement of the protective soil cover consisted of backfilling disturbed areas where gas extraction wells and connection piping were installed. After final grading, the soil layer was reseeded and covered with straw to prevent erosion of the cover soil material.

4.4 CQA ACTIVITIES

The CQA personnel were on-site to verify that the protective cover soil and vegetation layers were constructed to return the ground surface to its original condition. Verification consisted of visual observations. The CQA Monitor verified the protective cover soil and vegetation layers were constructed according to specifications. Inspections included the following:

- Observing placement of the cover soil
- Observing placement of seeds
- Verifying adequate seed coverage to establish a healthy stand of grass
- Observing placement of straw

Based on visual observations and field measurements, the protective cover soil and vegetation layers were installed in general accordance with the specifications.



SOURCE: DeLORME TOPO QUADS

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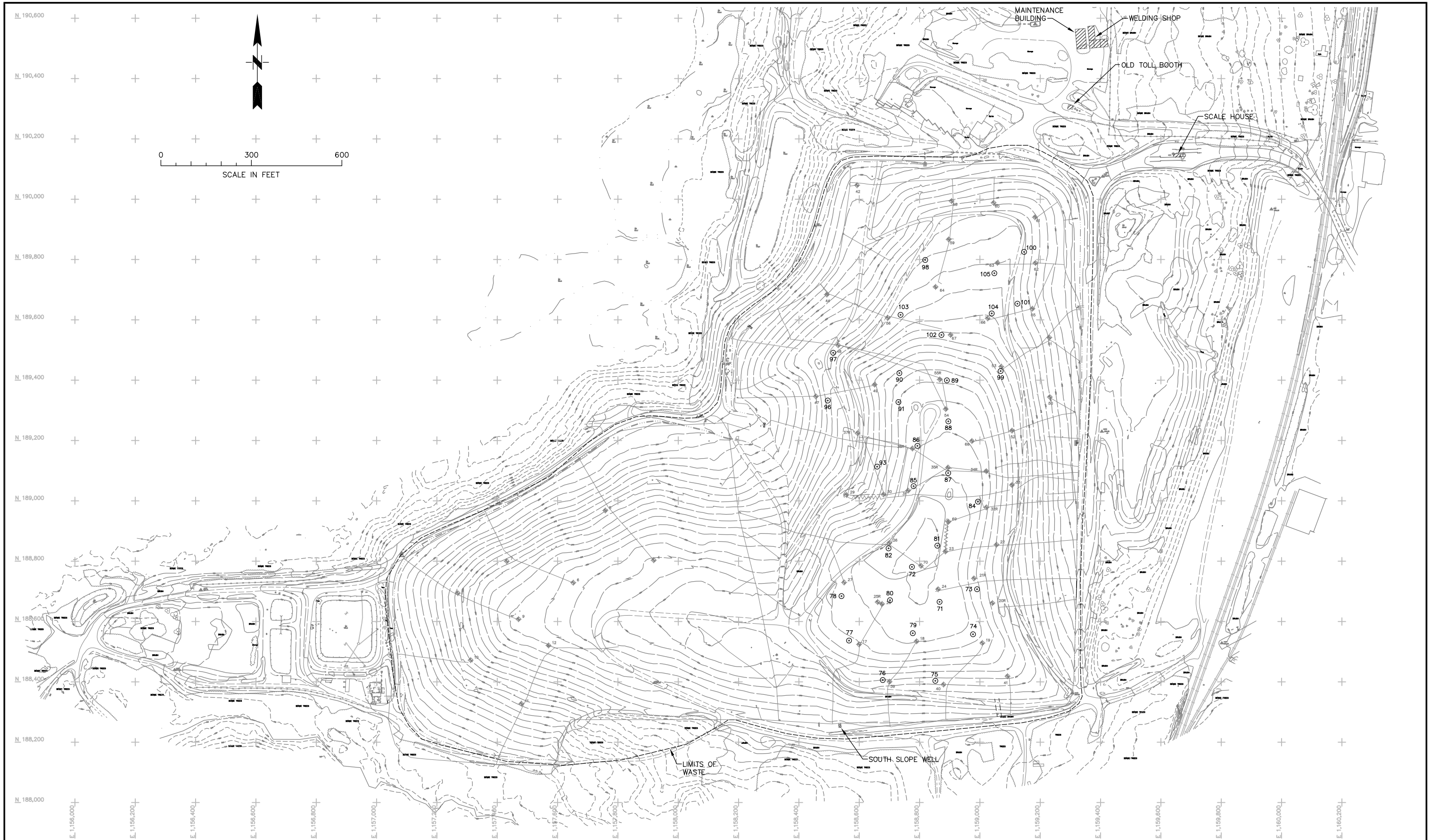
PROJECT NO. 07207006.01	DES BY TAM
SCALE AS SHOWN	CHK BY EMS
CAD FILE FIGURE 1	APP BY JMR

VICINITY MAP

OLYMPIC VIEW SANITARY LANDFILL
PORT ORCHARD, WASHINGTON

DATE MAY 2008

FIGURE 1



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TOPO SOURCE: PARAMETRIX INC. 3-3-06

NOTE:
NEED SURVEY DATA FOR WELL LOCATIONS 92, 94, 95, 106.

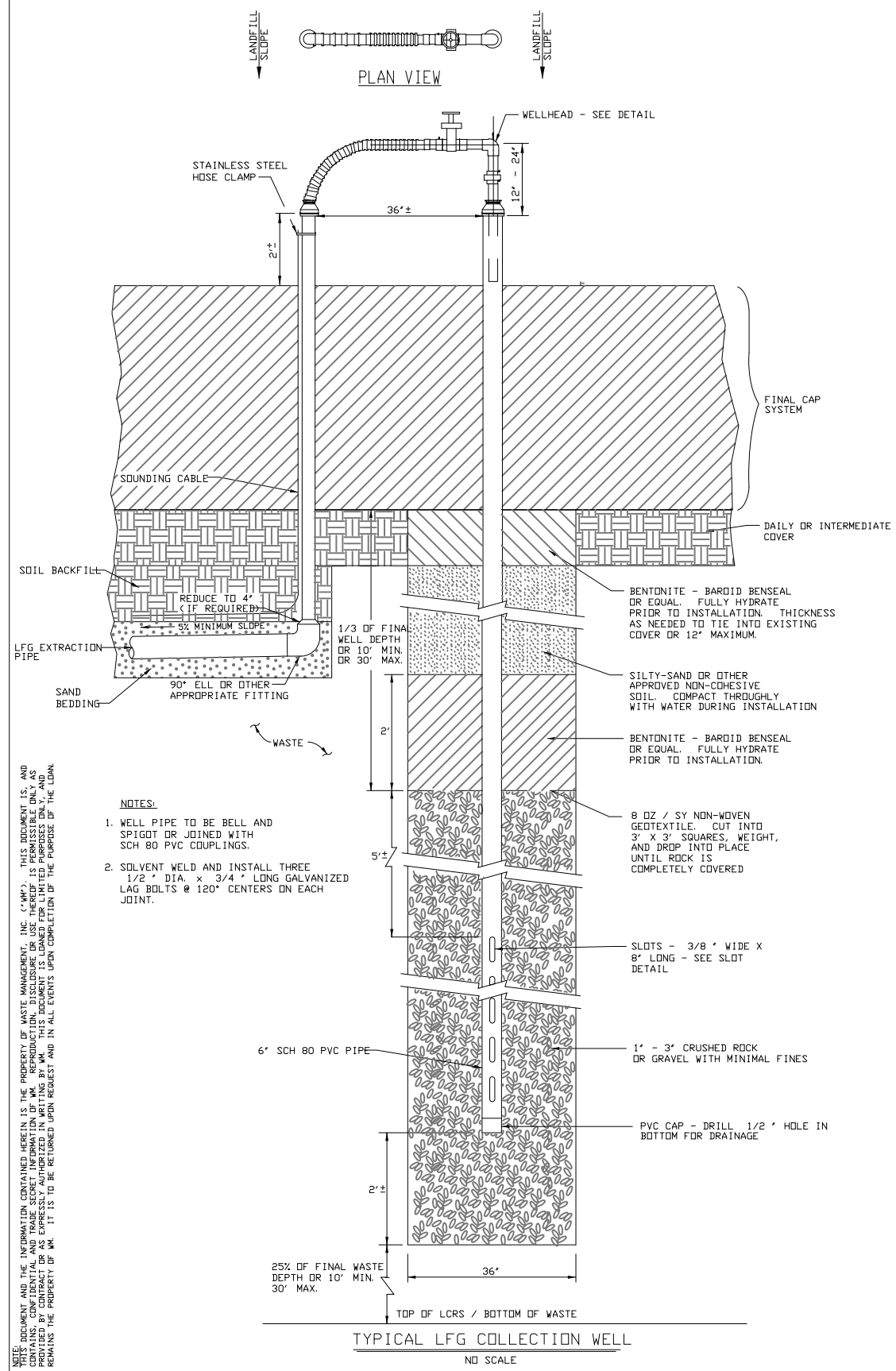
PROJECT NO. 07207006.01	DES BY TAM
SCALE AS SHOWN	CHK BY EMS
CAD FILE FIGURE 2	APP BY JMR

SITE PLAN

OLYMPIC VIEW SANITARY LANDFILL
PORT ORCHARD, WASHINGTON

DATE MAY 2008

FIGURE 2

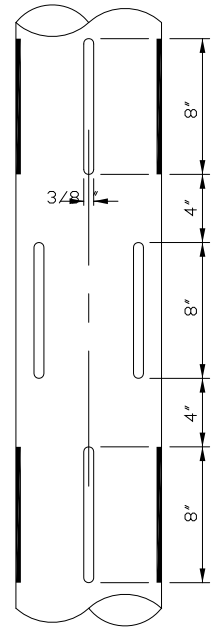


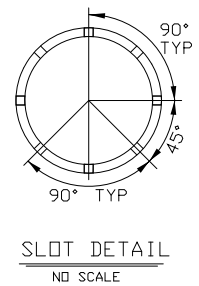
NOTES:

1. WELL PIPE TO BE BELL AND SPIGOT OR JOINED WITH SCH 80 PVC COUPLINGS.
2. SOLVENT WELD AND INSTALL THREE 1/2 " DIA. x 3/4 " LONG GALVANIZED LAG BOLTS @ 120° CENTERS ON EACH JOINT.

TYPICAL LFG COLLECTION WELL

NO SCALE





SLOT DETAIL

NO SCALE

WELL SCHEDULE

WELL	DESIGN FLOW (SCFM)	WELLHEAD SIZE	WELL PIPE SIZE	EXTRACTION PIPE SIZE	ORIFICE PLATE SIZE	EASTING	NORTHING	APPROX. DEPTH

NOTE:

1. WELL LOCATIONS ARE APPROXIMATE AND MAY BE ADJUSTED BY PROJECT ENGINEER OR PROJECT MANAGER TO ACCOMMODATE FIELD CONDITIONS AND FACILITATE CONSTRUCTION.
2. WELL DEPTHS ARE APPROXIMATE AND LISTED FOR REFERENCE ONLY. DO NOT DRILL TO THESE DEPTHS. ACTUAL WELL DEPTHS TO BE COMPUTED AND PROVIDED BY PROJECT ENGINEER BASED ON SURVEY OF EXACT WELL LOCATIONS AND LINER AS - BUILT RECORDS.

WASTE MANAGEMENT

TYPICAL LFG COLLECTION WELL - ABOVE GROUND WELLHEAD, SOIL CAP

Drawing No: ????-????-DET-01

Scale: As Shown

Date: Nov. 2002

Sheet Number: P-35

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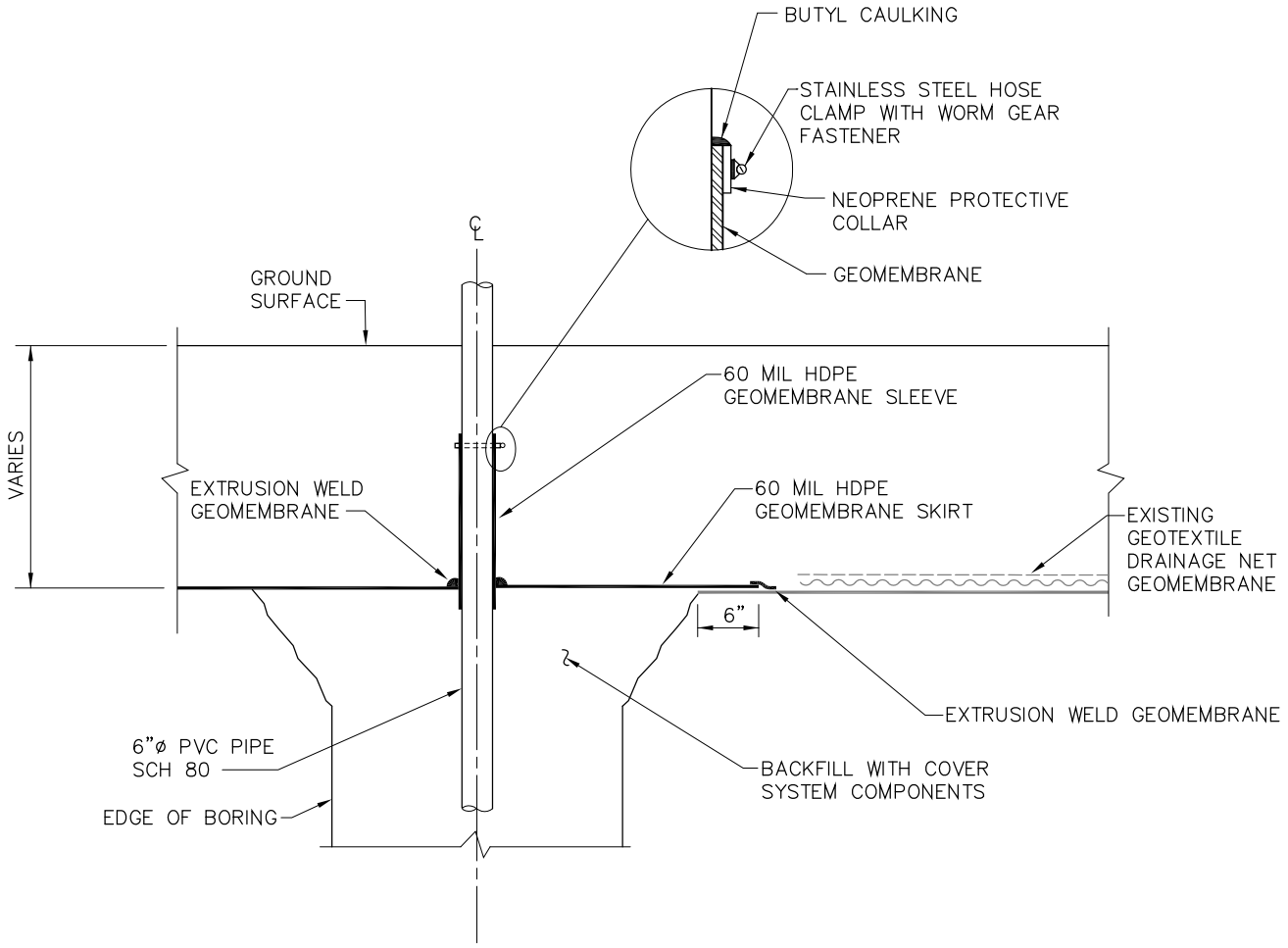
PROJECT NO. 07207006.01	DES BY *
SCALE AS SHOWN	CHK BY *
CAD FILE FIGURE 3	APP BY *

LANDFILL GAS EXTRACTION WELL DETAIL

OLYMPIC VIEW SANITARY LANDFILL
PORT ORCHARD, WASHINGTON

DATE MAY 2008

FIGURE 3



NOTE: DESIGN AS DIRECTED BY WASTE MANAGEMENT, INC.

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PROJECT NO. 07207006.01	DES BY *	COVER PENETRATION REPAIR DETAIL	DATE MAY 2008
SCALE NOT TO SCALE	CHK BY *	OLYMPIC VIEW SANITARY LANDFILL PORT ORCHARD, WASHINGTON	FIGURE 4
CAD FILE FIGURE 4	APP BY *		

EXHIBIT A – PHOTOGRAPHS


AF 130


IMT


10-R


5 Gallons

APPENDIX A

Boring/Well Completion Logs

BORING LOG

SCS ENGINEERS
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2405 140th Ave NE
Suite 107
Bellevue, WA 98005
800-727-6393
FAX (206) 746-6747

PROJECT: OVSL
HOLE #: 71 (GW-24-R Hub El. 139.8)
PROJECT LOCATION: Port Orchard, WA
DIAMETER: 36"
JOB NUMBER: 07 207006.01
TOTAL DEPTH: 88' (projected) → 81' (actual)
GEOLOGIST/ENGINEER: S. Bond / C. Southgate
DATE STARTED: 2/25/08
DRILLER: Terra
DATE COMPLETED: 2/27/08
DRILL RIG: IMT AF-130
SAMPLING DEVICE: NA
DRILLING METHOD: Barrel Auger
PAGE: 1 OF: 4

DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
0		10:00				0-9' Soil Began Drilling 10:00
1						
2						Screw auger - geomembrane @ 2.5'
3		soil cover; bentonite 3 bags; 7" liner				
4					2	Cover Soil
5						
6						
7						
8					2	Soil
9						
10		6"ø SCH80 solid PVC pipe				
11						Refuse Dark grey, plastics
12						textile, wood, paper, organics
13						metals
14		bentonite (hydrated) (16 bags)				switch to clam bucket
15						
16						
17		gravel				
18						
19				T=90° @ 19'		
20		6"ø SCH80 slotted PVC pipe				
21						clay @ 21'
22						
23						
24						
25						

10:34

BORING LOG

PROJECT: OUL HOLE/WELL #: 71

JOB NUMBER: 07209000.01 PAGE: 2 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
26						switched to screw auger ~27'
29		6" OD SCH 80 Slotted PVC Pipe				Refuse - dark gray, plastics, textiles, metal, wood, gravel
31						switched to clamshell bucket
35						Rubber present in refuse (tires) 1100
39		Joint		T= 118°F @ 39'		Refuse, very dark gray plastic, paper, wood
49		gravel				Refuse, dark gray, plastic, wood, metal, organics, some gravel, moist
50				~49' @11:30		

BORING LOG

PROJECT: OVSC HOLE/WELL #: 71 (24R)

JOB NUMBER: 0720700G6.01 PAGE: 3 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
50						
		Gravel				
55						
		Joint				
60				T: 137° C 68°		Refuse - very dark grey, moist, plastics, organics, wood, gravel textile 1156
		6" ø SCH 80 Slotted PVC Pipe				
65						
						Saturated @ 63'
70						
75						

Hydraulic Lock @ 1224 → stopped @ 74'

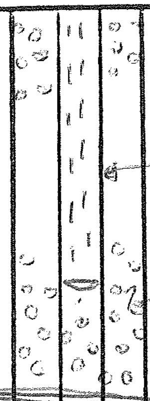
Started @ 7:00 am 2/27/08 → hole caved to 71'

BORING LOG

PROJECT: OVSL | HOLE/WELL #: 71 [illegible]

JOB NUMBER: 07207006.01 | PAGE: 4 | OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
76						
77		6" Ø SCH 80 Slotted PVC Pipe				
78						
79		gravel				
80						Refuse, wet, black, textile plastic, organics
81						
82			T: 1224.5' @ 81			stopped @ 81' 754
83						
84						
85						
86						
87						
88						
89						
90						
91						
92						
93						
94						
95						
96						
97						
98						
99						
100						

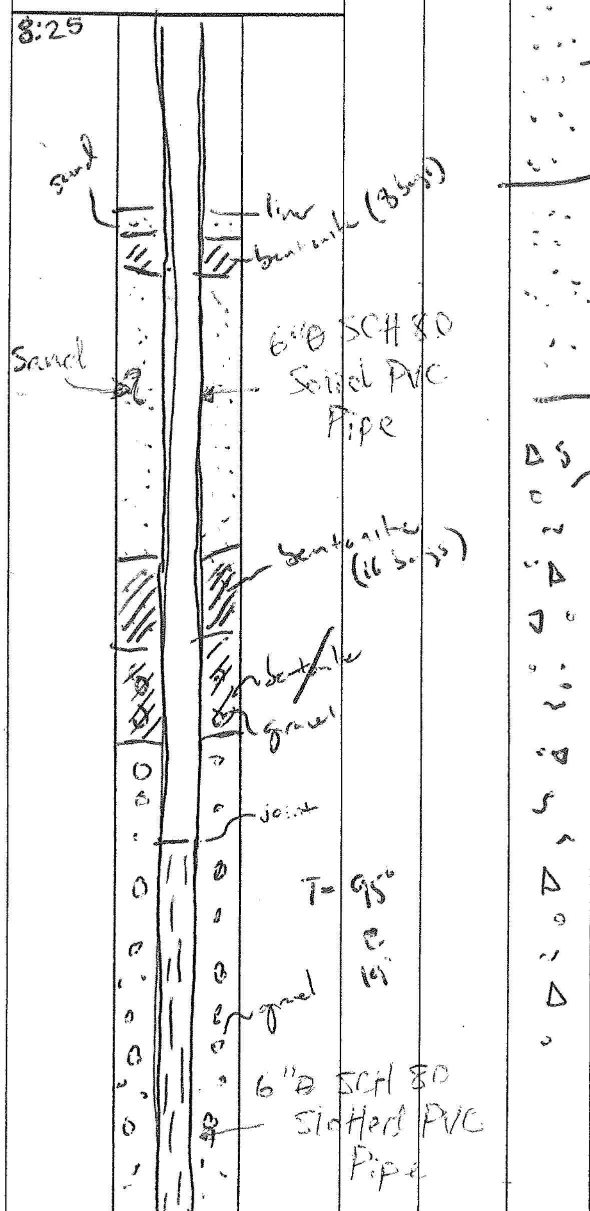


BORING LOG

SCS ENGINEERS
ENVIRONMENTAL CONSULTANTS
2405 140th Ave NE
Suite 107
Bellevue, WA 98005
800-727-6393
FAX (206) 746-6747

PROJECT:	OVSL	HOLE #:	72 (GW-70R Hub-~~3404~~ 3407)
PROJECT LOCATION:	Port Orchard, WA	DIAMETER:	36"
JOB NUMBER:	07207006.01	TOTAL DEPTH:	91' (98' projected)
GEOLOGIST/ENGINEER:	S Bond	DATE STARTED:	2/27/08
DRILLER:	Terra	DATE COMPLETED:	2/27/08
DRILL RIG:	IMT AE-130	SAMPLING DEVICE:	
DRILLING METHOD:	Barrel Auger	PAGE:	1 OF: 4

DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
						start 825
0		8:25				
1						Soil
2						
3						
4						geomembrane @ 4'
5						
6						Soil
7						
8						
9						
10						Refuse - dry/moist, dark grey, wood, plastics, textiles, metals, organics
11						
12						
13						
14						
15						
16						
17						
18						90i
19						
20						
21						
22						
23						
24						
25						



BORING LOG

PROJECT: OVSL
HOLE/WELL #: 72 (MW)
JOB NUMBER: 07207006.01
PAGE: 2 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
26						
27						
28						
29						
30						
31						
32		gravel				
33						
34						
35						
36						
37						
38		joint				
39		6" Ø SCH 80 slotted PVC Pipe				
40						Refuse, moist, dark gray, plastics, wood metals, organics, very sandy
41						
42		T= 128' @ 42'				
43						
44						
45						rubber (tire)
46						
47						
48						
49						
50						

Refuse, moist, gray - plastics, organics, sand, wood, gravel (very sandy)

92+

BORING LOG

PROJECT: OISL HOLE/WELL #: 72

JOB NUMBER: 07207006.01 PAGE: 3 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
51					B	Refuse - moist, dark grey plastics, textiles, wood, organics, gravel
52						
53						10:03
54						
55						
56						
57						
58						
59						
60		joint				
61		gravel				Refuse, grey, moist, plastics, paper, wood, organics
62			T= 134° @ 62'			
63						
64						
65		6" ø SCH 80 Slotted PVC Pipe				
66						
67						
68						
69						
70						Refuse, moist, v. dark grey, organics, wood, cardboard, plastics
71		joint				
72						
73						
74						
75						

BORING LOG

PROJECT: OVSL HOLE/WELL #: 72

JOB NUMBER: 07207006.01 PAGE: 4 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
76						
77						
78						
79						
80			T= 1400			Refuse, moist, v. dark grey, wood, plastics organics, gravel
81						
82		gravel				
83						
84						
85		6" ø SCH 80 Slotted PVC Pipe				
86						Refuse, moist, v dark 1114 grey - plastics, cardboard wood, organics
87						
88						
89		cap				
90						saturated @ 91'
91						1132
92						STOPPED AT 91'
93						1153
94						
95						
96						
97						
98						
99						
100						

Total screen length ~78.5' 71.5'

BORING LOG

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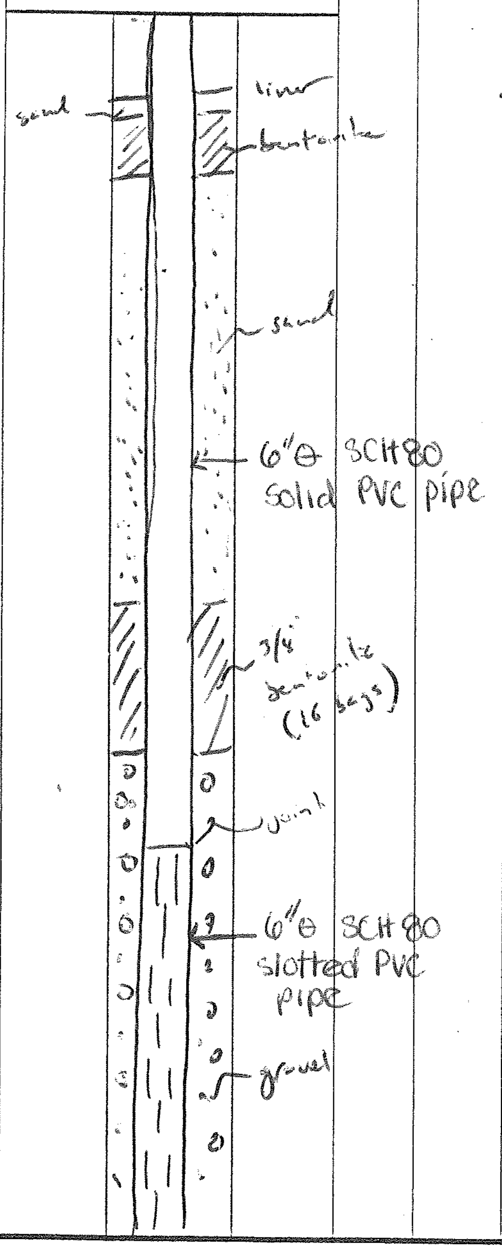
PROJECT:	OVSL	HOLE #:	73 (GW-21R HUB-366.0)
PROJECT LOCATION:	Port Orchard, WA	DIAMETER:	36"
JOB NUMBER:	07207006.01	TOTAL DEPTH:	76' (76 projected)
GEOLOGIST/ENGINEER:	S Bond	DATE STARTED:	2/27/08
DRILLER:	Terra	DATE COMPLETED:	2/27/08
DRILL RIG:	IMT - AF-130	SAMPLING DEVICE:	NA
DRILLING METHOD:	Barrel Auger	PAGE:	1 OF: 4

DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
0						START @ 1225
2						geotextile liner @ 2'
4						soil
12						Refuse - dark grey, dry/moist, plastics, wood, metal - mostly clay/soil
15						Refuse - moist, dark grey, plastics, metals, organics

Depth scale: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25



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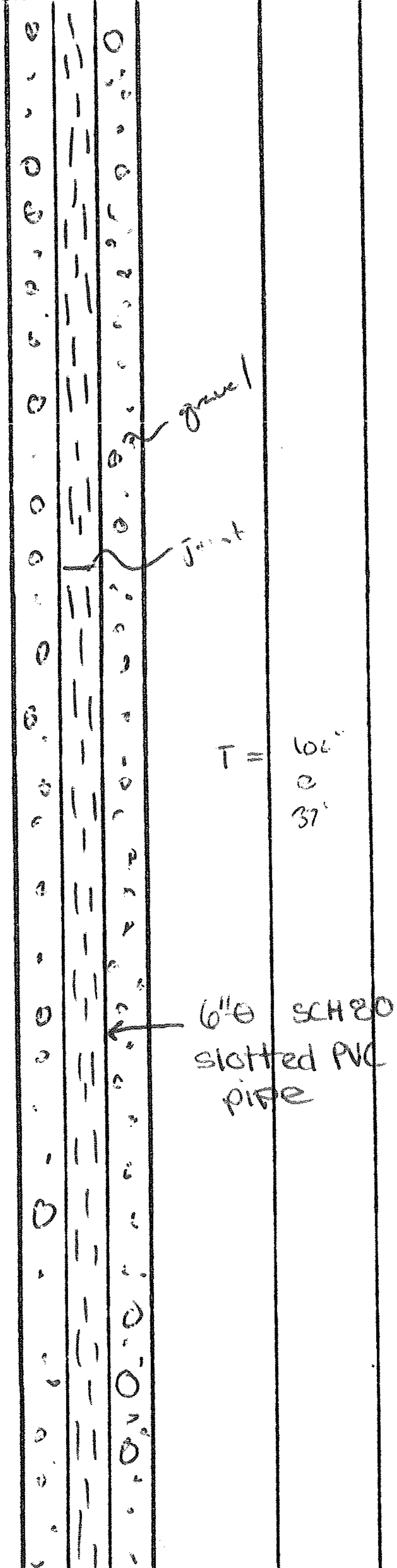
PROJECT: OJSL HOLE/WELL #: 13

JOB NUMBER: 07207006.01 PAGE: 2 OF: 4



DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
26						
27						
28						
29						
30						
31						
32						
33						
34						
35						
36						Refuse - moist, dark gray - plastics, wood, organics, textile
37			T = 106° @ 37'			1308
38						
39						
40						
41						
42						
43						
44						
45						
46						creosote odor apparent at 46'
47						Refuse, dark gray, moist plastics, wood, textile gravel, organics
48						
49						
50						

BORING LOG

PROJECT: OVSL HOLE/WELL #: 73

JOB NUMBER: 07207000.01 PAGE: 3 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
51						
52			T= 126° C 52'			-Refuse, dark grey, moist -plastics, wood, organics 1342
53						
54		joint				
55						
56						
57						
58						
59		gravel				
60						-Refuse, dark grey, v. moist -plastics, wood, organics textile
61						
62						
63						
64						
65		6"ø SCH80 slotted PVC pipe				
66						-Refuse, black/dk grey, very moist, plastics textile, wood, organics 1414
67						
68						
69						
70						
71						
72			T= 108° C 72'			
73						
74		cap				
75						

Screen Length ~ 36.5'

BORING LOG

PROJECT: OVSL HOLE/WELL #: 73

JOB NUMBER: 072070CC6.01 PAGE: 4 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
76		gravel				Stopped @ 76' 1429
77						
78						
79						

BORING LOG

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PROJECT: OVSL
PROJECT LOCATION: Port Orchard, WA
JOB NUMBER: 07207006.01
GEOLOGIST/ENGINEER: SBlack
DRILLER: Terra
DRILL RIG: IMT AF-130
DRILLING METHOD: Bucket Auger

HOLE #: 74 (GW 19R HWB 382.3)
DIAMETER:
TOTAL DEPTH: (73' projected) 73.5' actual
DATE STARTED: 2/27/08
DATE COMPLETED: 2/27/08
SAMPLING DEVICE: NA
PAGE: 1 OF: 3

DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
0						START 1505
1						soil
2		soil				geotextile liner @ 2'
3		bentonite (8 s.s.)				
4						
5						
6						soil
7		6" Ø Sch 80 slotted PVC pipe				
8						
9		soil				geotextile @ approx. 9'
10						Refuse @ 10' 1331
11						grey, dry/moist,
12						plastic, wood, textile,
13						gravel/soil, organics
14						
15		bentonite				
16						
17						
18						
19						
20						Refuse - moist, dark grey
21		gravel	107 @ 21'			plastics, wood, textiles,
22						metals, organics
23						
24		6" Ø Sch 80 slotted PVC pipe				
25						

BORING LOG

PROJECT: OVSL HOLE/WELL #: 74

JOB NUMBER: 0720-7006-01 PAGE: 2 OF: 3

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
26						
27						
28						
29						
30						
31		gravel				
32						
33						
34						
35						Refuse, dark grey, moist, textile, plastic, wood, organics, gravel
36						
37						
38		Joint				
39						
40				105.9 C 40		Refuse, dark grey, moist, plastic wood organics, gravel, soils
41						
42		6" Sch 80 Slotted PVC pipe				
43						
44						
45						
46						
47						
48						
49						
50						

BORING LOG

PROJECT: OVSL HOLE/WELL #: 74

JOB NUMBER: 07207606.01 PAGE: 3 OF: 3

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
51				106.3 @ 52'		Refuse @ 52' - soils, plastics, wood, organics wire, rope
52						
53		gravel				
54						
55						
56						
57						
58		joint				
59						
60				127.8 @ 60'		Refuse @ 60' soils, plastics, wood, organics, wire, - moist
61		6" Ø Sch 80 slotted PVC pipe				
62						
63						
64						
65						
66						
67						
68						
69						
70						
71						Refuse @ 72' plastics, wood, organics, wire - moist
72		cap		117.0 @ 72'		
73						
74						Stop @ 73.5' 1758
75						

BORING LOG

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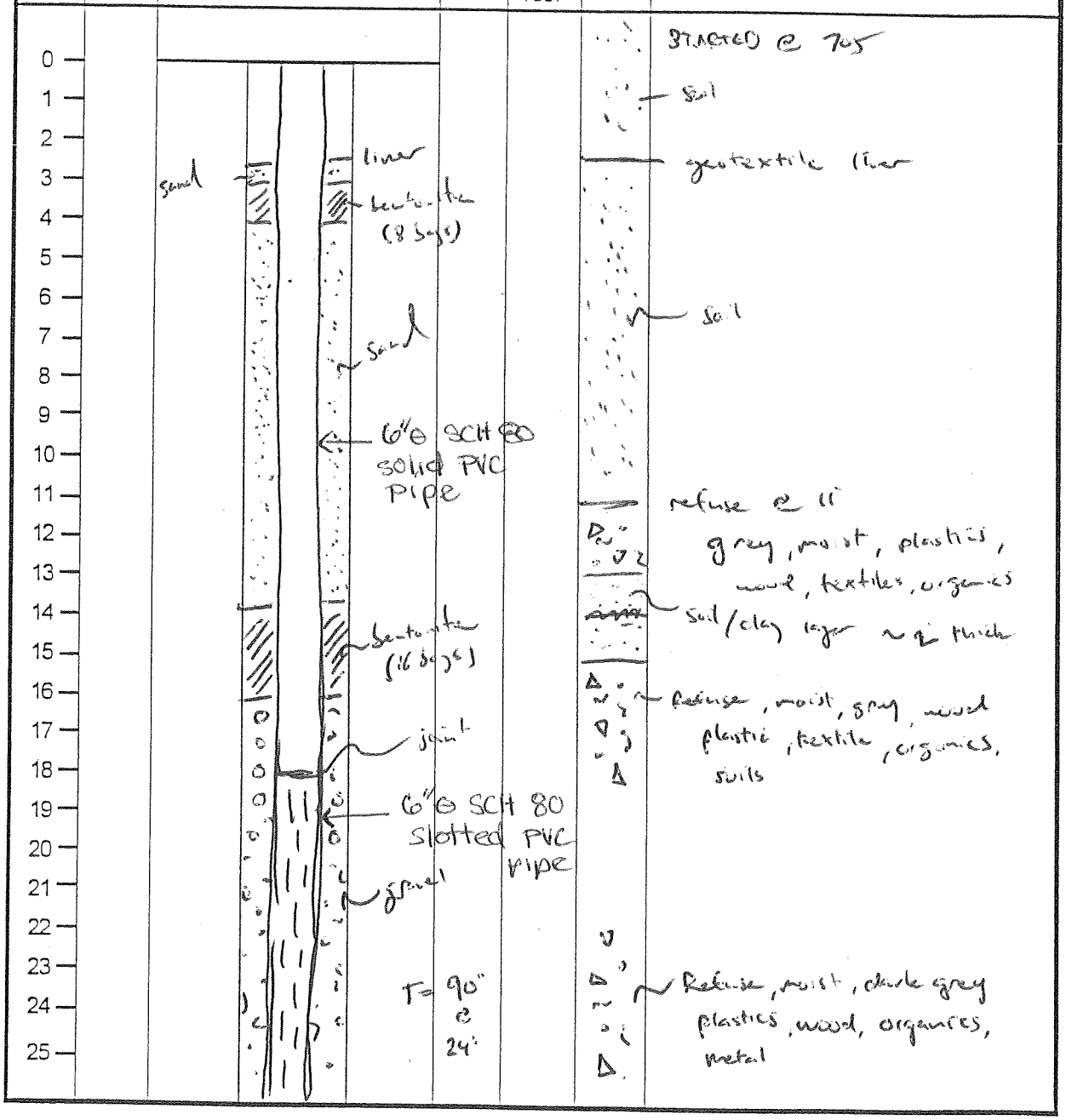
PROJECT: OVSL
HOLE #: 75 (GW 40R HWB 307.9)
PROJECT LOCATION: Port Orchard, WA
DIAMETER: 36"
JOB NUMBER: 072070006.01
TOTAL DEPTH: 47' (47' projected)
GEOLOGIST/ENGINEER: S Bond
DATE STARTED: 2/28/08
DRILLER: Terra
DATE COMPLETED: 2/28/08
DRILL RIG: IMT AF-130
SAMPLING DEVICE: NA
DRILLING METHOD: Barrett Auger
PAGE: 1 OF: 2



BORING LOG

PROJECT: OU2 HOLE/WELL #: 75

JOB NUMBER: 0720700Co.01 PAGE: 2 OF: 2

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
26						
27						
28						
29						
30		6"ø SCH 80 slotted PVC pipe				
31						
32						
33						
34		gravel				
35						steel casing wrapped around bucket
36						
37						
38		sand T=96° @ 38'				Refuse, dark grey, v. moist plastics, wood, textile 933
39						
40						
41						
42						
43						
44						
45		cap				
46						Refuse, dark grey, v. moist plastics, wood, textile, organics
47						
48						
49						
50						

BORING LOG

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PROJECT: OVSL
PROJECT LOCATION: Port Orchard, WA
JOB NUMBER: 072070006.01
GEOLOGIST/ENGINEER: S Bond
DRILLER: Terra
DRILL RIG: IMT AC-130
DRILLING METHOD: Bored Auger

HOLE #: 76 (Gw-39 & HWB-309.9)
DIAMETER: 36"
TOTAL DEPTH: 48' (45' projected)
DATE STARTED: 2/24/08
DATE COMPLETED: 2/24/08
SAMPLING DEVICE: NA
PAGE: 1 OF: 2

DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
0						START 1028
1						soil
2						geotextile @ 2.5'
3		sand				
4		bentonite (8 bags)				
5						
6						
7						soil
8		6" ⌀ SCH 80 solid PVC pipe				
9						
10						
11						
12		bentonite (16 bags)				refuse @ 12'
13						dark grey, moist wood, plastic, textile organics, wire
14						
15						
16						
17						
18		joint				
19						
20		T=82° @ 21'				refuse, dark grey, moist textile, wire, wood, plastic organics
21						
22						
23						
24		gravel				
25		6" ⌀ SCH 80 slotted PVC pipe				

BORING LOG

PROJECT: OVSL HOLE/WELL #: 76

JOB NUMBER: 07207006.01 PAGE: 2 OF: 2

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
26						
27						
29						
29						
30		6" ⌀ Slit 80 slotted PVC pipe				
31						
32						Refuse, dark grey, moist, plastic, wood, organics, gravel
33		gravel				
34						
35						
36						
37						
38		joint				
39						
40						
41			T= 96° @ 41'			Refuse, dark grey, moist wood, plastic, organics textile
42						
43		cap				
44						
45						
46						Stopped @ 120'
47						
49						
49						
50						

Approx 23.5' screen

BORING LOG

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PROJECT: OUSL
PROJECT LOCATION: Port Orchard, WA
JOB NUMBER: 012070006.01
GEOLOGIST/ENGINEER: S Burd
DRILLER: Terra
DRILL RIG: IMT AE-130
DRILLING METHOD: Bucket Auger

HOLE #: 77 (GW-17R NAD-329.1)
DIAMETER: 36"
TOTAL DEPTH: 81' (81' Projected)
DATE STARTED: 2/28/08
DATE COMPLETED: 2/28/08
SAMPLING DEVICE: NA
PAGE: 1 OF: 4

DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
0						START 1220
1						soil
2		liner				geotextile @ 2'
3		sand				
4		bentonite (8 bags)				
5						
6						
7						Soil
8		sand				
9						
10		← 6" ø SCH 80 Solid PVC pipe				
11						
12						
13						clay layer ~1/2' - 1'
14		bentonite (16 bags)				Refusal @ ~14'
15						V. dark grey clay/mud (1258)
16						textile, plastic, wood
17						organics
18		joint				
19						
20						
21		gravel				
22						
23						
24		← 6" ø SCH 80 Solid PVC pipe				
25						

BORING LOG

PROJECT: OVSL HOLE/WELL #: 77

JOB NUMBER: 072070006.01 PAGE: 2 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
26						
27						
28						
29		gravel				
30						
31						
32						
33						
34						
35			T= 10:45			Refuse, gray, moist plastics, wood, organics
36			C			
37			35'			
38						
39						
40		6" ø SCH 80 solid PVC pipe				
41						
42						
43						
44						
45						
46						
47						
48						Refuse, moist, dark gray plastic, wood, textile organics, metal, gravel
49						
50						

BORING LOG

PROJECT: OVSC HOLE/WELL #: 77

JOB NUMBER: 07207006.01 PAGE: 3 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
51						
52						
53						
54						
55		gravel				
56						
57						
58						
59			T = 122° @ 59'			Refuse, dark grey, moist plastic, cardboard, textile, wood, metal, gravel 1355
60						
61						
62						
63						
64						
65		6" ⌀ SCH80 Slotted PVC pipe				
66						
67						
68						
69						
70						Refuse, dark grey, moist plastic, textile, wood, wire, pipe, organics
71						
72						
73						
74						
75						

BORING LOG

PROJECT: OVSC HOLE/WELL #: 77

JOB NUMBER: 07207006.01 PAGE: 4 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
76		6" ϕ SCH 80 slotted PVC pipe				
77						
78		gravel				
79			T= 116 e 80'			Refuse, dark grey, moist plastic, wood, wire, organics
80						
81						
82						Stopped ~ 1423
83						
84						
85						

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PROJECT: OVSL
HOLE #: 78 (GW-27R Hub - 732.5)
PROJECT LOCATION: Port Orchard, WA
DIAMETER: 36"
JOB NUMBER: 07207006-01
TOTAL DEPTH: 91.5' (91' projected)
GEOLOGIST/ENGINEER: S Bond
DATE STARTED: 2/28/08
DRILLER: Terra
DATE COMPLETED: 2/28/08
DRILL RIG: IMT AF-130
SAMPLING DEVICE:
DRILLING METHOD: Barrel Auger
PAGE: 1 OF: 4

DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
0						START - 1502
1						soil
2						
3		sand; liner				geotextile @ 3.5'
4		bentonite (8 bags)				
5						
6						soil
7						
8						
9		sand				
10						Refuse @ 10'
11		6" ⌀ SCH 80 solid PVC pipe				Grey, dry/moist, plastic, cardboard, wood, rubber, wire, organics
12						
13						
14		bentonite (10 bags)				
15						
16						
17						
18		joint				
19						
20						
21		gravel				
22						Refuse, grey, dry/moist
23		T = 96' @ 23'				Plastics, wood, textile, organics
24						1521
25		6" ⌀ SCH 80 slotted PVC pipe				

BORING LOG

PROJECT: OVS HOLE/WELL #: 78

JOB NUMBER: 07207006.01 PAGE: 2 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
26						
27						
28						
29						
30						Refuse, grey, moist
31						Plastics, wood, textile,
32						organics
33						
34		← 6" Ø SCH 80 slotted PVC pipe				
35						
36						
37						
38						
39						
40						
41		gravel				
42						Refuse, grey, moist
43			T= 90° e 43'			wood, plastic, metal
44						soils, organics
45						
46						
47						
48						
49						
50						

BORING LOG

PROJECT: OVSL
HOLE/WELL #: 79
JOB NUMBER: 07207006.01
PAGE: 3 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
51						
52						
53		6" Ø SCH 80 slotted PVC				
54						
55		gravel				
56						
57						
58		Joint				
59						Retense, moist, v dark gry (10YR 3/1) wood, plastic, textile, rubber, gravel, organics
60		6" Ø SCH 80				
61						
62						
63						
64			T= 120° @ 64'			
65						Retense, moist, v. dark gry wood, textile, plastic gravel/cobbles, organics
66						
67						
68						
69		Joint				
70						
71						
72						
73						
74						
75						

BORING LOG

PROJECT: OVSL　　HOLE/WELL #: 18

JOB NUMBER: 0720700606.01　　PAGE: 4　　OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/FOOT	USCS SYMBOL	DESCRIPTION
76						Refuse, dark grey, moist plastics, wood, wire cardboard, textile, organics
77						
78						
79						
80		T= 114° @ 80'				Refuse, dark gray, moist. plastic, wood, gravel, organics
81						
82		gravel				1708
83						
84						
85		6" Ø SCH 80 slotted PVC pipe				Refuse, dark gray, moist plastic, wood, rubber, gravel, organics, soils
86						
87						
88						
89		cap				
90						
91						Stopped @ 91.5 · 1733
92						
93						
94						
95						
96						
97						
98						
99						
100						

~ 71.5' screen

BORING LOG

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PROJECT: OMSL
PROJECT LOCATION: Port Orchard, WA
JOB NUMBER: 072070006.01
GEOLOGIST/ENGINEER: S Bond
DRILLER: Terra
DRILL RIG: IMT - AF 103
DRILLING METHOD: Barrel Auger

HOLE #: 79 (600-18 R' HPA 336 d)
DIAMETER: 36"
TOTAL DEPTH: 84' (84' projected)
DATE STARTED: 2/29/08
DATE COMPLETED: 2/29/08
SAMPLING DEVICE: NA
PAGE: 1 OF: 4

DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
0						START 700
1						soil
2		sand; liner				geotextile @ 2'
3		sand; bentonite (8 sacks)				soil
4						
5						
6						Refuse @ ~6'
7						
8		sand				
9						
10		6" ø SCH 80 solid PVC pipe				
11						
12						
13						
14		sand; bentonite (16 sacks)				
15						
16						
17						
18		joint				
19						
20		gravel				
21						
22		6" ø SCH 80 slotted PVC pipe				
23						
24		T=98° @ 24'				Refuse, dk gray, moist 736 plastic, cardboard, wire/metals textile, gravel, organics
25						

BORING LOG

PROJECT: OVSC HOLE/WELL #: 7A

JOB NUMBER: 67207000.01 PAGE: 2 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
26						
27						
28		6" Ø SCH 80 slotted PVC pipe				
29						
30						
31						
32		gravel				
33						
34						
35						Refuse, dark grey, moist Plastics, textile, wood soils, organics
36						
37						
38		Joint				
39						
40						
41						
42						
43						
44						
45			T= 130° @ 45'			Refuse, dark grey, moist Wood, textile, metal, plastics, gravel, organics
46						
47						
48						
49						
50						~ Wet @ ~50'

BORING LOG

PROJECT: OVSL
HOLE/WELL #: 79
JOB NUMBER: 07207006.01
PAGE: 3 OF: 4

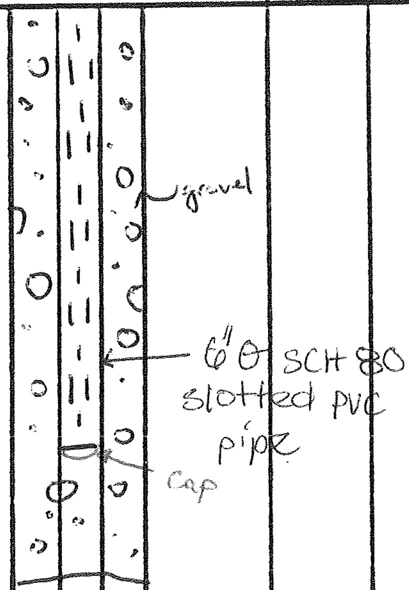
DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
51						
52						
53						
54		gravel				
55						
56						
57						
58		joint				
59						
60			T= 126° @ 62'			Refuse, dark grey, wet Plastic, textile, wood, Organics
61						
62		joint				
63						
64						Switched to sailer bucket @ 64' 930
65						
66		6" ø SCH 80 Slotted PVC Pipe				
67						
68						
69						
70						Switched to backe clamshell bucket @ 68' - material is drier after bailing
71						
72			T= 132° @ 72'			
73						Refuse, v. dark grey, v. moist Plastic, textile, wood, organics
74						
75						1000

BORING LOG

PROJECT: OVSL | HOLE/WELL #: 79

JOB NUMBER: 072070006.01 | PAGE: 4 | OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
76						
77						
78						
79						
80						Refuse, v. dk gray, moist plastic, wood, textile, organics, wire
81						
82						
83						
84						STOPPED @ 84' 1020
85						
86						
87						
88						
89						
90						
91						
92						
93						
94						
95						
96						
97						
98						
99						
100						



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PROJECT: OVSL
HOLE #: 80 (GW-25R Hole #337.3)
PROJECT LOCATION: Port Orchard, WA
DIAMETER: 36"
JOB NUMBER: 078207006.01
TOTAL DEPTH: 94'
GEOLOGIST/ENGINEER: BBond
DATE STARTED: 2/20/08
DRILLER: Terra
DATE COMPLETED: 2/21/08
DRILL RIG: AF 130
SAMPLING DEVICE: NA
DRILLING METHOD: Bucket Auger
PAGE: 1 OF: 4

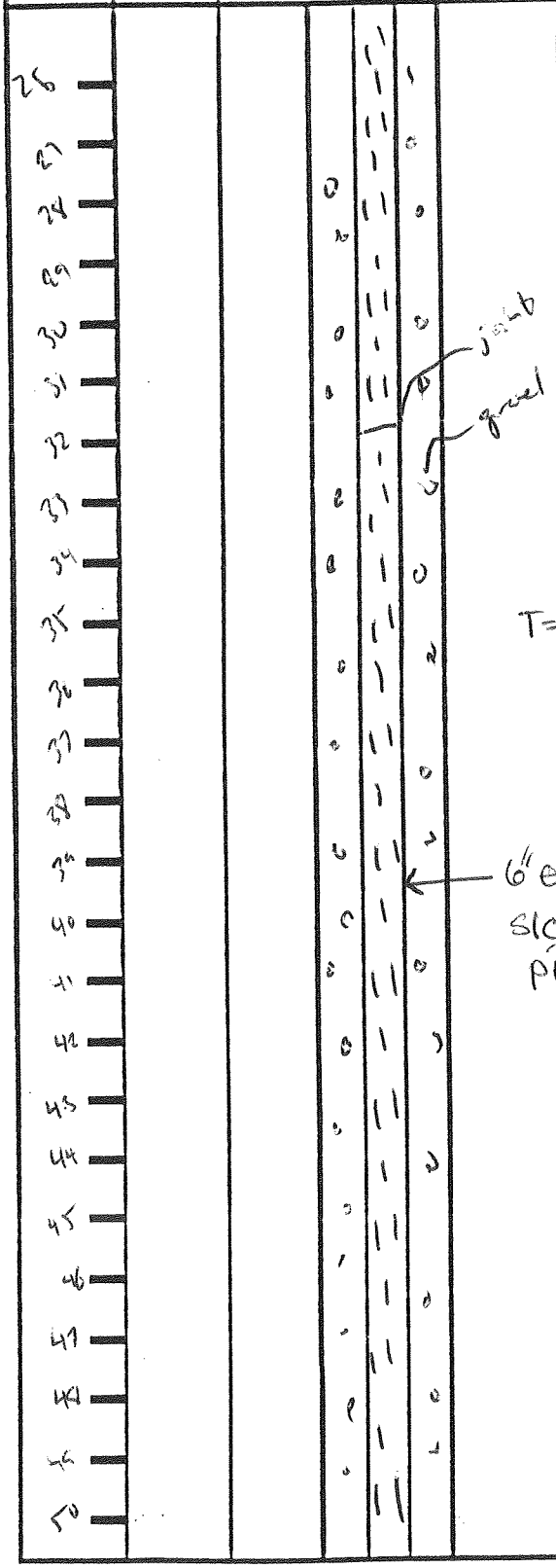
DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
0						START ~104'
1						soil
2		sand				geotextile @ 2'
3		bentonite				
4						
5						
6						soil
7						
8		sand				
9						
10		6" ϕ SCH 80 solid PVC pipe				
11						
12						Refuse @ 12'
13						Dark gray, dry/moist, plastic, textile, wood, soils
14						metals, organics
15		bentonite (16 bags)				
16						
17		joint				
18						
19		gravel				
20						
21						
22		6" ϕ SCH 80 slotted PVC pipe				
23						
24						
25						

BORING LOG

PROJECT: OVS- HOLE/WELL #: 30

JOB NUMBER: 07207006.01 PAGE: 2 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
25						
27						
29						
30						
31						
32						
33						
34						
35			T= 122° @ 35'			Refuse, dark grey, moist wood, plastic, cin, organics, textiles
36						
37						
38						
39						
40		6" ⌀ SCH80 slotted PVC pipe				
41						
42						
43						
44						
45						
46						
47						
48						
49						
50						Refuse, dark grey, moist plastic, wood, rubber, organics, textile



BORING LOG

PROJECT: OVSL HOLE/WELL #: 80

JOB NUMBER: 07207006.01 PAGE: 3 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
51						
52						
53						
54						
55						
56		gravel				
57						
58						
59			T= 127° @ 59'			Refuse, dark grey, moist plastic, wood, metal, textile, organics
60						
61						
62						
63		6" Ø SCH 80 slotted PVC pipe				
64						
65						
66						
67						
68						
69						
70						Refuse, dark grey, moist plastics, wood, textiles, organics
71						
72		joint				
73						
74						
75						

BORING LOG

PROJECT: OVSL HOLE/WELL #: 80

JOB NUMBER: 072070006.01 PAGE: 4 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
76						
77						
78						
79			T=132 @ 79'			Refuse, dark grey, moist organics, wood, metal, textiles, plastic
80						
81						Switch to screw auger @ 81' 1314
82						
83		7~ gravel				
84						
85		← 6" ⌀ SCH 80 Slotted PVC pipe				
86						
87						
88						
89						
90						Refuse, dark grey, moist wood, plastic, textile organics
91						
92		← cap				
93						
94						94'
95						
96						
97						
98						
99						
100						

BORING LOG

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PROJECT: OVSL
HOLE #: 81 (GW-23R 340.0)
PROJECT LOCATION: Port Orchard, WA
DIAMETER: 36"
JOB NUMBER: 07207006.01
TOTAL DEPTH: 95' (98' projected)
GEOLOGIST/ENGINEER: BBland / SJones
DATE STARTED: 2/25/08
DRILLER: Terra
DATE COMPLETED: 2/25/08
DRILL RIG: IMT AF-130
SAMPLING DEVICE: NA
DRILLING METHOD: Bucket Auger
PAGE: 1 OF: 4

DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
0						START 1415
1						soil
2						
3						geotextile liner @ 3'
4		sand; bentonite				
5						
6		soil				
7						
8						
9						
10		6" Sch 80 Solid PVC pipe				
11						Refusal @ 11'
12						dark grey, moist, plastic, metal, organics, textiles
13						
14						
15		bentonite				
16						
17						
18						
19		6" Sch 80 Slotted PVC pipe				
20						
21						
22		gravel				
23						
24						
25						

BORING LOG

PROJECT: OUSL HOLE/WELL #: 81

JOB NUMBER: 07207006.01 PAGE: 2 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
26						
27						
28						Refusal @ 28'
29			100% @ 28'			dark grey, moist wood, plastic, textile organics
30						
31						
32						
33		gravel				
34						Refusal @ 34'
35						dark grey, moist, wood, plastics, organics
36						
37						
38		joint				
39						
40						
41		6" OSL-80 slotted PVC pipe				
42						
43						
44			127% @ 44'			Refusal @ 44'
45						dark grey, moist, metal, plastics, wood, organics
46						
47						
48						
49						
50						

BORING LOG

PROJECT: OVSL HOLE/WELL #: 81

JOB NUMBER: 07207006.07 PAGE: 3 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
51						
52						
53						
54						
55						
56						
57						
58		joint				
59						Refuse @ 59' organics, soils, plastics, rope, metal
60						
61						
62		6" Sch 80 slotted PVC pipe				
63						
64						
65						
66						
67						
68						
69						
70						
71						
72						
73			130.1 @ 73'			Refuse @ 73' organics, soils plastics
74						
75						

BORING LOG

PROJECT: OVSL HOLE/WELL #: 81

JOB NUMBER: 0720700601 PAGE: 4 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
76						
77						
78		joint				
79						
80			134.5' @ 80'			Refuse @ 80' organics, soils, plastics, wood, wire
81		gravel				
82						
83						
84						
85		6" ø SCL80 Slotted PVC pipe				
86						
87						
88						
89						
90			132.5' @ 90'			Refuse @ 90' organics, soils plastics, wood
91						
92						
93						
94						
95						
96						
97						
98			132.5' @ 98'			Refuse @ 98' organics, soils, plastics, wood Stopped @ 98'
99						
100						

BORING LOG

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PROJECT: OVSL
HOLE #: 82 (GW-26R)
PROJECT LOCATION: Port Orchard WA
DIAMETER: 36"
JOB NUMBER: 07207 006.01 10
TOTAL DEPTH: 96'
GEOLOGIST/ENGINEER: M. Mendenhall
DATE STARTED: 3/1/08
DRILLER: Tevra
DATE COMPLETED: 3/1/08
DRILL RIG: Int AF-130
SAMPLING DEVICE:
DRILLING METHOD: Barrel Auger
PAGE: 1 OF: 4

DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
0						START 0950
1		← Sand				
2		Bentonite				
3						Geomembrane 3.5'
4						
5		← 6" ⌀ SCH 80 Solid PVC pipe				Refuse @ 5.0'
6						dense Dark Gray
7						Plastics, wood, Organics
8		SAND				
9						
10		Solid Casing				
11						
12						
13						
14						
15		Bentonite				
16						
17		Gravel				
18						
19		Joint				
20		T= 1059 @ 20'				Refuse @ 20'
21		Slated				Organics, Plastics, wood
22						Rod metal
23		← 6" ⌀ SCH 80				
24		Slotted PVC				
25		Pipe				

BORING LOG

PROJECT: OVSL HOLE/WELL #: 82

JOB NUMBER: 07207006.01 TASK 10 PAGE: 2 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
26		Gravel				
27						
28						
29						
30			T= 123.6° @ 30'			Refuse @ 30' Plastics, wood, Metal Organics, small amount soil
31						
32		6" ø Slotted PVC pipe				
33						
34						
35						
36						
37						
38						
39		Joint				
40			T= 137.2° @ 40'			Refuse @ 40' Plastics, Organics Rope, wire, wood Soils —
41						
42						
43						
44						
45						
46						
47						
48						
49			T= 135.7° @ 50'			
50						Refuse @ 50' Plastics, Organics Rope, metals, wood Soils —

BORING LOG

PROJECT: OVSL HOLE/WELL #: 82

JOB NUMBER: 07707006.01 TASK 10 PAGE: 3 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
51		Gravel				
52						
53						
54						
55						
56		6" ø SCH 80 Slotted PVC pipe				
57						
58						
59		Joint	T= 1325 @ 60'			Refuse @ 60' organics, plastics wood, metal, Rope
60						
61						
62						
63						
64						
65						
66						
67						
68						
69						
70			T= 1454 @ 70'			Refuse @ 70' organics, plastics wood, wire, metal
71						
72						
73						
74						
75						

BORING LOG

PROJECT: OUSL HOLE/WELL #: 82

JOB NUMBER: 07207006.01 Task 10 PAGE: 4 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
76		Gravel				
77						
78						
79		Joint				
80			T=143.3° @ 80'			Refuse @ 80' organics, soils metal, wood, plastics
81						
82						
83						
84		6" ø SCH80 slotted PVC pipe				
85						
86						
87						
88						
89						
90			T=137° @ 90'			Refuse @ 90' organics, soils, wood, plastics
91						
92						
93						
94		Cap				
95						
96			T=135.3° @ 96'			Refuse @ 96' organics, wood plastics, metal soils — FINAL @ 96'

BORING LOG

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PROJECT: OVSL
HOLE #: 83
PROJECT LOCATION: Port Orchard WA
DIAMETER: 36"
JOB NUMBER: 07207006.01 10
TOTAL DEPTH:
GEOLOGIST/ENGINEER: M. Mendenhall
DATE STARTED: 3/1/08
DRILLER: Terra
DATE COMPLETED: 3/1/08
DRILL RIG: IAF AF-130
SAMPLING DEVICE:
DRILLING METHOD: Barrel Auger
PAGE: 1 OF: 2

DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
0						START 1320
1						
2		No Well Set Fire in Formation				Geomembrane @ 2'
3						Refuse @ 3'
4						dense dark Gray
5						organics, wood
6						plastics
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20			T= 115°F @ 20'			Refuse @ 20'
21						wood, Roofing materials
22						Construction debris.
23						
24						
25						

BORING LOG

PROJECT: OUSL HOLE/WELL #: 83

JOB NUMBER: 07207006.01 TASK 10 PAGE: 2 OF: 2

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
26						
27						
28						
29						
30			T= 116.6° @ 30'			Refuse @ 30'
31						Construction debris Wood, Metal, organics Plastics -
32						
33						
34						
35						
36						Note: Fire Burning in Formation on East well Area (36')
37						
38						
39						
40			T= 131.6° @ 40'			Refuse @ 40'
41						Construction debris wood, Roofing materials Plastics
42						
43						
44						
45						
46						Note: Terminated drilling Due to a Fire in the Formation From 12-36'
47						
48						Area - Filled boring w/ Dirt fill to 12' mark and Filled Bentonite 2' - Hydrated
49						
50						AND Fill Hole w/ Dirt TO 8" Below Tiner.

(Time: 1545)

BORING LOG

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PROJECT: OUSL
HOLE #: 84 (GW-32R)
PROJECT LOCATION: Port Orchard, WA
DIAMETER: 36"
JOB NUMBER: 0720706.01 10
TOTAL DEPTH: 85'
GEOLOGIST/ENGINEER: S. Garibaldo
DATE STARTED: 3/2/08
DRILLER: Terra
DATE COMPLETED: 3/2/08
DRILL RIG: Int AF-130
SAMPLING DEVICE:
DRILLING METHOD: Barrel Auger
PAGE: 1 OF: 4

DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
						Start 0700
0						
1		Sand				Sand
2		Bentonite				
3						Geomembrane - 3'
4						
5						Refuse @ 5'
6						Dense Dark Gray Plastics, Wood,
7						
8		Sand				
9						
10						
11		6"ø SCH 80 Solid PVC pipe				
12						
13						
14		Bentonite				
15						
16						
17						
18						
19						
20		Joint	T=103° @ 20'			Refuse Wood, Plastics @ 20'
21						
22						
23		Gravel 6"ø slotted SCH 80 PVC Pipe				
24						
25		Joint				

BORING LOG

PROJECT: OUSL HOLE/WELL #: 84

JOB NUMBER: 0720706 01 10 PAGE: 2 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
26						
27						
28						
29						
30						
31						
32		6" ϕ sch 80 slotted PVC pipe				
33						
34						
35						
36						
37						
38						
39						Refuse @ 39'
40			T= 111° C 39'		1' Δ, 5' Δ, 1' Δ	Plastics, carpet soils
41						
42						
43						
44						
45		joint				
46						
47						
48						
49						
50			T= 138° C 50'		4' Δ	Refuse @ 50' Wood, wire, Plastics soils.

BORING LOG

PROJECT: OUSL HOLE/WELL #: 84

JOB NUMBER: 07207006.01 10 PAGE: 3 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
51						
52						
53						
54						
55						
56						
57		6" Ø SCH 80 slotted PVC pipe				
58						
59						
60						
61		Gravel				
62			T= 134° C, 63'			
63						Refusal @ 63' wood, plastics
64						
65		Joint				
66						
67						
68						
69						
70			T= 132° C, 70'			Refusal @ 70' wood, plastics
71						
72						
73						
74						
75						

BORING LOG

PROJECT: OUSC HOLE/WELL #: 84

JOB NUMBER: 07207006.01 10 PAGE: 4 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
76						
77		6"ø SCH80 slotted PVC pipe				
78						
79						
80		T= 129° C 80'				Refuse @ 80' Wood, Plastics, Soils, Metal
81						
82						
83		LAT				
84		T= 130° C 85'				
85						Final Depth @ 85.5' Time 10:12
86						
87						
88						
89						
90						
91						
92						
93						
94						
95						
96						
97						
98						
99						
100						

BORING LOG

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PROJECT: OUSL
PROJECT LOCATION: PORT ORCHARD
JOB NUMBER: 07207006.01 10
GEOLOGIST/ENGINEER: S. Gribaldo
DRILLER: TERRA
DRILL RIG: INT AF-130
DRILLING METHOD: Bored Auger

HOLE #: 85 (GW-31R)
DIAMETER: 36
TOTAL DEPTH: 67'
DATE STARTED: 3/2/08
DATE COMPLETED: 3/2/08
SAMPLING DEVICE:
PAGE: 1 OF: 3

DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
0						start 11:00
1		Sand				Sand
2						60 mil membrane @ 1'
3		Bentonite				Sand
4						
5						Refuse @ 5' Wood,
6						Plastics, metal, soils
7		Sand	98%			
8			8'			
9						
10						
11						
12		6" Ø SCH 80 solid PVC pipe				
13						
14						
15		Bentonite				
16						
17						
18						
19		Joint T=125°				
20						Refuse @ 20', Wood,
21						Plastics, carpet
22		Gravel				
23		6" Ø SCH 80 Slotted PVC pipe				
24						
25						

BORING LOG

PROJECT: OVSL HOLE/WELL #: 85

JOB NUMBER: 07207006.01.10 PAGE: 2 OF: 3

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
26						
27						
28						
29		Joint				
30						
31						
32						
33		Gravel				
34						
35						
36						
37						
38						
39						
40			T= 142° C 40'			Refuse @ 40' Metal, wood, Plastic
41						
42						
43						
44		6" ø SCH 80 slotted PVC pipe				
45						
46						
47						
48						
49		Joint				
50			T= 136° @ 50'			Refuse @ 50' Plastics, soils

BORING LOG

PROJECT: OVSL HOLE/WELL #: 85

JOB NUMBER: 07207006.01 10 PAGE: 3 OF: 3

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
51						
52						
53						
54						
55						
56		6" Ø SCH 80 slotted PVC pipe				
57						
58						
59						
60		T=142'C 60'				Refusal @ 60'
61						Foam, Plastics, soils
62		Gravel				
63						
64						
65						
66		Cap				
67						Refusal @ 67'
68						1300
69						
70						
71						
72						
73						
74						
75						

BORING LOG

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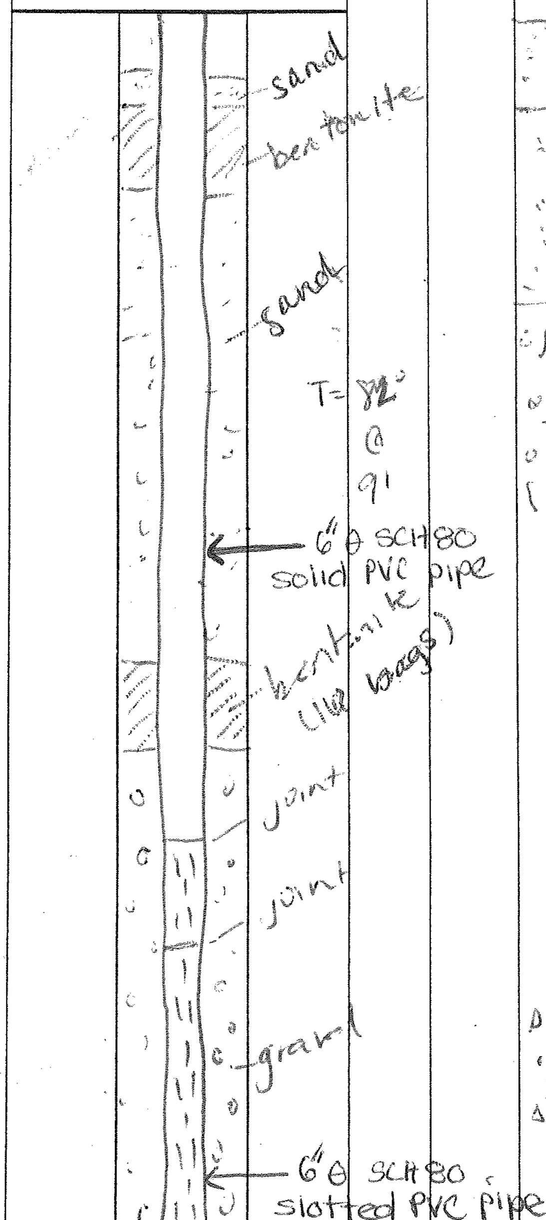
PROJECT: OVSL
HOLE #: 86 (GW-36R) [illegible] 328.0'
PROJECT LOCATION: Port Orchard, WA
DIAMETER: 3'
JOB NUMBER: 07207006.01, Task 10
TOTAL DEPTH: 82' (projected (92'))
GEOLOGIST/ENGINEER: Stefanie James
DATE STARTED: 3/3/08
DRILLER: Terra
DATE COMPLETED: 3/3/08
DRILL RIG: IMT AF 130
SAMPLING DEVICE:
DRILLING METHOD: bucket Auger
PAGE: 1 OF: 4



DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
0						Start @ 06:55
1						soil
2						geomembrane @ 2'
3						soil
4						
5						
6						
7						Refuse @ 7'
8			T= 82°			dark gray, moist, plastic,
9			@			metal, wood organics
10			91'			
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						Refuse @ 22'
23						dark grey, moist, plastic,
24						metal, wood, organics
25						

BORING LOG

PROJECT: DVSL HOLE/WELL #: 86

JOB NUMBER: 0728 7006.00 Task 10 PAGE: 2 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
26						
27						
28						
29			T= 133° @ 29'			Refusal @ 29' dark gray, moist, metal, wood, textiles, organics
30						
31						
32						
33		grout				
34						
35		← 6" SCH 80 slotted PVC pipe				
36					SS	Refusal @ 36'
37					SS	
38		bentonite			SS	dark gray, moist, wood, organics, textiles, plastic
39					SS	
40		joint				
41						
42						
43						
44						
45			T= 139° @ 45'		SS	Refusal @ 45'
46					SS	dark gray, moist,
47					SS	wood, organics, plastic
48						C800 – bucket pin broke @ 45'
49						
50						

BORING LOG

PROJECT: OVSC HOLE/WELL #: 86

JOB NUMBER: 072097006.01 Task 10 PAGE: 3 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
51						
52						Return @ 52'
53						dark gray, moist,
54						metal, wood, plastic,
55		6" ϕ SCH 80 slotted PVC pipe				textiles, organics
56						
57						
58						
59						
60		Bentonite	T= 145° @ 59'			Return @ 59'
61						dark gray, moist,
62						organics, wood,
63						textile, plastic, metal
64						
65						
66						
67						hit wall @ 67' auger pushed through
68						
69		gravel				
70						
71						
72			T= 134' @ 72'			Return @ 72'
73						dark gray, moist,
74						plastic, textiles, wood
75						organics

BORING LOG

PROJECT: QSI HOLE/WELL #: 86

JOB NUMBER: 07207006.01 task 10 PAGE: 4 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
76		gravel				
77						
78						
79		6" Ø SCH80 slotted PVC pipe				
80						Retrace @ 80'
81		Cap				dark gray, moist, plastic, wood, metal, organics
82						
83						
84						
85						
86						
87						82' ↓
88						
89						switched to drill auger @ 09:49
90						
91						
92						switched to smaller barrel auger @ 10:02
93						
94						
95						end drilling @ 16 82'
96						
97						
98						
99						
100						

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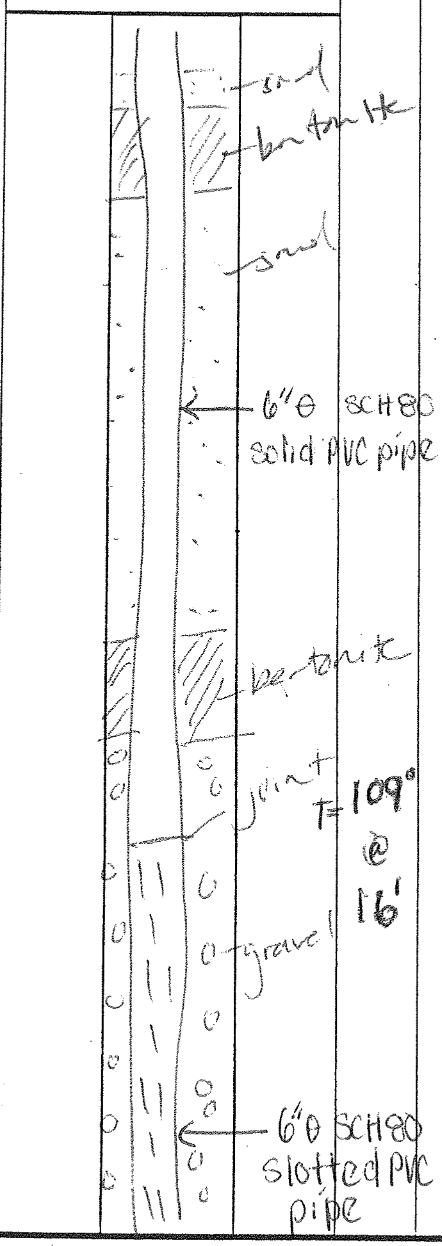
PROJECT:	OVBL	HOLE #:	87 (GW35R thb 333.4)
PROJECT LOCATION:	Port Orchard, WA	DIAMETER:	36"
JOB NUMBER:	07207006.01 task 10	TOTAL DEPTH:	80' (projected 80')
GEOLOGIST/ENGINEER:	S. Janes	DATE STARTED:	3/3/08
DRILLER:	Terra	DATE COMPLETED:	3/3/08
DRILL RIG:	IMT AF130	SAMPLING DEVICE:	
DRILLING METHOD:	barrel auger	PAGE: 1	OF: 4

DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
0						Start @ 10:43
1					soil	
2						geotextile @ 2'
3						soil switch to drill auger
4						@ 11:04
5						
6						~~switch to barrel auger @ 11:12~~
7						Refuse @ 7'
8						dark gray, clay/silt, textiles,
9						metal, plastic, organics, wood
10						
11						
12						
13						
14						switch to barrel auger
15						@ 11:30
16						
17			T=109° @ 16'			
18						Refuse @ 16'
19						dark gray, moist,
20						
21						plastic, organics, wood,
22						metal
23						
24						
25						

BORING LOG

PROJECT: ORL HOLE/WELL #: B7

JOB NUMBER: 07207220.01 Task 10 PAGE: 2 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
26						
27						refusal @ 27'
28						dark gray, moist
29						plastic, metal, wood
30						organics
31						
32		← 6" Ø SCH 80 slotted PVC pipe				
33						refusal @ 34'
34						dark gray, moist,
35						plastic, wood, organics,
36						metal
37						
38		joint				(thermometer broken or battery dead)
39						
40						
41						
42						
43		joint				refusal @ 44'
44						dark gray, moist
45						plastic, wood, metal,
46						organics
47						
48						
49						
50'						48' — 12:31 switched to drill auger

BORING LOG

PROJECT: ovs HOLE/WELL #: 87

JOB NUMBER: 07807006.01 task 10 PAGE: 3 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
51						switch to barrel auger @ 1230
52						
53						
54						
55					SP	return @ 55'
56					SP	dark gray, moist,
57			T= 139° @ 56'		SP	textiles, wood, metal,
58		joint			PT	plastic, organics
59						
60						
61						
62		6" Ø SCH80 slotted PVC pipe				
63						
64						
65						
66						
67					SP	return @ 68'
68			T= 126° @ 70'		SP	dark gray, moist,
69					SP	wood, plastic, organics
70						
71						
72						
73						
74						
75						

BORING LOG

PROJECT: OVSC HOLE/WELL #: X7

JOB NUMBER: 07207006.01 PAGE: 4 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
76		6"ø SCH80 slotted PVC pipe				~ Refusal @ 78' dark gray, moist, plastic wood, organic, micac
77		gravel				1242 - stopped drilling. 80'
78						
79		cap				
80						
81						
82						
83						
84						
85						
86						
87						
88						
89						
90						
91						
92						
93						
94						
95						
96						
97						
98						
99						
100						

BORING LOG

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Bellevue, WA 98005
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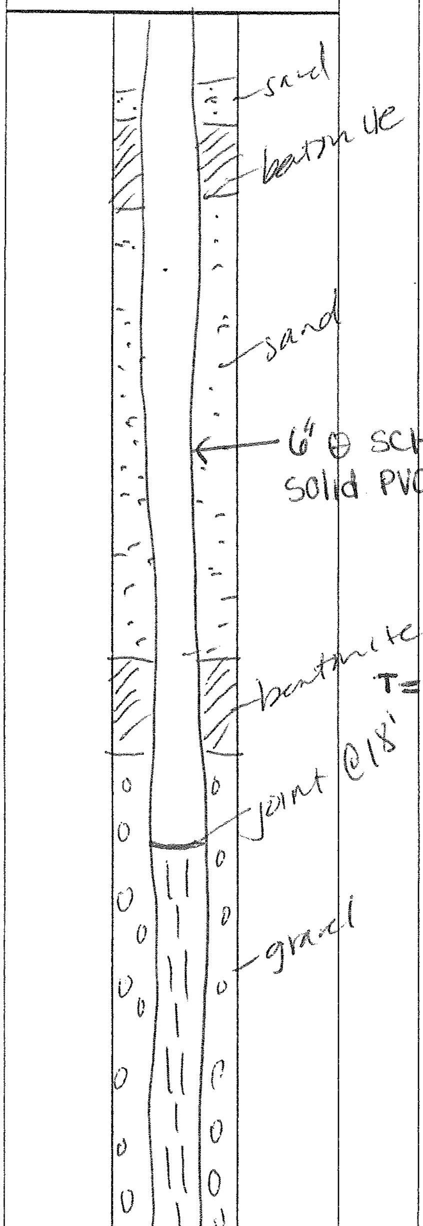
FAX (206) 746-6747

PROJECT:	OVSL	HOLE #:	88 (GW-54-R Hab -327.2')
PROJECT LOCATION:	Port Orchard, WA	DIAMETER:	36"
JOB NUMBER:	07207006-01, task 10	TOTAL DEPTH:	90' (90' projected)
GEOLOGIST/ENGINEER:	S. James	DATE STARTED:	03/03/08
DRILLER:	Terra	DATE COMPLETED:	03/03/08
DRILL RIG:	IMT AF 130	SAMPLING DEVICE:	—
DRILLING METHOD:	~~[struck]~~ barrel auger	PAGE:	1 OF: 4



DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
0						started drilled @ 14:00
1						soil
2		sand				switched to drill auger @ 1407
3		bentonite				geotextile @ 2'
4						
5						
6						
7		sand				
8						soil
9		6" Ø SCH 80 solid PVC pipe				
10						
11						
12						
13						
14						Refusal @ 14'
15		bentonite		T=72° @ 15'		dark grey, dry/moist, wood, plastic, metal, textiles, organics
16						
17		joint @ 18'				
18						
19						switched to barrel auger @ 14:18
20		gravel				
21						
22						
23						Refusal @ 23'
24				109° @ 25'		dark grey, moist, plastic, wood, textiles, organics
25						

BORING LOG

PROJECT: OVSL HOLE/WELL #: 88

JOB NUMBER: 07207000.01 task 10 PAGE: 2 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
26						
27						
28						
29						
30						
31						
32						
33						Refuse @ 33'
34		6" ø SCH80 slotted PVC pipe				dark gray, moist,
35						textiles, plastic,
36						wood, organics
37						
38		Joint @ 38'				
39						
40		Gravel				
41				T= 137° @ 41'		Refuse @ 41'
42						dark gray, moist,
43						mud, textile, plastic,
44						organics
45						
46						
47						
48		Joint @ 48'				
49						
50						Refuse @ 50' - 1500 dark gray, moist, mud, plastic, organics

BORING LOG

PROJECT: OVSL HOLE/WELL #: 88

JOB NUMBER: 07207006.01 task 10 PAGE: 3 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
57						
52						
53						
54						
55		← 6" ø SCH80 slotted PVC pipe				
56						
57						
58						
59						
60					SΔ	↑ Return @ 60'
61			T= 141° @ 61'		Δ S	dark gray, moist,
62					S Δ	textiles, wood, plastics,
63					Δ S	organics.
64						
65		gravel				
66						
67						
68						
69						
70					Δ S Δ	↑ Return @ 70'
71					S Δ S	dark gray, moist, plastic,
72					Δ S	metal, wood, organics.
73						
74						
75						

BORING LOG

PROJECT: OVSL HOLE/WELL #: 88

JOB NUMBER: 07207006.01 task 10 PAGE: 4 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
76		6" ϕ SCH80 slotted PVC pipe				
77						
78						
79			T= 130° @ 81'			Retrieve @ 79' dark gray, moist, wood, textiles, metal, plastics, organics
80						
81						
82						
83						
84						
85						Retrieve @ 85'
86		gravel				dark gray, moist, wood, plastic, organics
87						
88		Cap				
89						
90						stopped drilling @ 1641 90'
91						
92						
93						
94						
95						
96						
97						
98						
99						
100						

BORING LOG

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FAX (206) 746-6747

PROJECT: ORSL
PROJECT LOCATION: Port Orchard, WA
JOB NUMBER: 07207006.01 task 10
GEOLOGIST/ENGINEER: S. Jarvis
DRILLER: Terra
DRILL RIG: IMT AF 130
DRILLING METHOD: BARREL AUGER

HOLE #: 89 (GW55R - Hub - 317.1')
DIAMETER: 36"
TOTAL DEPTH: 97.5' (97' projected)
DATE STARTED: 03/04/08
DATE COMPLETED: 03/04/08
SAMPLING DEVICE: —
PAGE: 1 OF: 4

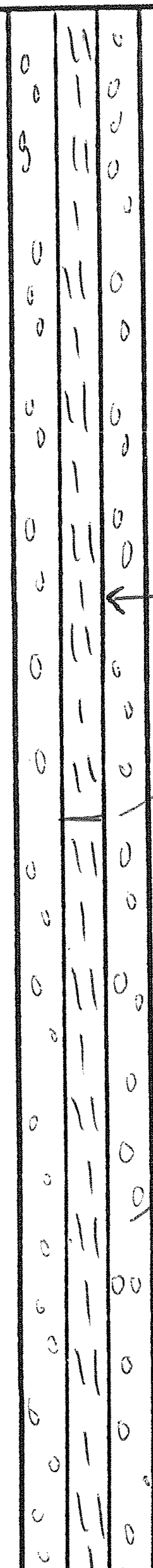
DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
0						soil start time @ 06 55
1						
2						Geotextile @ 2ft
3		sand / bentonite				
4						
5						soil
6						
7						
8		sand				
9						soil (stained) @ 6'
10						
11		← 6"ø sch 80 solid PVC pipe				
12						
13						
14		bentonite				
15						
16						
17		joint				Refuse @ 17'
18						
19						dark gray, dry/moist, wood, plastic, organics mostly
20						
21						
22		← 6"ø sch 80 slotted PVC pipe				
23						
24						
25						

BORING LOG

PROJECT: GVSL | HOLE/WELL #: 89

JOB NUMBER: 07207006.01 task 10 | PAGE: 2 | OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
26						
27						
28			T= 94° @ 28'			Refuse @ 28' dark gray, dry/moist, plastic, wood, organics mostly
29						
30						
31						
32						
33						
34		6"Ø SCH 80 slotted PVC pipe				
35						
36						
37		joint				Refuse @ 37' dark gray moist, metal, plastic, wood, textiles, organics
38						
39						
40						
41						
42						
43						
44		gravel	T= 131° @ 44'			Refuse @ 44' dark gray, moist, plastic, wood, organics
45						
46						
47						
48						Refuse @ 48' dark gray, moist, plastic, metal, textiles, wood, organics
49						
50						



BORING LOG

PROJECT: OVSL HOLE/WELL #: 89

JOB NUMBER: 072670016.01 task 10 PAGE: 3 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
51						
52						
53						
54						
55		joint				
56						
57						
58						
59						
60			T= 135° @ 60'			Retrieved @ 60' @ 0823
61						dark gray, moist, wood, plastic, metal, textiles, organics
62						
63						
64						
65		6"ø SCH80 slotted PVC pipe				switched to drill auger @ 0838
66						
67						
68						
69						
70		gravel				
71						
72						
73						
74						Retrieve @ 74'
75		joint				dark gray, moist, textiles, metal, plastic, wood, organics

BORING LOG

PROJECT: OVSL HOLE/WELL #: 89

JOB NUMBER: 07207006.01 task 10 PAGE: 4 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
76						
77						
78						
79						
80			T= 137° @ 81'			Retrieve @ 81'
81						dark gray, moist to
82						very moist, textiles,
83						metal, plastic, wood,
84						organics.
85						
86		6" ø SCH 80 Slotted PVC pipe				
87						Retrieve @ 87'
88						very moist, dark gray,
89						plastic, organics,
90						
91						
92						
93		gravel				Retrieve @ 92'
94						very moist, dark gray,
95		cap				textiles, organics,
96						plastic, metal.
97						
98						
99						total depth: 97.5'
100						Stopped drilling @ 10:01

BORING LOG

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PROJECT: CVSL
HOLE #: 90 (GW98R-A Hole 309.6)
PROJECT LOCATION: Port Orchard, WA
DIAMETER: 36"
JOB NUMBER: 07209006.01 Task 10
TOTAL DEPTH: 94' (94' projected)
GEOLOGIST/ENGINEER: S. Janas
DATE STARTED: 03/04/08
DRILLER: Terra
DATE COMPLETED: 03/04/08
DRILL RIG: IMT AF 130
SAMPLING DEVICE:
DRILLING METHOD: Barrel Auger
PAGE: 1 OF: 4

DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
0						drilling started @ 1031
1						Soil
2						
3		sand				geotextile @ 3'
4		bentonite				soil
5						soil (stained) @ 5.5'
6						
7		sand				
8						
9						
10						
11		6" Ø SCH80 solid PVC pipe				
12						Refuse @ 12'
13						dark gray, dry/moist,
14		bentonite				wood, plastic, organics
15						
16						
17		joint				
18						
19						
20						
21						Refuse @ 21'
22		gravel T=99° @ 21'				moist, dark gray,
23						plastic, metal, wood, textiles,
24						organics
25		6" Ø SCH80 slotted PVC pipe				

BORING LOG

PROJECT: ONSL HOLE/WELL #: 90

JOB NUMBER: 07207096.01 task 10 PAGE: 2 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
26		6" Ø SCH 80 slotted PVC pipes				
27						
28						
29						
30						
31						
32						
33			T= 1400 @ 34'			
34						Refusal @ 34' dark gray, moist, wood, plastic, organics
35						
36						
37						
38		joint				
39						
40						
41						
42						
43						
44		gravel				Refusal @ 44'
45						dark gray, moist,
46						
47						textiles, wood, plastic,
48						metal, organics
49						
50						

BORING LOG

PROJECT: OVSL HOLE/WELL #: 90

JOB NUMBER: 07207006.01 task 10 PAGE: 3 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
51		joint				
52						
53						
54						
55			T= 1470 @ 55'			Refuse @ 55'
56						dark gray, moist, wood, plastic, organics
57						
58						
59						
60		← 6" ø SCH 80 slotted PVC pipe				
61						
62						
63						
64						
65						
66						
67		gravel				
68						
69						
70			T= 1430 @ 70'			Refuse @ 70'
71						dark gray, moist, wood, textiles, plastic, organics.
72		joint				
73						
74						
75						

BORING LOG

PROJECT: OVSL HOLE/WELL #: 90

JOB NUMBER: 07207006.01 task 10 PAGE: 4 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
76						
77						
78						Refuse @ 78'
79		6" ϕ SCH 80 slotted PVC pipe				dark gray, moist, wood, plastic, textiles, organics
80						
81						
82						
83						
84						
85			T=126° @ 85'			Refuse @ 85'
86						dark gray, very moist, wood, plastic, textiles, metal, organics
87						
88						
89						
90		gravel				
91						
92		cap				
93						
94						Refuse @ 94'
95						dark gray, moist, wood, plastic, metal, organics
96						
97						
98						
99						Stopped drilling @ 1306 94'
100						

BORING LOG

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PROJECT: OVSL
PROJECT LOCATION: ~~OVSL~~, Port Orchard, WA
JOB NUMBER: 07207006.01 task 10
GEOLOGIST/ENGINEER: S. Janas
DRILLER: Terra
DRILL RIG: IMT AF 130
DRILLING METHOD: Barrel Auger

HOLE #: 91 (GW-49R-B Hub: 318.6)
DIAMETER: 30"
TOTAL DEPTH: 85' (85' projected)
DATE STARTED: 03/04/08
DATE COMPLETED: 03/05/08
SAMPLING DEVICE: -
PAGE: 1 OF: 4

DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
0						Started drilling @ 13:52
1						soil
2						
3		sand / bentonite				geomembrane @ 3'
4						soil
5						soil (stained) @ 5'
6						
7		sand				Refuse @ 7'
8						dark gray, dry/moist,
9						
10		← 6" ϕ SCH 80 solid PVC pipe				plastic, wood organics
11						
12						
13						
14		bentonite				
15						
16						
17		joint				
18						
19		← 6" ϕ SCH 80 solid PVC pipe				
20						
21						
22		gravel				Refuse @ 21'
23		T = 116° @ 21'				dark gray, moist, wood,
24						plastic, metal, organics
25						

BORING LOG

PROJECT: OVSL HOLE/WELL #: 91

JOB NUMBER: 07207006.01 task 10 PAGE: 2 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
26						
27						
28						
29						
30						
31						
32		6" ø SCH 80 slotted PVC pipe				Refuse @ 32'
33						dark gray, moist, metal, wood, plastic, organics.
34						
35						
36						
37						
38		Joint				
39						
40						
41						
42		Joint T=1258 @ 42'				Refuse @ 42'
43						dark gray, moist, plastic, wood, textiles, metal, organics.
44						
45						
46						
47		gravel				
48						
49						
50						

BORING LOG

PROJECT: OVSL HOLE/WELL #: 91

JOB NUMBER: 07207006.01 task 10 PAGE: 3 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
51		6" ø SCH80 slotted PVC pipe				
52						
53						
54						Refuse @ 54'
55						dark gray, moist, plastics,
56			T= 146° @ 56'			metal, textiles, wood,
57						organics.
58						
59						Switched to drill
60						auger @ 15:24
61						
62		joint				
63						Switched to barrel
64						auger @ 15:42
65						
66						Refuse @ 66'
67						dark gray, moist, wood,
68						plastic, metal, organics
69						
70			T= 135° @ 70'			Refuse @ 70'
71						dark gray, moist,
72		gravel				plastic, wood, metal,
73						organics
74						
75						

BORING LOG

PROJECT: OVSL HOLE/WELL #: G1

JOB NUMBER: 07207006.01 task 10 PAGE: 4 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
70						
77						
78						
79		6" ϕ SCH80 slotted PVC pipe				
80						Retrieve @ 80'
81						dark gray, moist, plastic, wood, metal, textiles, organics
82						
83		Cap, gravel				
84						
85						Switched to drill auger @ 17:01 (83')
86						
87						
88						
89						Stopped drilling @ 1707
90						Depth to bottom: 85'
91						
92						~~drilling & pop well~~
93						Drilling, well install, & gravel done on 3/4
94						
95						Bentonite, sand done on 3/5
96						
97						
98						
99						
100						

BORING LOG

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PROJECT: OVSL
PROJECT LOCATION: PoA Orchard, WA
JOB NUMBER: 07709016.01 Task 10
GEOLOGIST/ENGINEER: S Janes
DRILLER: Terra
DRILL RIG: IMT AF 130
DRILLING METHOD: Barrel Auger

HOLE #: OVSL (01)
DIAMETER: 30"
TOTAL DEPTH: 14' (projected 78')
DATE STARTED: 03/05/08
DATE COMPLETED: 03/05/08
SAMPLING DEVICE: —
PAGE: 1 OF: 1

DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
0						Drilling started @ 7:06
1						soil
2						Geomembrane @ 2'
3		sand				
4		bentonite				soil
5						
6						
7						Refuse @ 7'
8		sand				dark gray, dry/moist, organics.
9						
10						
11						
12						
13						Refuse @ 13'
14						dark gray, moist, plastic, organics, textiles, metal
15						
16						
17						
18						
19						~~Navy~~ Thick rope @ 14' could not drill thru or pull out.
20						
21						
22						Hole abandoned/moved.
23						& filled w/ sand, sealed
24						with bentonite.
25						

BORING LOG

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PROJECT: OVSL
PROJECT LOCATION: Port Orchard, WA
JOB NUMBER: 072070006.01 task 10
GEOLOGIST/ENGINEER: S. Janas
DRILLER: Terra
DRILL RIG: IMT AF 130
DRILLING METHOD: Barrel Auger

HOLE #: 02 (68)
DIAMETER: 36"
TOTAL DEPTH: 78' (75' projected)
DATE STARTED: 03/05/08
DATE COMPLETED: 03/05/08
SAMPLING DEVICE: -
PAGE: 1 OF: 4

DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
0						Started drilling @ 0810
1						
2		sand				Geomembrane @ 2'
3		bentonite				
4						
5						
6						Refuse @ 6'
7						
8						
9		sand				
10						
11		6" ø SCH 80 solid PVC pipe				
12						
13						
14		bentonite				
15						Refuse @ 15'
16						dark gray, moist, plastic, wood, textiles, metals, organics
17		joint				
18						
19						
20		T=116' @ 19'				
21						Refuse @ 19'
22						dark gray, moist, plastic, metal, wood, organics
23						
24		gravel				
25		6" ø SCH 80 slotted PVC Pipe				

BORING LOG

PROJECT: OVSL HOLE/WELL #: 92

JOB NUMBER: 07207006 01 task 10 PAGE: 2 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
30		6" ⌀ SCH 80 slotted PVC pipe				
31						
32						
33						Refusal @ 33'
34						dark gray, moist,
35						wood, plastic, organics
36		joint				
37						
38						
39						
40				T = 137 @ 40'		Refusal @ 40'
41						dark gray, moist,
42						textiles, wood, plastic,
43						metal, organics
44						
45						
46		gravel				
47						
48						
49						
50						

BORING LOG

PROJECT: OVC HOLE/WELL #: 92

JOB NUMBER: 072070006.01 task 10 PAGE: 3 OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
51						
52						Refuse @ 52'
53						dark gray, moist,
54						metal, plastic, wood,
55						organics.
56		joint				
57						
58						
59						
60						
61		6" ø SCH 80				Refuse @ 62'
62		slotted PVC				dark gray, moist,
63		pipe				plastic, wood, organics,
64						metal
65						
66						
67						
68						
69						
70						
71			T= 138° @ 70'			Refuse @ 70'
72						dark gray, moist,
73		gravel				metal, plastic, wood,
74						textiles, organics.
75						

BORING LOG

PROJECT: OVL | HOLE/WELL #: 92
JOB NUMBER: 07207006.01 task 10 | PAGE: 4 | OF: 4

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
76		6" Ø SCH 80 slotted PVC pipe; cap; gravel				Refusal @ 76'
77						dark gray, moist,
78						plastic, wood, metal,
79						textiles, organics
80						
81						Total Depth: 78'
82						Stopped drilling @ 959
83						
84						
85						
86						
87						
88						
89						
90						
91						
92						
93						
94						
95						
96						
97						
98						
99						
100						

BORING LOG

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PROJECT: OVSL
PROJECT LOCATION: Port Orchard, WA
JOB NUMBER: 072070006.01 Task 10
GEOLOGIST/ENGINEER: S. Jarvis
DRILLER: Terra
DRILL RIG: IMT AF 130
DRILLING METHOD: Barrel Auger

HOLE #: 93 (GW 30-R Hub 306 3)
DIAMETER: 36"
TOTAL DEPTH: 69' (69' projected)
DATE STARTED: 03/05/08
DATE COMPLETED: 03/05/08
SAMPLING DEVICE: —
PAGE: 1 OF: 3

DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
0						started drilling @ 1048
1						sal
2		sand				Geomembrane @ 2'
3		bentonite				
4						soil
5						
6						Refuse @ 6'
7		sand				dark gray, dry/moist,
8						plastic, metal, wood,
9						
10		6"ø SCH 80 solid PVC pipe				organics.
11						
12						
13						
14		bentonite				
15						
16						
17						
18		joint				Refuse @ 19'
19		T=109° @ 19'				dark gray, moist, plastic,
20						
21						wood, metal, organics.
22		6"ø SCH 80 slotted pipe				
23						
24						
25		gravel				

BORING LOG

PROJECT: OVSL HOLE/WELL #: 93

JOB NUMBER: 07207000.01 task 10 PAGE: 2 OF: 3

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
26		joint				
27						
28						
29						
30						
31		6" ϕ SCH 80 slotted PVC pipe				
32						Refuse @ 31'
33						dark gray, moist,
34						plastic, wood, metal,
35						organics
36						
37						
38						
39						
40						
41						
42			T = 26° @ 43'			Refuse @ 43'
43						dark gray, moist,
44		gravel				plastic, metal, textiles,
45						wood, organics
46						
47		joint				
48						
49						
50						

BORING LOG

PROJECT: OVSL HOLE/WELL #: 93

JOB NUMBER: 07707006.01 task 10 PAGE: 3 OF: 3

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
51						
52						
53						
54						Refuse @ 54'
55						dark gray, moist,
56						plastic, textiles,
57						wood, metal, organics
58		6" Ø SCH80 slotted PVC pipe				
59						
60						
61						
62						Refuse @ 63'
63			T = 125° @ 63'			dark gray, moist,
64						plastic, wood, organics
65						
66						
67		gravel cap				
68						Stopped drilling @ 229
69						total depth: 69'
70						
71						
72						
73						
74						
75						

BORING LOG

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PROJECT: OVSL
HOLE #: 9HR (GW37R 4ub 292.7')
PROJECT LOCATION: Port Orchard, WA
DIAMETER: 36"
JOB NUMBER: 07207006.01, task 10
TOTAL DEPTH: 30' (59' projected)
GEOLOGIST/ENGINEER: S. Jamas
DATE STARTED: 03/05/08
DRILLER: Terra
DATE COMPLETED: 03/05/08
DRILL RIG: IMT AF 130
SAMPLING DEVICE:
DRILLING METHOD: Barrel Auger
PAGE: 1 OF: 2

DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
0						started drilling @ 1255
1						soil
2						geomembrane @ 3.5'
3		bentonite				
4						
5						soil
6						
7						refuse @ 7'
8					SΔS	dark gray, dry/moist,
9		sand			SΔ	plastic, wood, organics
10					ΔSΔ	
11						
12						
13						
14						
15						
16						
17						
18						
19			T=119° @ 19'			refuse @ 19'
20						dark gray, moist, plastic,
21						textiles, organics
22						
23						
24						
25						

BORING LOG

PROJECT: OVSL HOLE/WELL #: 94XX

JOB NUMBER: 07207006.01 Task 10 PAGE: 2 OF: 2

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
20						
27						
28						
29						
30						
31						
32						Refuse @ 32'
33						dark gray, moist,
34		sand				plastic, wood, textiles,
35						organics
36						Refuse @ 35' (PID)
37						dark gray, moist,
38						plastic, wood, metal,
39						textiles, organics.
40						
41						switched to drill
42						auger @ 1417 (34')
43						switched to coarser
44						auger @ 1446 (37')
45						~~switched to drill~~ so
46						switched to
47						corer auger @ 1448
48						
49						abandoned/filled/sealed
50						well @ 15:36
						Final Depth = 36'

BORING LOG

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PROJECT: OVSL
HOLE #: 94 (redrill) (GW-37R 292.7)
PROJECT LOCATION: Port Orchard, WA
DIAMETER: 36"
JOB NUMBER: 07207006.01
TOTAL DEPTH: 60' (59' projected)
GEOLOGIST/ENGINEER: S Bond
DATE STARTED: 3/6/08
DRILLER: Terra
DATE COMPLETED: 3/6/08
DRILL RIG: IMT AF-130
SAMPLING DEVICE: NA
DRILLING METHOD: Bored Auger
PAGE: 1 OF: 3

DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
0						START ~ silt
1						
2						
3		sand; liner; bentonite				geotextile liner @ 3'
4						
5						
6						
7						Refuse @ 7'
8		6"Ø SCH 80 solid PVC pipe				Dark grey, moist, plastic, wood, organics
9						
10						
11						
12		bentonite				
13						
14						
15						
16						
17						
18		joint				
19				T=90.2°		Refuse, dark grey, moist, plastic, wood, textile, organics, soils
20		gravel		@ 19'		
21						
22						
23		6"Ø SCH 80 slotted PVC pipe				
24						
25						

BORING LOG

PROJECT: OVSL HOLE/WELL #: 94 (revised)

JOB NUMBER: 07207006.01 PAGE: 2 OF: 3

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
26		6" ø SCH 80 slotted PVC pipe				
27						
28						
29						
30						
31		gravel				
32						
33						
34						
35						Refuse, dark grey, moist Plastics, wood, textile, metal, organics, gravel
36						
37						
38						
39						
40						
41			T= 1125	115° @ 42'		Refuse, dark grey, moist Plastics, textiles, wood organics
42						
43						
44						
45						
46						
47						
48						
49						
50						

BORING LOG

PROJECT: OUSL

HOLE/WELL #: 94 (re-drill)

JOB NUMBER: 07207006.01

PAGE: 3 OF: 3

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
51		gravel				Refuse, dark grey, moist plastics, textile, wood, organics
52						
53						
54		6"ø SCH80 slotted PVC pipe				
55						
56						
57		cap				
58						
59			T= 114° @ 80'			Refuse, dark grey, moist wood, plastic, organics
60						stopped @ 1144
61						
62						
63						
64						
65						
66						

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PROJECT: OVSL
HOLE #: 95X4 (GW2R Hwb: 302.9)
PROJECT LOCATION: Port Orchard, WA
DIAMETER: 36"
JOB NUMBER: 072070006.01 task 10
TOTAL DEPTH: (69' projected)
GEOLOGIST/ENGINEER: S. Janas
DATE STARTED: 03/05/08
DRILLER: Terra
DATE COMPLETED: 3/5/08
DRILL RIG: IMT AF 130
SAMPLING DEVICE: —
DRILLING METHOD: Barrel Auger
PAGE: 1 OF: 2

DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
0						Started drilling @ 15:39
1						soil
2						Geomembrane @ 2'
3		sand / bentonite				
4						
5						
6						
7						Refuse @ 7'
8		soil				dark gray, dry/moist,
9						wood, organics
10						
11						
12						Refuse @ 12'
13						dark gray, moist, wood,
14						organics
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						

BORING LOG

PROJECT: CVSL HOLE/WELL #: 95

JOB NUMBER: 07207046.01 Task 10 PAGE: 2 OF: 2

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
26		sand T=109° @ 27'				refuse @ 27'
27						dark gray, moist,
28						wood, organics.
29						
30						
31						switched to bull auger @ 1627 (29')
32						
33						
34						switched to core auger @ 1634
35						
36						
37						Stopped drilling @ 16:42
38						
39						
40						
41						Final Depth: 29'
42						
43						back filled & sealed.
44						
45						
46						Abandoned
47						
48						
49						
50						

BORING LOG

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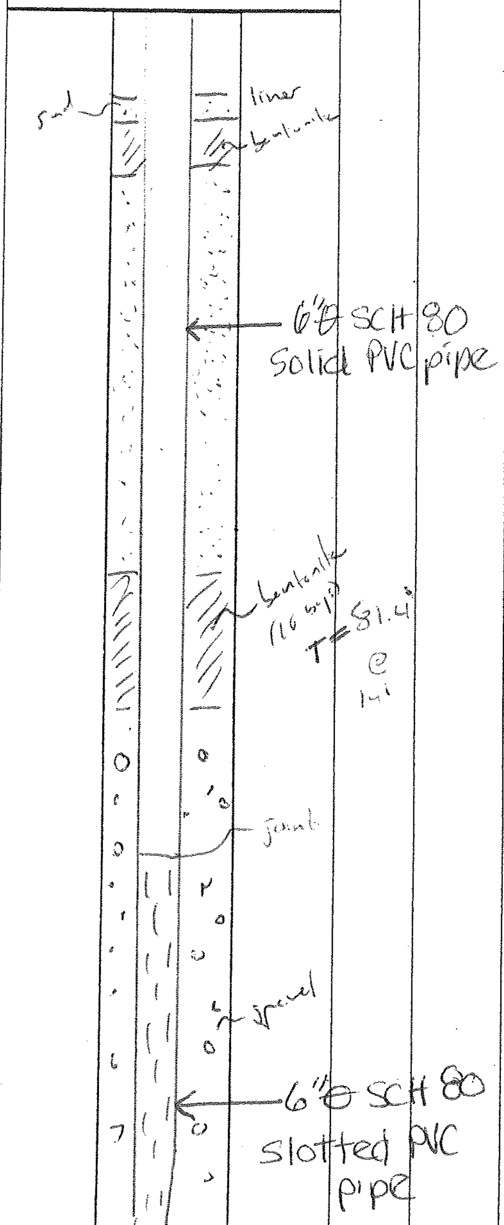
PROJECT: OVSL
PROJECT LOCATION: Port Orchard, WA
JOB NUMBER: 07207006.01
GEOLOGIST/ENGINEER: S Bond
DRILLER: Tern
DRILL RIG: IMT AF-130
DRILLING METHOD: Barrel Auger

HOLE #: 95 (backfill) (Elev 29R 302.9)
DIAMETER: 36"
TOTAL DEPTH: 48' (69' projected)
DATE STARTED: 3/6/08
DATE COMPLETED: 3/6/08
SAMPLING DEVICE: NA
PAGE: 1 OF: 2

DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
						START ~ 7:05
0						
1						~ soil; geotextile liner @ 2'
2						
3						~ soil
4						
5						
6						Refuse @ 6'
7						
8						
9						
10						
11						
12						
13						
14						~ Refuse, very dark gray, mush wood, textile, organics, soils
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						



BORING LOG

PROJECT: OVSL HOLE/WELL #: 95

JOB NUMBER: 07207006.01 PAGE: 2 OF: 2

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
26						
27		Soil				
28						
29						
30						Refusal, v. dark gray, moist, wood, organics, gravel, soils
31		gravel				
32						
33						
34						
35			T= 101.7' @ 35'			
36						Refusal - same as above
37						
38						
39		6" ϕ SCH 80 slotted PVC pipe				
40						
41						
42						Soils w/ wood and gravel
43						
44						Switched to screen auger @ ~44 341
45						
46		Cap				(dredge spoils)
47						
48						Stopped @ 49 HIT GOOD NATIVE UNDER (overlap liner)
49						
50						

BORING LOG

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PROJECT: OVSL
HOLE #: 96 (GW 47R 272.1)
PROJECT LOCATION: Port Orchard, WA
DIAMETER: 36"
JOB NUMBER: 072070006-01
TOTAL DEPTH: 45.5' (45' projected)
GEOLOGIST/ENGINEER: S Bond
DATE STARTED: 3/5/08
DRILLER: Ferra
DATE COMPLETED: 3/5/08
DRILL RIG: CMT - AF 130
SAMPLING DEVICE: NA
DRILLING METHOD: Bucket Auger
PAGE: 1 OF: 2

DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
0						Start @1205
1						Soil
2		sand				geotextile liner @2.5'
3		liner backfill				
4						Switched to screw auger @6'
5						
6						
7		Soil				
8						
9		6" Ø SCH 80 solid PVC pipe				
10						
11						Refuse @11'
12						
13						
14		bentonite (16 bags)				
15						Refuse, dark gray, dry
16						wood, organics, metal, gravel, soils
17						
18		joint				
19						
20				T=92.9° @ 20'		Refuse, dark gray, dry
21						wood, rubber, plastic, textile
22		6" Ø SCH 80				soils, metal
23						
24		solid PVC pipe				
25						

BORING LOG

PROJECT: OVSL HOLE/WELL #: 96

JOB NUMBER: 07207006.01 PAGE: 2 OF: 2

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
26						
27						
28						Refuse, grey, dry wood, soils, metal, paper products 1314
29		6" ø SCH 80 PVC slotted pipe				
30						
31						
32		gravel				
33						
34						
35						
36						
37		joint	T@ 101.5' @ 37'			Refuse, grey, dry Wood, plastic, rubber soil
38						
39						
40						
41						
42						
43		cap				
44						
45						STOPPED @ 45.5' 1349
46						
47						
48						
49						
50						

BORING LOG

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PROJECT: OVSC
PROJECT LOCATION: Port Orchard WA
JOB NUMBER: 07207066.01
GEOLOGIST/ENGINEER: S. Bird
DRILLER: Terra
DRILL RIG: IMT AF-130
DRILLING METHOD: Barrel Auger

HOLE #: 93 xx ([illegible])
DIAMETER: 36"
TOTAL DEPTH: ~ 15'
DATE STARTED: 3/6/13
DATE COMPLETED: ——
SAMPLING DEVICE: NA
PAGE: 1 OF: 1

DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
0						
1						
2		liner				geotextile @ 2.5'
3		sand				
4		bentonite 8 bags				
5						
6						Refusal @ 6'
7						
8		sand				
9						
10						
11						
12						
13						switched to auger @ 13'
14						
15						
16						Hit large concentration of heavy ropes unable to progress
17						
18						
19						
20						
21						
22						
23						
24						
25						

BORING LOG

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PROJECT: OVSL
HOLE #: 97 (Cw-48 A 267.4)
PROJECT LOCATION: Port Orchard, WA
DIAMETER: 36"
JOB NUMBER: 072070006.01
TOTAL DEPTH: 55' (55' projected)
GEOLOGIST/ENGINEER: S Burk
DATE STARTED: 3/5/08
DRILLER: Terra
DATE COMPLETED: 3/6/08
DRILL RIG: IMP - AF130
SAMPLING DEVICE: NA
DRILLING METHOD: Barrel Auger
PAGE: 1 OF: 3

DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
0						START @ 1405
1						soil
2						
3		liner				
4		sand				geotextile liner
5		bentonite (3' 6.5")				Refuse @ ~6'
6						
7						
8		sand				
9						
10						
11		6" Ø Sch 80 Solid PVC Pipe				Refuse, gray, dry/moist plastic, wood, metal, textile, rubber, organics, soils
12						
13						
14						
15						
16						
17						
18		joint				
19						
20			T-1112 @ 21			
21						Refuse, dark grey, moist plastic, wood, rubber, metal, textile, organics
22						
23						1 of 3
24		6" Ø SCH 80 slotted PVC pipe				
25						

BORING LOG

PROJECT: OVSL HOLE/WELL #: 97

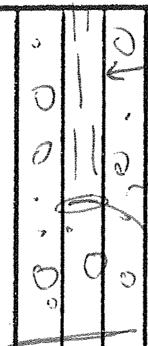
JOB NUMBER: 072070006.01 PAGE: 2 OF: 3

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
26						
27		6" ⌀ SCH 80 slotted PVC pipe				
28						
29						
30						
31		gravel				
32						
33						
34						
35						Refuse, dark grey, moist plastics, wood, metal paper, organics 1445
36						
37						
38						
39						
40						
41						
42						
43						
44			T= 115.2 @ 45'			
45						Refuse, dark grey, moist wood, plastic, metal, gravel, organics 1414
46						
47						
48						
49						
50						

BORING LOG

PROJECT: OVSL   HOLE/WELL #: 97

JOB NUMBER: 07207006.01   PAGE: 3   OF: 3

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
51		 6" Ø SCH 80 slotted PVC pipe; gravel; cap				
52						
53						Refuse, dark gray, moist
54						Plastic, wood, textile,
55						metal, organics
56						STOPPED @ 55'
57						1516
58						
59						
60						
61						
62						
63						
64						
65						
66						
67						
68						
69						
70						
71						
72						
73						
74						
75						

BORING LOG

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PROJECT: OVSL
PROJECT LOCATION: Port Orchard, WA
JOB NUMBER: D7207006.01
GEOLOGIST/ENGINEER: S Barry
DRILLER: Terra
DRILL RIG: IMT AF 130
DRILLING METHOD: Barrel Auger

HOLE #: 99 (GW 59A 269.5)
DIAMETER: 36"
TOTAL DEPTH: 58'
DATE STARTED: 2/6/09
DATE COMPLETED: 2/7/09
SAMPLING DEVICE:
PAGE: 1 OF: 3

DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
0						START 1705 (2nd attempt)
1						soil
2		sand / bentonite				geotextile liner @ ~2'
3						soil
4						
5						Refuse @ ~5'
6						
7		sand				
8						
9		6" Ø SCH 80 solid PVC pipe				
10						
11						
12						
13		bentonite (1' thick)				Refuse, grey (brown), dry/moist Plastic, textile, paper, metal, wood, organics, (very little decomposition)
14						
15						
16		gravel				
17						
18		joint				
19						
20						
21			T= 98.3			
22			@ 22			Refuse, grey (brown), dry/moist Plastic, paper, textile, wood, organic, metal
23						
24		6" Ø SCH 80 slotted PVC pipe				
25						

BORING LOG

PROJECT: OVSC HOLE/WELL #: 98

JOB NUMBER: 07207006.01 PAGE: 2 OF: 3

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
26						
27						
28						
29						
30						
31						
32		← 6" Θ SCH80 slotted PVC pipe				Refuse, grey/brown, moist, plastic, paper, wood, metal, organic, textile
33						
34						
35						
36						
37		joint				
38						
39						
40						
41						
42						
43						
44						
45						
46			T= 132° @ 47'			
47						Refuse, dark grey, moist, plastic, textile, wood, rubber, metal, organics, paper
48						
49						
50						

BORING LOG

PROJECT: OVSL HOLE/WELL #: 94

JOB NUMBER: 07205700G.01 PAGE: 3 OF: 3

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
51		6" Ø SCH 80 slotted PVC pipe				
52						
53		gravel				
54						Refuse, grey, moist, plastic, textile, wood, organics, metal
55		cap				
56						
57						
58						STOPPED @ 58 1818
59						WELL PLACED @ ~1710 3/7/08
60						
61						
62						
63						
64						
65						
66						
67						
68						
69						
70						
71						
72						
73						
74						
75						

BORING LOG

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PROJECT: OVSL
PROJECT LOCATION: Port Orchard WA
JOB NUMBER: 072070006.01
GEOLOGIST/ENGINEER: S Bond
DRILLER: Tetra
DRILL RIG: IMT AF 130
DRILLING METHOD: Brand Auger

HOLE #: 99 (GW53R 295.5')
DIAMETER: 36"
TOTAL DEPTH: (70' projected)
DATE STARTED: 3/7/08
DATE COMPLETED: 3/7/08
SAMPLING DEVICE: NA
PAGE: 1 OF: 3

DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
0						START ~745'
1						geotextile liner
2		small bentonite				
3						
4						soil
5						
6		sand				
7						Refuse @ 7'
8						Dark grey, moist,
9		6" ⌀ SCH 80				plastic, wood, metal,
10		solid PVC pipe				textile, organics, soils
11						
12						
13						
14		bentonite (16 bags)				
15						
16						
17						
18		joint				
19		6" ⌀ SCH 80				
20		slotted PVC pipe				
21		gravel				
22						
23			T=123°			
24			@			Refuse, dark grey, moist,
25			24'			wood, plastic, metal, textile, organics

BORING LOG

PROJECT: OVSL HOLE/WELL #: 99

JOB NUMBER: 072070006.01 PAGE: 2 OF: 3

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
20						
27						
24		joint				
25						
30						Refuse, dark gray, moist plastic, wood, metal organics, textile
31						
32						
33		6" ø SCH 80 slotted PVC pipe				
34						
35						
36		gravel				
37						
38						
39						
40						
41						
42			T= 120' @ 72'			
43						Refuse, dark gray, moist Plastic, wood, paper, textile, organics
44						
45						
46						
47						
48		joint				Rope @ 48'
49						
50						

BORING LOG

PROJECT: OUSL HOLE/WELL #: 99

JOB NUMBER: OT2070000.01 PAGE: 3 OF: 3

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
51						
52						
53						
54						
55						switched to screen auger @ 55' 9341
56		← 6" ϕ SCH 80				
57		Slotted PVC pipe				switched to clamshell bucket @ 56'
58						
59						Refuse, dark grey moist Plastic, wood, textile, organics
60						
61						
62		gravel				
63						
64						
65						
66				T= 1187 @ 67'		Refuse, dark grey, moist Plastic, wood, textile metal, organics
67		cap				
68						
69						sand + gravel w/ wood
70						stopped @ 70' — 1021
71						
72						
73						
74						
75						

BORING LOG

SCS ENGINEERS
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Bellevue, WA 98005
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FAX (206) 746-6747

PROJECT: OVSL
PROJECT LOCATION: Port Orchard, WA
JOB NUMBER: 072070006.01
GEOLOGIST/ENGINEER: J Bond
DRILLER: Terra
DRILL RIG: IMT AF-130
DRILLING METHOD: Bucket Auger

HOLE #: 100 (GW G2R 269.4)
DIAMETER: 36"
TOTAL DEPTH: 47' (47' projected)
DATE STARTED: 3/7/08
DATE COMPLETED: 3/7/08
SAMPLING DEVICE: NA
PAGE: 1 OF: 2

DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
0						1050 Start
1						
2						
3		grout				geotextile liner @ ~3'
4		bentonite				
5						
6						Refuse @ ~6' dark gray, moist
7						Plastic, textile, wood, organics
8		grout				
9						
10		6" Ø SCH 80 Solid PVC Pipe				
11						
12						
13						
14		bentonite				
15						
16						
17						
18		joint				
19						
20		T= 109° @ 20'				Refuse, dark gray, moist
21						Plastic, textile, wood, metal
22						organics
23						
24		6" Ø SCH 80 slotted PVC pipe				
25						

BORING LOG

PROJECT: OVSL HOLE/WELL #: 100

JOB NUMBER: 072070006.01 PAGE: 2 OF: 2

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
21						
23						
24						
25		6" ϕ SCH 80 Slotted PVC pipe				Refuse, dark grey, mostly plastic, wood, textile, metal, organics
30						
31						
32						
33		gravel				
34						
35						
36						
37						
38		joint				
39			T= 140'			
40			C 35			Refuse, dark grey, mostly plastic, wood, metal textile, paper, organics
41						
42						
43						
44						
45		cap				
46						
47						Stopped @ 47 - 12:01
48						
49						
50						

BORING LOG

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PROJECT: OVSL

HOLE #: 101 (GW 65R [illegible] 271.5')

PROJECT LOCATION: Port Orchard, WA

DIAMETER: 36"

JOB NUMBER: 07207006.01

TOTAL DEPTH: 50' (49' projected)

GEOLOGIST/ENGINEER: S. Bond

DATE STARTED: 3/7/08

DRILLER: Terra

DATE COMPLETED: 3/7/08

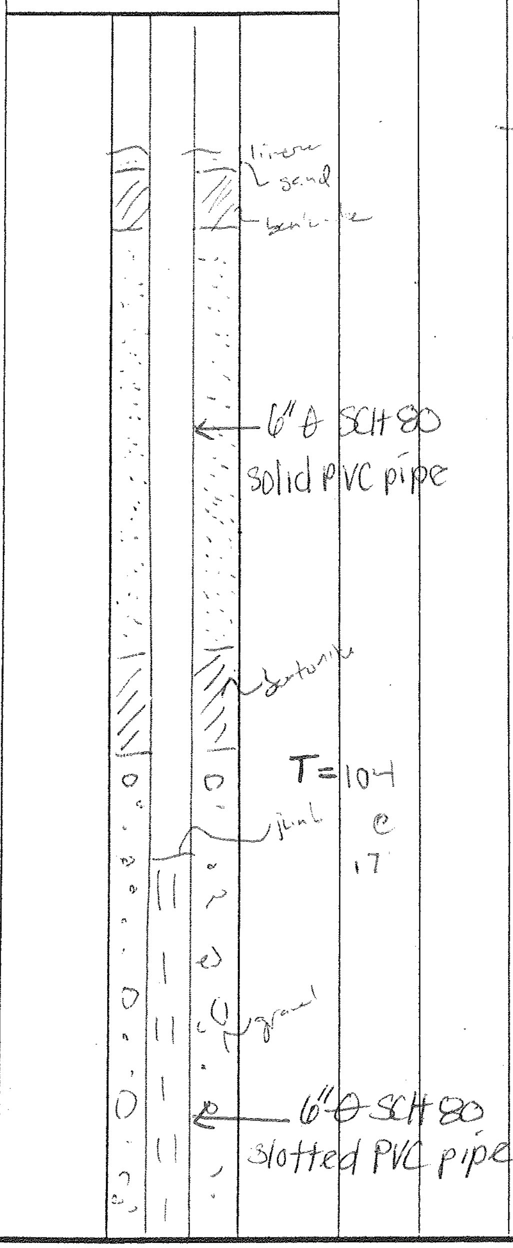
DRILL RIG: IMT AF 130

SAMPLING DEVICE: NA

DRILLING METHOD: Bucket Auger

PAGE: 1 OF: 2

DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
						START 1240
0						
1						soil
2						
3						geotextile @ 3'
4						
5						soil
6						
7						
8						Refuse @ 8'
9						
10						
11						
12						
13						
14						
15						Refuse, dark gray, moist, plastic, textile, wood, metal, rubber.
16			T=104			
17			@ 17			
18						
19						
20						
21						
22						
23						
24						
25						



BORING LOG

PROJECT: OUSL HOLE/WELL #: 101

JOB NUMBER: 07207006.01 PAGE: 2 OF: 2

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
26						
27						
28						
29						
30						Refuse, dark grey, moist wood, plastic, metal, organics, rubber
31		gravel				
32						
33						
34			T= 125°			
35			C 35'			
36						Refuse, dark grey, moist plastic, wood, metal paper, organics
37						
38		joint				
39						
40		6" SCH 80				
41		slotted PVC pipe				
42						
43						
44						Refuse, black/dk grey, very moist, wood, plastic, rubber, organics
45						
46						
47		cap				
48						
49						
50						stopped @ 50' — 1346

BORING LOG

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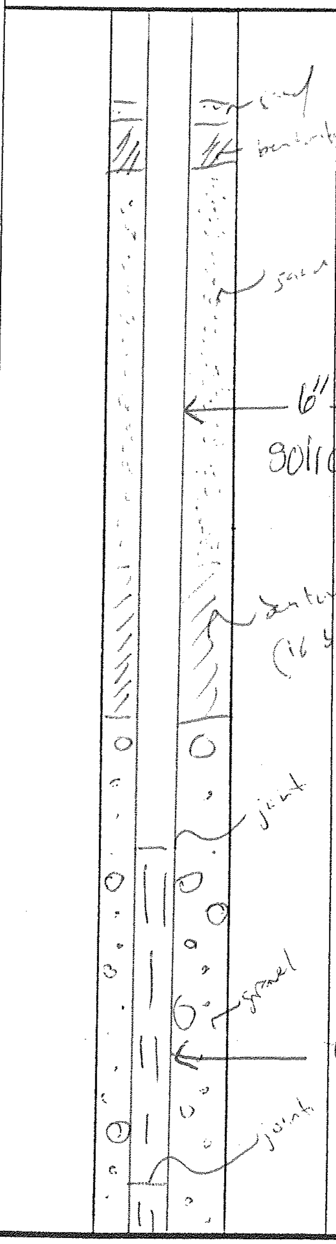
PROJECT:	[illegible]	HOLE #:	102 (GL 67R 292.7)
PROJECT LOCATION:	Port Orchard, WA	DIAMETER:	36"
JOB NUMBER:	07207006.01	TOTAL DEPTH:	68' (67' Projected)
GEOLOGIST/ENGINEER:	S Bird	DATE STARTED:	3/7/08
DRILLER:	Terra	DATE COMPLETED:	3/7/08
DRILL RIG:	JMT AF 130	SAMPLING DEVICE:	NA
DRILLING METHOD:	Bucket Auger	PAGE:	1 OF: 3



DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
						1405 Start
0						
1						soil
2						geotextile @ 2'
3						
4						soil
5						
6						
7						
8						Refuse @ 7'
9						
10						
11						
12						
13						
14						
15						
16						Refuse, dk grey, dry/moist
17						Wood, textile, plastic,
18						metal, organics, soils
19						
20						
21						
22						
23						
24						
25						

BORING LOG

PROJECT: OVSL HOLE/WELL #: 102

JOB NUMBER: 87207006.01 PAGE: 2 OF: 3

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
26			T= 121° @ 25'			Refuse, dark grey, moist Wood, plastic, metal, organics
27						
29						
30						
31						
32						
33						
34		gravel				
35						Refuse, dark grey, moist Wood, plastic, textile organics
36						
37		6" SCH 80 slotted PVC PIPE				
38						
39						
40						
41						
42			T= 127° @ 42'			Refuse, dark grey, moist Wood, plastic, textile soils, organics
43						
44						
45		joint				
46						
47						
48						
49						
50						

BORING LOG

PROJECT: OVSL HOLE/WELL #: 102

JOB NUMBER: 07207006.01 PAGE: 3 OF: 3

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
51						
52						
53						
54		6" ϕ SCH 80 slotted PVC pipe				
55						Refuse, dark grey, moist, plastic, textile, wood, organics, concrete
56						
57						
58		gravel				
59						
60						
61			T= 130° @ 61'			
62						Refuse, dark grey, moist, wood, plastic, rubber, metal, organics
63						
64						
65		cap				
66						
67						
68						Stopped @ 68' - 1540
69						
70						
71						
72						
73						
74						
75						

BORING LOG

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PROJECT: OUSL
HOLE #: 103 (GW 56 R 217.5)
PROJECT LOCATION: Port Orchard, WA
DIAMETER: 36"
JOB NUMBER: 07207006.01
TOTAL DEPTH: 63' (62' projected)
GEOLOGIST/ENGINEER: SJBond
DATE STARTED: 3/7/08
DRILLER: Terry
DATE COMPLETED: 3/7/08
DRILL RIG: IMT AC-130
SAMPLING DEVICE: NA
DRILLING METHOD: Bored Auger
PAGE: 1 OF: 3

DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
0						START - 1557
1		sand				geotextile liner
2		liner				
3		bentonite 8 bgs				
4						
5						
6						Refuse @ 6'
7						
8						
9		sand				
10						
11						
12						
13						
14						
15		bentonite 16 bgs				
16						
17						
18		joint				
19						
20		joint T=113 @ 21'				
21						Refuse, very dk grey, dry/moist wood, plastic, organics
22		gravel				
23						
24						
25		06" ø Sch 80 slotted PVC pipe				

BORING LOG

PROJECT: OVSL HOLE/WELL #: 103

JOB NUMBER: 07207006.01 PAGE: 2 OF: 3

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
26						
27						
28						
29						
30						Refuse, gray/brown, moist
31						Wood, plastic, paper
32						metal
33		6" ϕ SCH 80 Slotted PVC pipe				
34						
35		gravel				
36						
37		bentonite				
38						
39						
40		sand				
41						
42			T= 130°			Refuse, dark gray/moist
43			@ 42'			Plastic, wood, gravel
44						organics
45						1645
46						
47						
48						
49						
50						

BORING LOG

PROJECT: OVSL HOLE/WELL #: 103

JOB NUMBER: 07207006.01 PAGE: 3 OF: 3

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
51						
52		gravel				Refuse, gray, mix of plastic, wood, metal, textile, organics
53						
54						
55						
56		6" ϕ SCH 80 slotted PVC pipe				
57						
58						
59			T= 116'			
60		cap	@ 60'			Refuse, gray, mix of plastic, wood, textile, organics
61						
62						
63						STOPPED @ 63' 1720
64						
65						
66						
67						
68						
69						
70						
71						
72						
73						
74						
75						

BORING LOG

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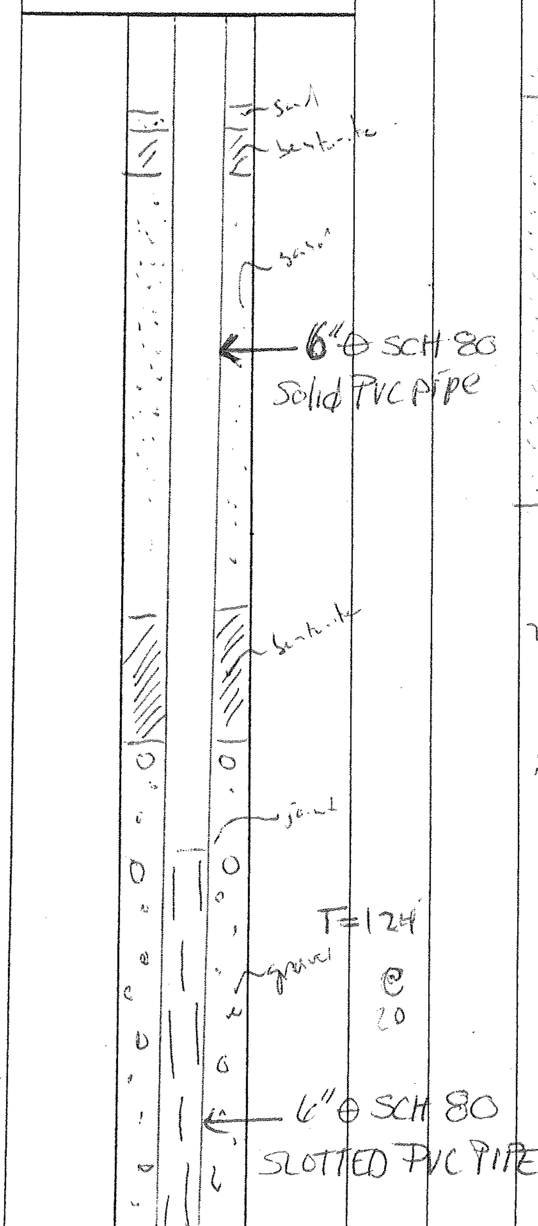
PROJECT:	OVSL	HOLE #:	104 (GW 66 R) (253.0')
PROJECT LOCATION:	Port Orchard, WA	DIAMETER:	36"
JOB NUMBER:	07207006.01	TOTAL DEPTH:	59' (58 projected)
GEOLOGIST/ENGINEER:	S Bond	DATE STARTED:	3/8/08
DRILLER:	Terra	DATE COMPLETED:	3/8/08
DRILL RIG:	IMT AF 130	SAMPLING DEVICE:	NA
DRILLING METHOD:	Bucket Auger	PAGE: 1	OF: 3

DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
						START ~ 700
0						
1						soil
2		soil				geotextile @ 2
3		bentonite				
4						
5		sand				soil
6						
7		6"⊖ SCH 80 Solid PVC pipe				
8						
9						
10						
11						Refusal @ 11'
12						
13		bentonite				
14						Refuse, dark gray, moist, plastic, metal, wood, textile
15						
16						
17		joint				
18						
19						
20		T=124' @ 20				
21		gravel				
22						
23						
24		6"⊖ SCH 80 SLOTTED PVC PIPE				
25						



BORING LOG

PROJECT: OUSL HOLE/WELL #: 164

JOB NUMBER: 07207006.01 PAGE: 2 OF: 3

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
26						
27						
28						Refuse, dark gray, moist, plastic, wood, paper, organics
29						
30						
31						
32						
33		6" ϕ SCH 80 slotted PVC pipe				
34		joint				
35						
36						
37						
38						
39						
40		T=37.°				
41		C 41'				Refuse, dark gray, moist, plastic, wood, metal, gravel, soils
42						
43						
44						
45						
46						
47						
48						
49						
50						

BORING LOG

PROJECT: OVSL HOLE/WELL #: 104

JOB NUMBER: 072070006.01 PAGE: 3 OF: 3

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
51		6" Ø Sch 80 slotted PVC pipe				Return, gray, moist plastic, paper, textile, organics, wood
52						
53						
54		gravel	T= 125° @ 55'			
55						
56		cap				Return - silty gray, moist wood, textile, plastic organics, soil, gravel
57						
58						
59						STOPPED @ 59 823
60						
61						
62						
63						
64						
65						
66						
67						
68						
69						
70						
71						
72						
73						
74						
75						

BORING LOG

SCS ENGINEERS
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Bellevue, WA 98005
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PROJECT: OVSL
PROJECT LOCATION: Port Orchard, WA
JOB NUMBER: 07207006.01
GEOLOGIST/ENGINEER: S Bond
DRILLER: Terra
DRILL RIG: IMT A6-130
DRILLING METHOD: Bucket Auger

HOLE #: 105 (GW 63R 275.7)
DIAMETER: 36"
TOTAL DEPTH: 55' (55' projected)
DATE STARTED: 3/8/08
DATE COMPLETED: 3/8/08
SAMPLING DEVICE: NA
PAGE: 1 OF: 3

DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
0						START 8HT
1						Soil
2						geotextile
3						
4						
5						Soil
6						
7						
8						
9						Refuse @ ~9'
10		6" ø SCH 80 solid PVC pipe				
11						Refuse, dark grey, dry/moist wood, plastic, paper, textile metal, organics
12						
13						
14						
15						
16						
17						
18						
19						
20						
21		T = 127' @ 22'				Refuse, dark grey, moist
22						Plastic, wood, metal, organics
23						soils
24						
25						

BORING LOG

PROJECT: OVSL HOLE/WELL #: 105

JOB NUMBER: 07207006.01 PAGE: 2 OF: 3

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
26						
27						
28						
29		6" ∅ SCH 80 Slotted PVC pipe				Refuse, dark gray, moist Plastic, wood, textile, organics
30						
31						
32						
33						
34						
35		gravel				
36						
37						
38						
39						
40		joint				
41			T = 144° @ 42'			Refuse, dark gray, moist Plastic, wood, textile (rope), metal, organics
42						
43						
44						
45						
46						
47		joint				
48						
49						
TD						

940

BORING LOG

PROJECT: OVSL HOLE/WELL #: 105

JOB NUMBER: 07207006.01 PAGE: 3 OF: 3

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
51		← 6" ⌀ SCH 80 Slotted PVC pipe				
52						
53		cap; gravel	T=117° @ 53'			Refuse, gray, moist. Plastic, wood, metal, organics, textile. Stopped @ 55' 9ft
54						
55						
56						
57						
58						
59						
60						
61						
62						
63						
64						
65						
66						
67						
68						
69						
70						
71						
72						
73						
74						
75						

BORING LOG

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FAX (206) 746-6747

PROJECT: OVSL	HOLE #: 106 (GW-45R)
PROJECT LOCATION: Port Orchard, WA	DIAMETER: 36"
JOB NUMBER: 07207006.01	TOTAL DEPTH: 45' (45' projected)
GEOLOGIST/ENGINEER: S Bird	DATE STARTED: 3/8/08
DRILLER: Terra	DATE COMPLETED: 3/8/08
DRILL RIG: IMT AF-130	SAMPLING DEVICE: NA
DRILLING METHOD: Barrel Auger	PAGE: 1 OF: 2

DEPTH (ft)	LAB SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
						Start 1042
0						
1						soil
2						geotextile @ ~3
3		bentonite				
4						soil
5						
6		sand				
7						
8		6"Ø SCH 80 solid PVC pipe				
9						Refuse, gray/brown, moist plastic, wood, textile, paper, metal
10						
11						
12						
13		bentonite				
14						
15						
16		gravel				
17						
18		joint				
19						
20						
21		6"Ø SCH 80 slotted PVC pipe				
22						
23						
24						
25			T=109° @ 25'			Refuse, grey moist plastic, metal, wood textile organics

BORING LOG

PROJECT: GUSL HOLE/WELL #: 106

JOB NUMBER: 6T207006.01 PAGE: 2 OF: 2

DEPTH (FEET)	SAMPLE	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS/ FOOT	USCS SYMBOL	DESCRIPTION
26						
27						
28						
29		6"ø SCH 80 Slotted PVC pipe				Refuse, dk grey, moist Plastic, textile, wood, organics
30						
31						
32		gravel				
33						
34						
35						
36						
37						
38		joint T=112°				
39			@ 35'			Refuse, dark grey, moist Plastic, paper, textile, rubber, metal, gravel, organics
40						
41						
42						
43		cap				
44						
45						STOPPED @ 45' 1145
46						
47						
48						
49						
50						

APPENDIX B

Construction Inspection Forms

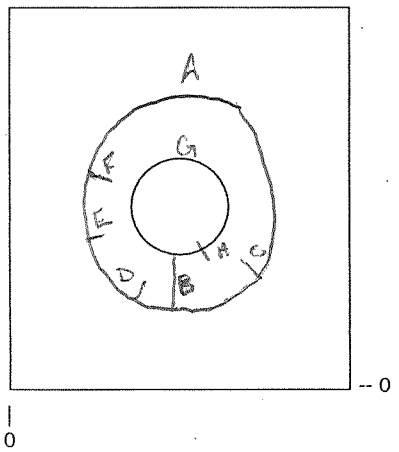
HDPE PIPE BOOT CONSTRUCTION FORM

CONSTRUCTION INSPECTION FORM
PROJECT NO. 07207006.01

LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

SCS ENGINEERS

Panel Orientation: N ↑	Well No. GW-24R #71	Roll No. N/A	Deploy Date 3/15/08	Boot Location
	Smooth / (Textured)	Lot No. N/A	Deploy Time 14:30	See Well Location Map



Seam Welding

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings
3/15/08	14:40		A	NWL	2(363)	497
	14:58		B			
	14:46		C			
	14:44		D			
	14:42		E			
	15:01		F			
			G			
			H			

Seam Leak Testing

Date	Distance Tested and Loc.*	Test Type	Tech	Pass/ Fail
3/17/08	A 16:10	Vac	NWL	P
	B 16:12			P
	C 16:21			P
	D Unable to test			—
	E Unable to test			—
	F Unable to test			—
	G —	—	—	—
	H —	—	—	—

Repair Welding

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings

Repair Leak Testing

Date	Test Type	Tech	Pass/ Fail

INSPECTOR'S SIGNATURE Eric Swathout 3/15/08

DATE 3/17/08

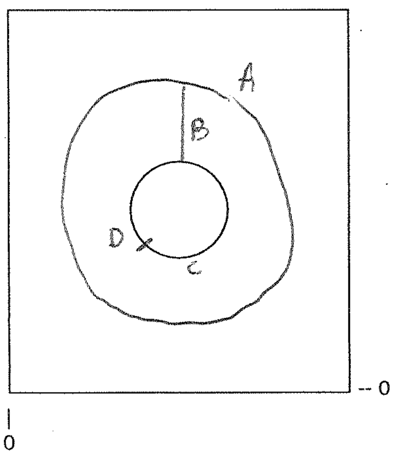
☐ CHECK (✓) HERE IF REVERSE SIDE IS USED

HDPE PIPE BOOT CONSTRUCTION FORM

CONSTRUCTION INSPECTION FORM
PROJECT NO. 07207006.01

LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

SCS ENGINEERS



Panel Orientation: N ↑	Well No. GW-70R #72		Roll No. N/A	Deploy Date 3/15/08	Boot Location
	Smooth	Textured	Lot No. N/A	Deploy Time 11:45	See Well Location Map

Seam Welding / **Seam Leak Testing**

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings	Date	Distance Tested and Loc.*	Test Type	Tech	Pass/ Fail
3/15/08	11:50		A	NWL	2 (363)	500	3/17/08	A 16:25	Vac	NWL	P
↓	11:55		B	↓	↓	↓	↓	B 16:28	↓	↓	P
	11:57		C					C –	–	–	–
↓	11:58		D	↓	↓	↓	↓	D –	–	–	–

Repair Welding / **Repair Leak Testing**

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings	Date	Test Type	Tech	Pass/ Fail

INSPECTOR'S SIGNATURE [signature] DATE 3/15/08 3/17/08

☐ CHECK (✓) HERE IF REVERSE SIDE IS USED

HDPE PIPE BOOT CONSTRUCTION FORM

CONSTRUCTION INSPECTION FORM
PROJECT NO. 07207006.01

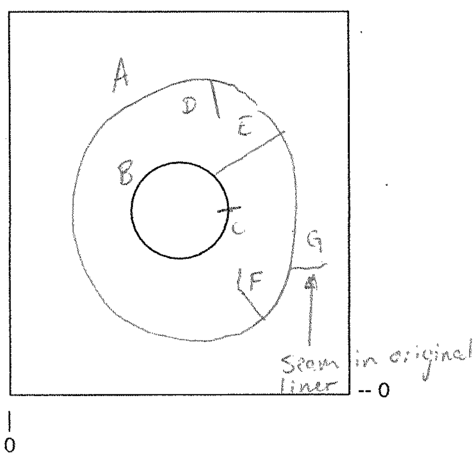
LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

SCS ENGINEERS

Panel Orientation:	Well No. GW 21R #73		Roll No. N/A	Deploy Date 3/16/08	Boot Location
N ↑	Smooth	Textured (circled)	Lot No. N/A	Deploy Time 14:57	See Well Location Map

Seam Welding / **Seam Leak Testing**

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings	Date	Distance Tested and Loc.*	Test Type	Tech	Pass/Fail
3/16/08	14:59		A	NWL	2 (363)	500	3/17/08	A 15:54	Vac	NWL	P
↓	15:10		B	↓	↓	↓	↓	B –	–	–	–
↓	15:12		C	↓	↓	↓	↓	C –	–	–	–
↓	15:01		D	↓	↓	↓	↓	D 15:56	Vac	NWL	P
↓	15:09		E	↓	↓	↓	↓	E 15:59	↓	↓	P
↓	15:07		F	↓	↓	↓	↓	F 16:03	↓	↓	P
↓	15:05		G	↓	↓	↓	↓	G 16:02	↓	↓	



Repair Welding / **Repair Leak Testing**

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings	Date	Test Type	Tech	Pass/Fail

INSPECTOR'S SIGNATURE [signature] DATE 3/16/08 & 3/17/08

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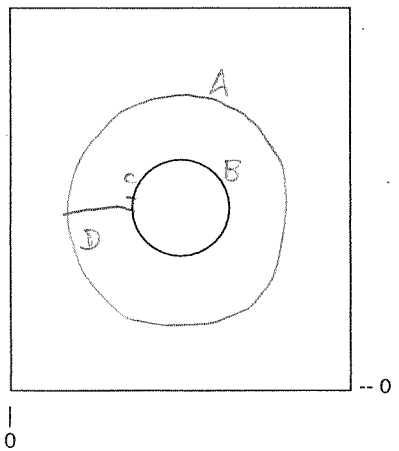
HDPE PIPE BOOT CONSTRUCTION FORM

CONSTRUCTION INSPECTION FORM
PROJECT NO. 07207006.01

LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

SCS ENGINEERS

Panel Orientation:	Well No. GW 19R #74	Roll No. N/A	Deploy Date 3/16/08	Boot Location
N 4	Smooth / Textured	Lot No. N/A	Deploy Time 14:43	See Well Location Map



Seam Welding

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings
3/16/08	14:45		A	NWL	2 (363)	500
↓	14:53		B	↓	↓	↓
↓	14:55		C	↓	↓	↓
↓	14:51		D	↓	↓	↓

Seam Leak Testing

Date	Distance Tested and Loc.*	Test Type	Tech	Pass/ Fail
3/17/08	A 15:38	Vac	NWL	P
↓	B —	—	—	—
↓	C —	—	—	—
↓	D 15:46	Vac	NWL	P

Repair Welding

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings

Repair Leak Testing

Date	Test Type	Tech	Pass/ Fail

INSPECTOR'S SIGNATURE Eric Strathope DATE 3/16/08 & 3/17/08

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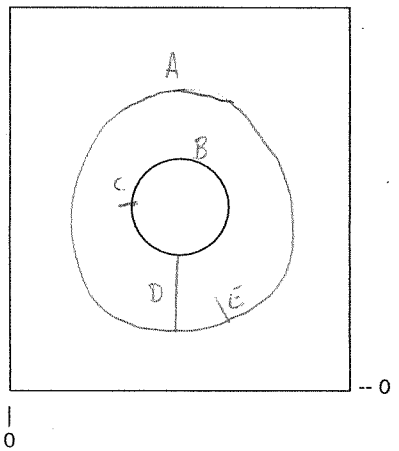
HDPE PIPE BOOT CONSTRUCTION FORM

CONSTRUCTION INSPECTION FORM
PROJECT NO. 07207006.01

LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

SCS ENGINEERS

Panel Orientation:	Well No. GW 40R #75	Roll No. N/A	Deploy Date 3/16/08	Boot Location
N 4	Smooth / Textured	Lot No. N/A	Deploy Time 14:16	See Well Location Map



Seam Welding

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings
3/16/08	14:20		A	NWL	2 (363)	500
↓	14:36		B	↓	↓	↓
↓	14:40		C	↓	↓	↓
↓	14:30		D	↓	↓	↓
↓	14:32		E	↓	↓	↓

Seam Leak Testing

Date	Distance Tested and Loc.*	Test Type	Tech	Pass/ Fail
3/17/08	A 14:58	Vac	NWL	P
↓	B —	—	—	—
↓	C —	—	—	—
↓	D 15:04	Vac	NWL	P
↓	E 15:02	Vac	↓	P

Repair Welding

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings

Repair Leak Testing

Date	Test Type	Tech	Pass/ Fail

INSPECTOR'S SIGNATURE Lia Scott Hodge

DATE 3/16/08 & 3/17/08

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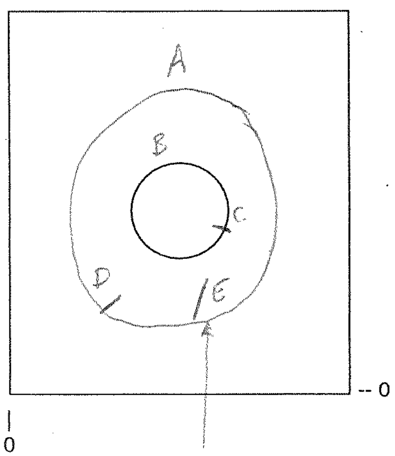
LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

SCS ENGINEERS

Panel Orientation: N ↑	Well No. GW 39R #76		Roll No. N/A	Deploy Date 3/16/08	Boot Location
	Smooth	Textured	Lot No. N/A	Deploy Time 14:10	See Well Location Map



Seam Welding / **Seam Leak Testing**

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings	Date	Distance Tested and Loc.*	Test Type	Tech	Pass/ Fail
3/16/08	14:12		A	NWL	2 (363)	500	3/17/08	A 14:35	Vac	NWL	P
↓	14:18		B	↓	↓	↓	↓	B —	—	—	—
↓	14:20		C	↓	↓	↓	↓	C —	—	—	—
↓	14:13		D	↓	↓	↓	↓	D 14:39	Vac.	NWL.	P
↓	14:19		E	↓	↓	↓	↓	E 14:41	↓	↓	P

Repair Welding / **Repair Leak Testing**

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings	Date	Test Type	Tech	Pass/ Fail

INSPECTOR'S SIGNATURE [signature] DATE 3/16/08 & 3/17/08

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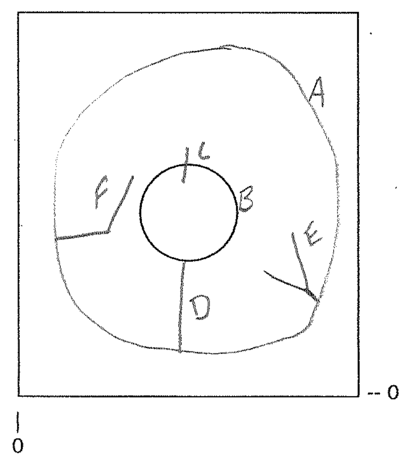
PROJECT NO. 07207006.01

LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

SCS ENGINEERS

Panel Orientation: N ↑	Well No. GW-17R #77		Roll No. N/A	Deploy Date 3/16/08	Boot Location
	Smooth	Textured (circled)	Lot No. N/A	Deploy Time 11:05	See Well Location Map



Seam Welding / **Seam Leak Testing**

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings	Date	Distance Tested and Loc.*	Test Type	Tech	Pass/ Fail
3/16/08	11:05		A	NWL	1	498	3/17/08	A 14:12	Vac	NWL	P
↓	11:08		B	↓	↓	↓	–	B –	–	–	–
↓	11:11		C	↓	↓	↓	–	C –	–	–	–
↓	11:14		D	↓	↓	↓	3/17/08	D 14:14	Vac	NWL	P
↓	11:18		E	↓	↓	↓	↓	E 14:15	↓	↓	P
↓	11:20		F	↓	↓	↓	↓	F 14:18	↓	↓	P

Repair Welding / **Repair Leak Testing**

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings	Date	Test Type	Tech	Pass/ Fail

INSPECTOR'S SIGNATURE [signatures] DATE 3/17/08 3/16/08

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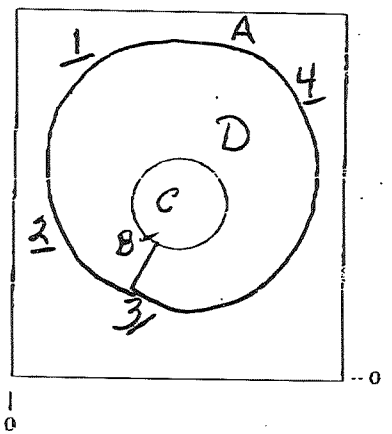
PROJECT NO. 07207006.01

HDPE PIPE BOOT CONSTRUCTION FORM

LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

SCS ENGINEERS

Panel Orientation	Well No.		Roll No.		Deploy Date	Boot Location
N	GW 27R #78		N/A		4/25/08	See Well Location Map
	Smooth	Textured	Lot No.	N/A	Deploy Time 0800	



Seam Welding

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings
4/25/08	0830		A		3	490
↓	0835		B		↓	↓
↓	0843		C		↓	↓
↓	0850		D		↓	↓

Seam Leak Testing

Date	Distance Tested and Loc.*	Test Type	Tech	Pass/ Fail
4/25/08	1 0915	Vac	NWL	P
↓	2 0920	↓	↓	P
↓	3 0922	↓	↓	P
↓	4 0925	↓	↓	P

Repair Welding

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings

Repair Leak Testing

Date	Test Type	Tech	Pass/ Fail

INSPECTOR'S SIGNATURE Martin D. Mendoza DATE 4/25/08

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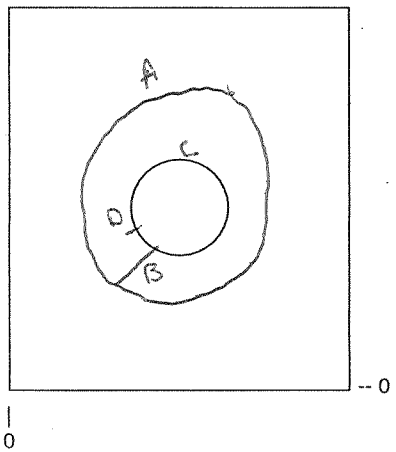
LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

SCS ENGINEERS

Panel Orientation: N ↑	Well No. GW 18R #79	Roll No. N/A	Deploy Date 3/15/08	Boot Location
	Smooth / Textured	Lot No. N/A	Deploy Time 14:06	See Well Location Map



Seam Welding

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings
3/15/08	14:16		A	NWL	2 (363)	478
↓	14:25		B	↓	↓	↓
	14:26		C			
↓	14:27		D	↓	↓	↓

Seam Leak Testing

Date	Distance Tested and Loc.*	Test Type	Tech	Pass/ Fail
3/17/08	A 15:23	Vac	NWL	P
↓	B 15:26	↓	↓	P
	C —	—	—	—
↓	D —	—	—	—

Repair Welding

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings

Repair Leak Testing

Date	Test Type	Tech	Pass/ Fail

INSPECTOR'S SIGNATURE Eric Lundhagen DATE 3/17/08

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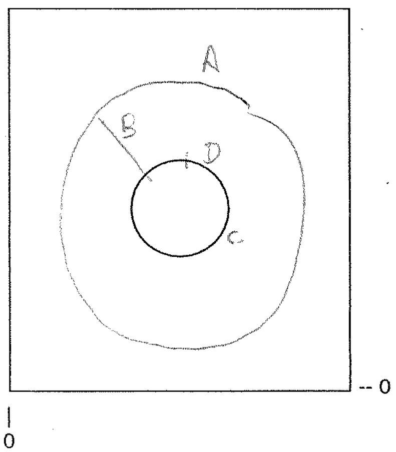
Panel Orientation: N ↑	Well No. GW 25 R #80		Roll No. N/A	Deploy Date 3/15/08	Boot Location
	Smooth	(Textured)	Lot No. N/A	Deploy Time 13:16	See Well Location Map

Seam Welding / **Seam Leak Testing**

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings	Date	Distance Tested and Loc.*	Test Type	Tech	Pass/ Fail
3/15/08	13:33		A	NWL	2(363)	479	3/17/08	A 12:59	Vac	NWL	P
↓	13:35		B	↓	↓	↓	↓	B 13:04	↓	↓	P
↓	13:38		C	↓	↓	↓	↓	C —	—	—	—
↓	13:40		D	↓	↓	↓	↓	D —	—	—	—



Repair Welding / **Repair Leak Testing**

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings	Date	Test Type	Tech	Pass/ Fail

INSPECTOR'S SIGNATURE [signature] DATE 3/15/08 3/17/08

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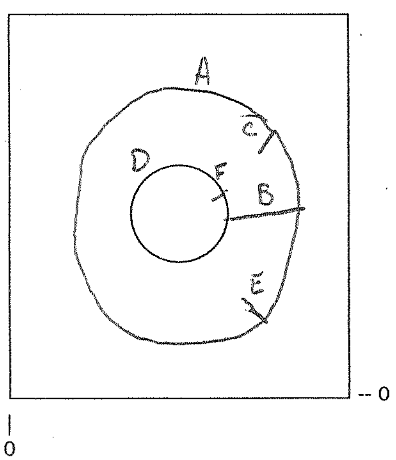
CONSTRUCTION INSPECTION FORM
PROJECT NO. 07207006.01

LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

SCS ENGINEERS



Panel Orientation: N ↑	Well No. GW-23R #81		Roll No. N/A	Deploy Date 3/15/08	Boot Location
	Smooth	Textured (circled)	Lot No. N/A	Deploy Time 11:00	See Well Location Map

Seam Welding / **Seam Leak Testing**

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings	Date	Distance Tested and Loc.*	Test Type	Tech	Pass/ Fail
3/15/08	11:16		A	NWL	2(363)	498	3/17/08	A 16:37	Vac	NWL	P
↓	11:23		B	↓	↓	↓	↓	B 16:53	↓	↓	P
↓	11:24		C	↓	↓	↓	↓	C 16:40	↓	↓	P
↓	11:28		D	↓	↓	↓	↓	D —	—	—	—
↓	11:19		E	↓	↓	↓	↓	E Unable	to test		—
↓	11:30		F	↓	↓	↓	↓	F —	—	—	—

Repair Welding / **Repair Leak Testing**

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings	Date	Test Type	Tech	Pass/ Fail

INSPECTOR'S SIGNATURE [signature] DATE 3/15/08 3/17/08

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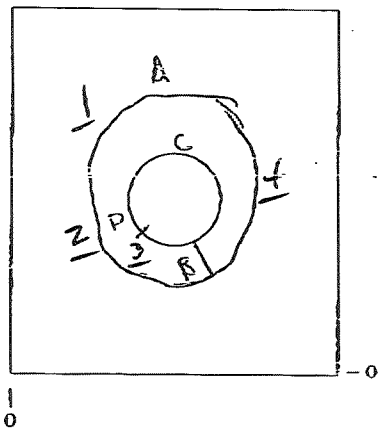
PROJECT NO. 07207006.01
SCS ENGINEERS

HDPE PIPE BOOT CONSTRUCTION FORM

LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

Panel Orientation:	Well No. GW 26 R #82	Roll No. N/A	Deploy Date 3/15/08	Boot Location
N ↑	Smooth / Textured	Lot No. N/A	Deploy Time 13:42	See Well Location Map



Seam Welding

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings
3/15/08	13:52		A	NWL	2 (363)	496
↓	13:56		B	↓	↓	↓
↓	13:59		C	↓	↓	↓
↓	14:00		D	↓	↓	↓

Seam Leak Testing

Date	Distance Tested and Loc.*	Test Type	Tech	Pass/ Fail
4/25/08	1 0950	VAC	NWL	P
↓	2 952	↓	↓	P
↓	3 0955	↓	↓	P
↓	4 0958	↓	↓	P

Repair Welding

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings

Repair Leak Testing

Date	Test Type	Tech	Pass/ Fail

Mark D. Mendenhall 4/25/08

INSPECTOR'S SIGNATURE Jill Jones Magen DATE 3/15/08

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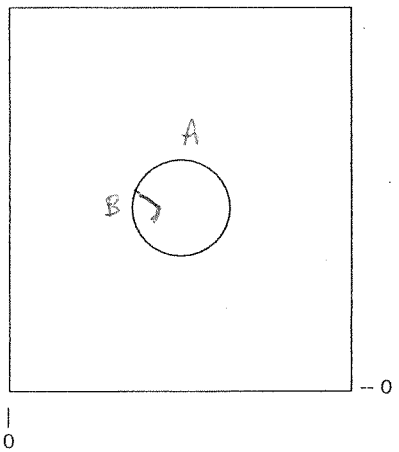
LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

SCS ENGINEERS

Panel Orientation:	Well No. Upslope Scrn GW-28 #83XX		Roll No. N/A	Deploy Date 3/20/08	Boot Location
N ↑	Smooth	Textured	Lot No. N/A	Deploy Time	See Well Location Map



Seam Welding

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings

Seam Leak Testing

Date	Distance Tested and Loc.*	Test Type	Tech	Pass/ Fail

Repair Welding

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings

Repair Leak Testing

Date	Test Type	Tech	Pass/ Fail

INSPECTOR'S SIGNATURE _____ DATE 3/20/08

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HDPE PIPE BOOT CONSTRUCTION FORM

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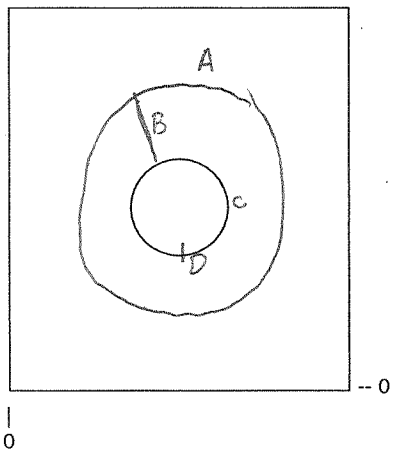
LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

SCS ENGINEERS

Panel Orientation:	Well No. GW-32R #84		Roll No. N/A	Deploy Date 3/15/08	Boot Location
N 4	Smooth	Textured	Lot No. N/A	Deploy Time 10:35	See Well Location Map



Seam Welding

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings
3/15/08	10:43		A	NWL	2 (363)	505
↓	10:53		B	↓	↓	↓
↓	10:54		C	↓	↓	↓
↓	10:55		D	↓	↓	↓

Seam Leak Testing

Date	Distance Tested and Loc.*	Test Type	Tech	Pass/ Fail
3/17/08	A 16:57	Vac.	NWL	P
↓	B 16:59	Vac	↓	P
↓	C —	—	—	—
↓	D —	—	—	—

Repair Welding

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings

Repair Leak Testing

Date	Test Type	Tech	Pass/ Fail

INSPECTOR'S SIGNATURE [signature] DATE 3/15/08 3/17/08

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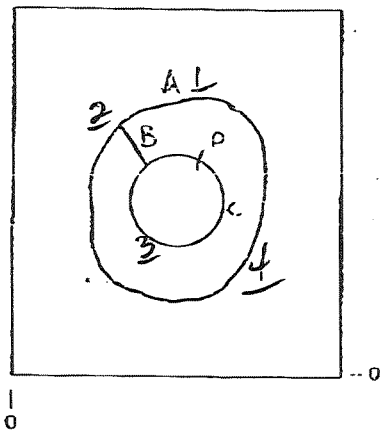
LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

SCS ENGINEERS

Panel Orientation: N ↑	Well No. GW-31R #85	Roll No. N/A	Deploy Date 3/15/08	Boot Location
	Smooth / Textured	Lot No. N/A	Deploy Time 10:20	See Well Location Map



Seam Welding

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings
3/15/08	10:26		A	NWL	2 (363)	478
↓	10:27		B	↓	↓	↓
↓	10:28		C	↓	↓	↓
↓	10:29		D	↓	↓	↓

Seam Leak Testing

Date	Distance Tested and Loc.*	Test Type	Tech	Pass/ Fail
4/25/08	1 1030	VAC	NWL	P
↓	2 1033	↓	↓	P
↓	3 1035	↓	↓	P
↓	4 1040	↓	↓	P

Repair Welding

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings

Repair Leak Testing

Date	Test Type	Tech	Pass/ Fail

Monte L. Allendorf 4/25/08

INSPECTOR'S SIGNATURE Eric Lindhorst DATE 3/15/08

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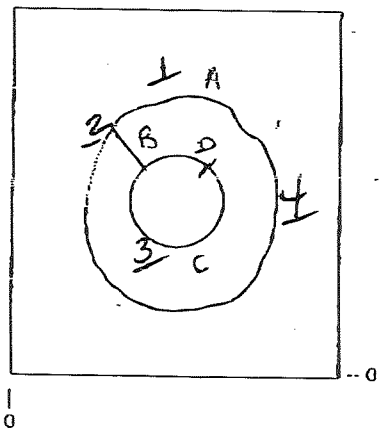
SCS ENGINEERS

LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

Panel Orientation:	Well No. GW-36R #86	Roll No. N/A	Deploy Date 3/15/08	Boot Location
N 4	Smooth / Textured	Lot No. N/A	Deploy Time 0930	See Well Location Map



Seam Welding

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings
3/15/08	09:32		A	NWL	2 (363)	500
↓	09:35		B	↓	↓	↓
	09:38		C			
↓	09:40		D	↓	↓	↓

Seam Leak Testing

Date	Distance Tested and Loc.*	Test Type	Tech	Pass/ Fail
4/25/08	1 1010	VAC	NWL	P
↓	2 1012	↓	↓	P
	3 1015			P
↓	4 1018	↓	↓	P

Repair Welding

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings

Repair Leak Testing

Date	Test Type	Tech	Pass/ Fail

INSPECTOR'S SIGNATURE [signature] DATE 4/25/08

INSPECTOR'S SIGNATURE [signature] DATE 3/15/08

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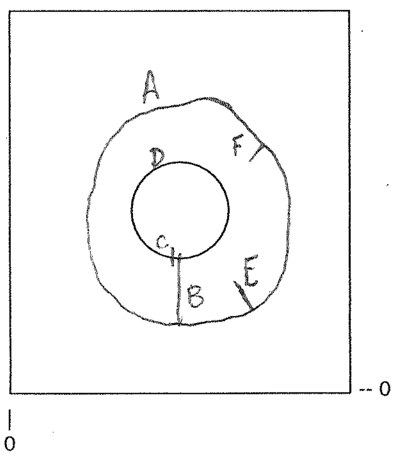
LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

SCS ENGINEERS

Panel Orientation:	Well No.	GW-35R #87	Roll No.	N/A	Deploy Date	3/15/08	Boot Location
N 4	Smooth	(Textured)	Lot No.	N/A	Deploy Time	09:56	See Well Location Map

Seam Welding / **Seam Leak Testing**

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings	Date	Distance Tested and Loc.*	Test Type	Tech	Pass/ Fail
3/15/08	09:58		A	NWL	2 (363)	496	3/17/08	A 17:11	Vac	NWL	P
↓	10:03		B	↓	↓	↓	↓	B 17:13	↓	↓	P
↓	10:08		C	↓	↓	↓	↓	C —	—	—	—
↓	10:06		D	↓	↓	↓	↓	D —	—	—	—
↓	09:59		E	↓	↓	↓	↓	E 17:15	Vac	NWL	P
↓	10:01		F	↓	↓	↓	↓	F 17:20	↓	↓	P



Repair Welding / **Repair Leak Testing**

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings	Date	Test Type	Tech	Pass/ Fail

INSPECTOR'S SIGNATURE [signature] DATE 3/15/08 3/17/08

☐ CHECK (✓) HERE IF REVERSE SIDE IS USED

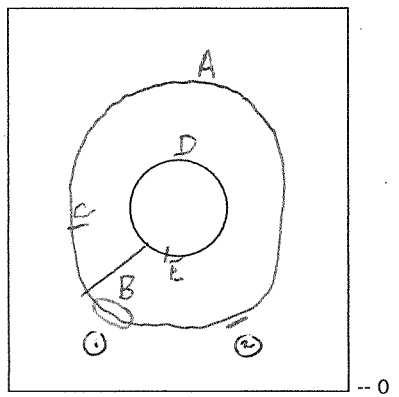
HDPE PIPE BOOT CONSTRUCTION FORM

CONSTRUCTION INSPECTION FORM
PROJECT NO. 07207006.01

LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

SCS ENGINEERS

Panel Orientation:	Well No. GW 54R #88	Roll No. N/A	Deploy Date 3/14/08	Boot Location
N 4	Smooth / (Textured)	Lot No. N/A	Deploy Time 15:48	See Well Location Map



Seam Welding

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings
3/14/08	15:50		A	NWL	1	428
↓	16:00		B	↓	↓	↓
↓	15:55		C	↓	↓	↓
↓	16:03		D	↓	↓	↓
↓	16:04		E	↓	↓	↓

Seam Leak Testing

Date	Distance Tested and Loc.*	Test Type	Tech	Pass/ Fail
3/18/08	A 17:59	Vac	NWL	F
↓	B 17:57	Vac	↓	P
↓	C 18:02	Vac	↓	P
—	D —	—	—	—
—	E —	—	—	—

Repair Welding

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings
3/18/08	1125		1	NWL	363	497
" "	1122		2	↓	↓	493

Repair Leak Testing

Date	Test Type	Tech	Pass/ Fail
3/14/08	VAC	NWL	P
↓	↓	↓	P

INSPECTOR'S SIGNATURE Eric Santiago DATE 3/18/08 (3/17/08)

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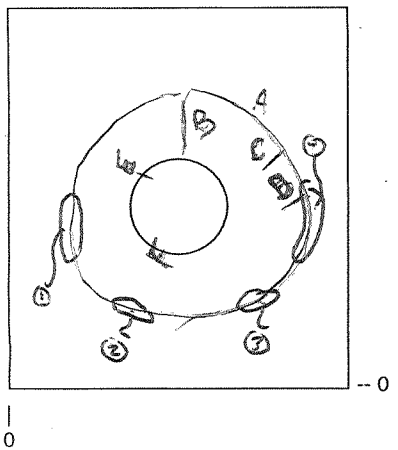
HDPE PIPE BOOT CONSTRUCTION FORM

CONSTRUCTION INSPECTION FORM
PROJECT NO. 07207006.01

LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

SCS ENGINEERS

Panel Orientation:	Well No. 55R #89	Roll No. N/A	Deploy Date 3/14/08	Boot Location
N ↑	Smooth / (Textured)	Lot No. N/A	Deploy Time 1330	See Well Location Map



Seam Welding

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings
3/14/08	1433		A	NWL	1	4
	1437		B			
	1438		C			
	1439		D			
	1450		E			
↓	1453		F	↓	↓	

Seam Leak Testing

Date	Distance Tested and Loc.*	Test Type	Tech	Pass/ Fail
3/18/08	A 1135	VAC	NWL	F
↓	B 1137	" "	" "	P
	C	—	—	—
	D	—	—	—
	G	—	—	—
↓	F	—	—	—

Repair Welding

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings
3/18/08	1201		①	NWL	363	498
↓	1207		②	↓	↓	↓
	1209		③			
	1210		④			
↓	1222		②a — 2nd	NWL	363	500
			re-weld at failure			
			location			

Repair Leak Testing

Date	Test Type	Tech	Pass/ Fail
3/18/08	VAC	NWL	P
↓	↓	↓	P
			P
			P
3/18/08	VAC	NWL	P

INSPECTOR'S SIGNATURE _____ DATE 3/18/08

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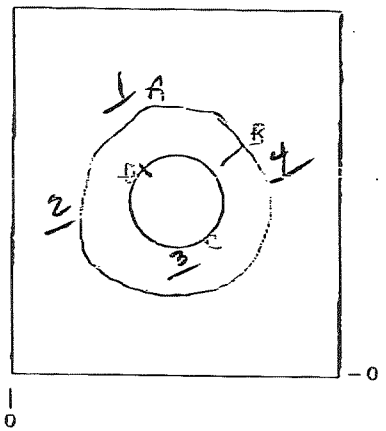
HDPE PIPE BOOT CONSTRUCTION FORM

CONSTRUCTION INSPECTION FORM
PROJECT NO. 07207006.01

LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

SCS ENGINEERS

Panel Orientation: N ↑	Well No. 49R-A #70	Roll No. N/A	Deploy Date 3/14/08	Boot Location
	Smooth / Textured	Lot No. N/A	Deploy Time 12:07	See Well Location Map



Seam Welding

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings
3/14/08	12:08		A	MWL	I	432
↓	12:10		B	↓	↓	↓
↓	12:14		C	↓	↓	↓
↓	12:18		D	↓	↓	↓

Seam Leak Testing

Date	Distance Tested and Loc.*	Test Type	Tech	Pass/ Fail
4/25/08	1 1055	VAC	NWL	P
↓	2 1058	↓	↓	P
↓	3 1102	↓	↓	P
↓	4 1104	↓	↓	P

Repair Welding

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings

Repair Leak Testing

Date	Test Type	Tech	Pass/ Fail

INSPECTOR'S SIGNATURE [signature] DATE 3/14/08

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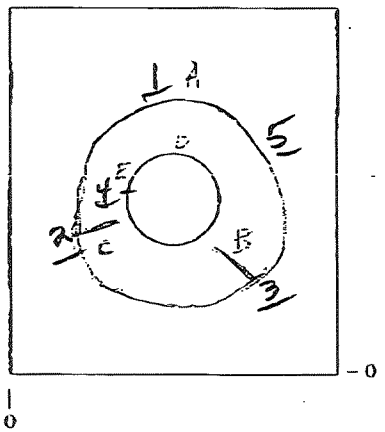
HDPE PIPE BOOT CONSTRUCTION FORM

CONSTRUCTION INSPECTION FORM
PROJECT NO. 07207006.01

LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

SCS ENGINEERS

Panel Orientation:	Well No. 49R-B #91	Roll No. N/A	Deploy Date 3/14/08	Boot Location
N ↑	Smooth / (Textured)	Lot No. N/A	Deploy Time 10:40	See Well Location Map



Seam Welding

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings
3/14/08	10:41		A	NWL	1	45
	10:44		B			
	10:42		C			
	10:45		D			
	10:46		E			

Seam Leak Testing

Date	Distance Tested and Loc.*		Test Type	Tech	Pass/ Fail
4/25/08	1	1115	Vac	NWL	P
	2	1118			P
	3	1122			P
	4	1125			P
	5	1128			P

Repair Welding

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings

Repair Leak Testing

Date	Test Type	Tech	Pass/ Fail

Martin Mendall 4/25/08

INSPECTOR'S SIGNATURE Eric Lostrom DATE 3/14/08

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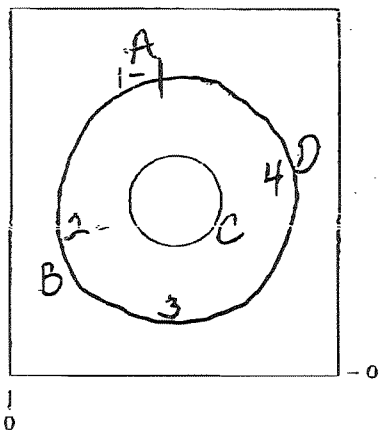
CONSTRUCTION INSPECTION FORM
PROJECT NO. 07207006.01
SCS ENGINEERS

LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

Panel Orientation	Well No. GW-68 #92XX		Roll No. N/A	Deploy Date 4/25/08	Boot Location
N	Smooth	Textured	Lot No. N/A	Deploy Time 1610	See Well Location Map



Seam Welding

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings
4/25/08	1515		A	NWL	3	4/91
	1630		B			
	1540		C			
	1553		D			

Seam Leak Testing

Date	Distance Tested and Loc.*	Test Type	Tech	Pass/ Fail
4/25/08	1 - 1626	VAC	NWL	P
	2 - 1623			P
	3 - 1627			P
	4 - 1630			P

Repair Welding

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings

Repair Leak Testing

Date	Test Type	Tech	Pass/ Fail

INSPECTOR'S SIGNATURE [signature] DATE 4/25/08

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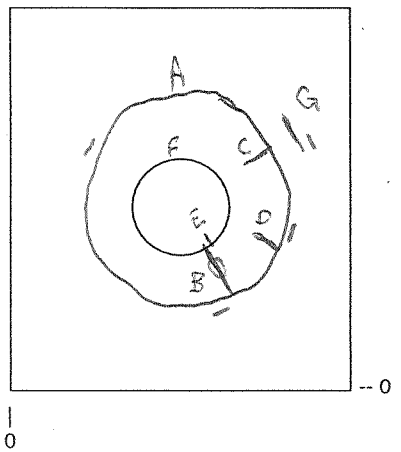
PROJECT NO. 07207006.01

LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

SCS ENGINEERS

Panel Orientation: N	Well No. GW-68R #92	Roll No. N/A	Deploy Date 3/14/08	Boot Location
	Smooth / (Textured)	Lot No. N/A	Deploy Time 16:55	See Well Location Map



Seam Welding

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings
3/14/08	16:58		A	NWL	1	429
	17:04		B			
	17:09		C			
	17:01		D			
	17:05		E			
	17:06		F			
	17:12		G			

Seam Leak Testing

Date	Distance Tested and Loc.*	Test Type	Tech	Pass/ Fail
3/17/08	A 17:25	Vac	NWL	F
	B 17:45			F
	C 17:38			P
	D Unable to test			—
	E —	—	—	—
	F —	—	—	—
	G 17:40	Vac	NWL	F

Repair Welding

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings
3/18/08	1042		1	NWL	363	506
	1044		2			
	1045		3			
	1048		4			
	1049		5			

Repair Leak Testing

Date	Test Type	Tech	Pass/ Fail
3/18/08	VAC	NWL	P
			P
			P
			P
			P

INSPECTOR'S SIGNATURE Eric Santiago

DATE 3/18/08 3/17/08

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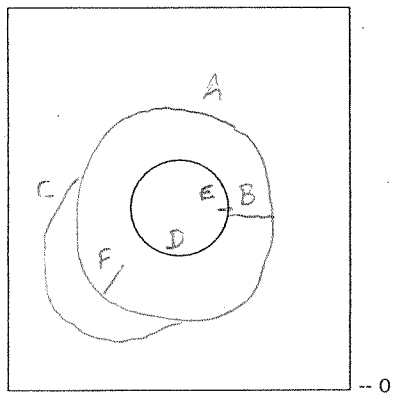
CONSTRUCTION INSPECTION FORM
PROJECT NO. 07207006.01

LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

SCS ENGINEERS

Panel Orientation:	Well No. GW-30R #93		Roll No. N/A	Deploy Date 3/20/08	Boot Location
N ↑	Smooth	Textured	Lot No. N/A	Deploy Time 13:10	See Well Location Map



Seam Welding / **Seam Leak Testing**

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings	Date	Distance Tested and Loc.*	Test Type	Tech	Pass/ Fail
3/20/08	13:27		A	NWL	373	499	3/20/08	A 15:22	Vac	NWL	P
↓	13:23		B	↓	↓	↓	↓	B 15:23	↓	↓	P
	13:14		C					C 15:21	↓	↓	P
	13:16		D					D —	—	—	—
	13:19		E					E —	—	—	—
↓	13:29		F	↓	↓	↓	↓	F 15:32	Vac	NWL	P

Repair Welding / **Repair Leak Testing**

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings	Date	Test Type	Tech	Pass/ Fail

INSPECTOR'S SIGNATURE _____ DATE 3/20/08

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HDPE PIPE BOOT CONSTRUCTION FORM

CONSTRUCTION INSPECTION FORM
PROJECT NO. 07207006.01

LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

SCS ENGINEERS

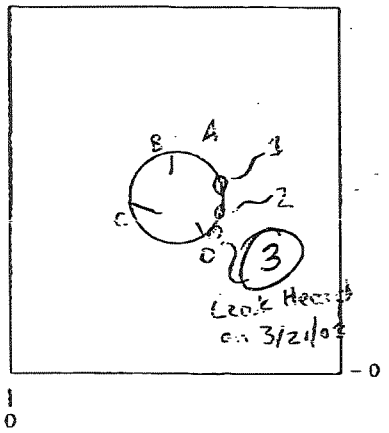
Panel Orientation:	Well No. GW-37R #94XX		Roll No. N/A	Deploy Date 3/18/08	Boot Location
N ↑	Smooth	Textured	Lot No. N/A	Deploy Time 17:50	See Well Location Map

Seam Welding

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings
3/18/08	17:51		A	NWL	1	499
↓	18:14		B	↓	↓	↓
↓	18:57		C	↓	↓	↓
↓	18:2		D	↓	↓	↓

Seam Leak Testing

Date	Distance Tested and Loc.*		Test Type	Tech	Pass/ Fail
3/20/08	A	15:36	Vac	NWL	F
↓	B	–	–	–	–
↓	C	–	–	–	–
↓	D	–	–	–	–



Repair Welding

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings
4/25/08	0838		3–	NWL	3	490

Repair Leak Testing

Date	Test Type	Tech	Pass/ Fail
4/25/08	VAC	NWL	P

INSPECTOR'S SIGNATURE _____ DATE 4/25/08 3/20/08

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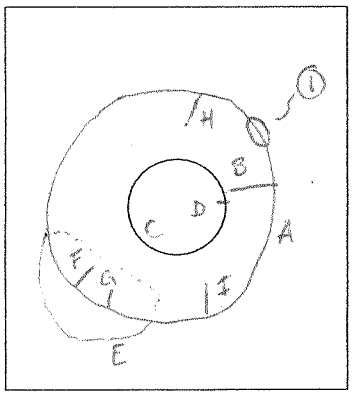
HDPE PIPE BOOT CONSTRUCTION FORM

CONSTRUCTION INSPECTION FORM
PROJECT NO. 07207006.01

LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

SCS ENGINEERS

Panel Orientation: N ↑	Well No. GW-37R #94 (redrill)		Roll No. N/A	Deploy Date 3/20/08	Boot Location
	Smooth	Textured	Lot No. N/A	Deploy Time 12:33	See Well Location Map



Seam Welding

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings
3/20/08	12:54		A	NWL	1	482
↓	13:03		B	↓	↓	↓
	12:49		C			
	12:52		D			
	12:42		E			
	12:57		F			
	12:58		G			
	13:00		H			
	13:02		I			

Seam Leak Testing

Date	Distance Tested and Loc.*		Test Type	Tech	Pass/ Fail
3/20/08	A	15:01	Vac	NWL	F
↓	B	15:05	↓	↓	P
	C	—			—
	D	—			—
	E	15:03			P
	F	15:04			P
	G	—			—
	H	15:07			P
	I	15:0[illegible]			P

Repair Welding

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings
3/20/08	15:15		①	NWL	1	482

Repair Leak Testing

Date	Test Type	Tech	Pass/ Fail
3/20/08	Vac	NWL	P

INSPECTOR'S SIGNATURE [signature]

DATE 3/20/08

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CONSTRUCTION INSPECTION FORM
PROJECT NO. 07207006.01
SCS ENGINEERS

LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

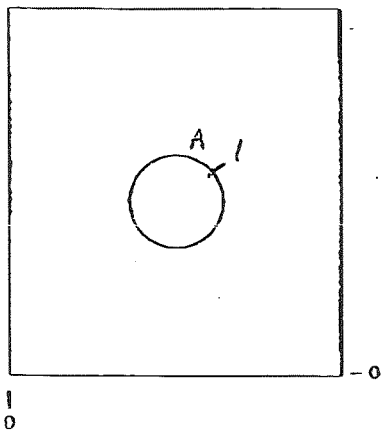
Panel Orientation	Well No. GW-29R #95XX		Roll No. N/A	Deploy Date 3/20/08	Boot Location
N ↑	Smooth	Textured	Lot No. N/A	Deploy Time 12:25	See Well Location Map

Seam Welding

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings
3/20/08	12:32		A	NWL	1	500

Seam Leak Testing

Date	Distance Tested and Loc.*	Test Type	Tech	Pass/ Fail
4/25/08	1 - 1330	VAC	NWL	P



Repair Welding

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings

Repair Leak Testing

Date	Test Type	Tech	Pass/ Fail

Inspector's Signature [signature] Date 4/25/08

Date 3/20/08

☐ Check (✓) here if reverse side is used

HDPE PIPE BOOT CONSTRUCTION FORM

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ROJECT No. 07207006.01

LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

CS ENGINEERS

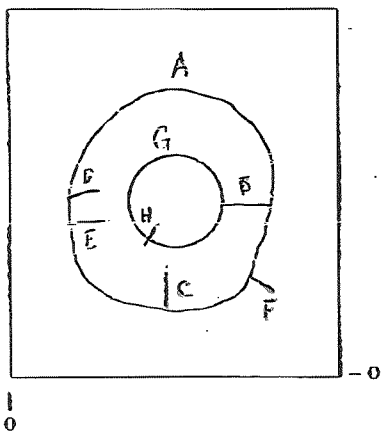
Panel Orientation: N ↑	Well No. GW-29R #95(re-drill)	Roll No. N/A	Deploy Date 3/20/08	Boot Location
	Smooth / Textured	Lot No. N/A	Deploy Time 11:55	See Well Location Map

Seam Welding

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings
3/20/08	12:01		A	NWL	1	497
	12:15		B			
	12:02		C			
	12:18		D			
	12:19		E			
	12:14		F			
	12:25		G			
	12:24		H			

Seam Leak Testing

Date	Distance Tested and Loc.*	Test Type	Tech	Pass/ Fail
4/25/08	A 1345	VAC	NWL	P
	B 1348			P
	C 1351			P
	F 1354			P



Repair Welding

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings

Repair Leak Testing

Date	Test Type	Tech	Pass/ Fail

Monte Mendenhall 4/26/08

INSPECTOR'S SIGNATURE _____ DATE 3/20/08

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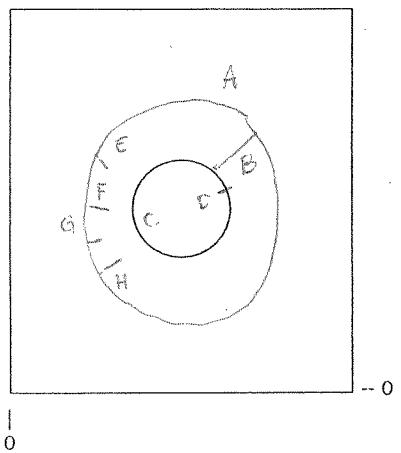
PROJECT NO. 07207006.01

LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

SCS ENGINEERS

Panel Orientation: N ↑	Well No. GW-47R #96	Roll No. N/A	Deploy Date 3/20/08	Boot Location
	Smooth / Textured	Lot No. N/A	Deploy Time 13:35	See Well Location Map



Seam Welding

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings
3/20/08	13:43		A	NWL	373	496
	13:53		B			
	13:56		C			
	13:54		D			
	13:47		E			
	13:52		F			
	13:51		G			
	13:50		H			

Seam Leak Testing

Date	Distance Tested and Loc.*		Test Type	Tech	Pass/ Fail
3/20/08	A	14:50	Vac	NWL	P
	B	14:56	Vac	↓	P
	C	—	—	—	—
	D	—	—	—	—
	E	14:54	Vac	NWL	P
	F	14:52			P
	G	14:59			P
	H	14:50			P

Repair Welding

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings

Repair Leak Testing

Date	Test Type	Tech	Pass/ Fail

INSPECTOR'S SIGNATURE _____ DATE 3/20/08

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PROJECT NO. 07207006.01

LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

SCS ENGINEERS

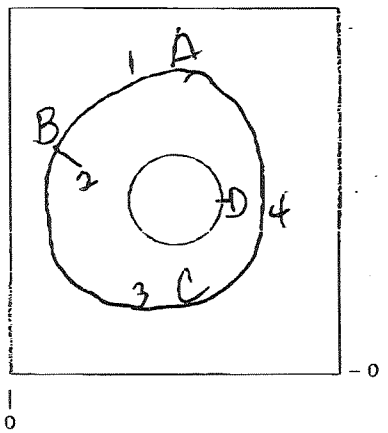
Panel Orientation:	Well No. GW 48R #97		Roll No. N/A		Deploy Date 4/25/08	Boot Location
N	Smooth	Textured	Lot No.	N/A	Deploy Time 1400	See Well Location Map

Seam Welding

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings
4/25/08	1400		A	NWL	3	490
↓	1410		B	↓	↓	↓
	1420		C			
	1428		D			

Seam Leak Testing

Date	Distance Tested and Loc.*	Test Type	Tech	Pass/ Fail
4/25/08	1 - 1440	VAC	AWL	P
	2 - 1443	↓	↓	P
	3 - 1446			P
	4 - 1450	↓	↓	P



Repair Welding

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings

Repair Leak Testing

Date	Test Type	Tech	Pass/ Fail

INSPECTOR'S SIGNATURE Monte W. Mendenhall DATE 4/25/08

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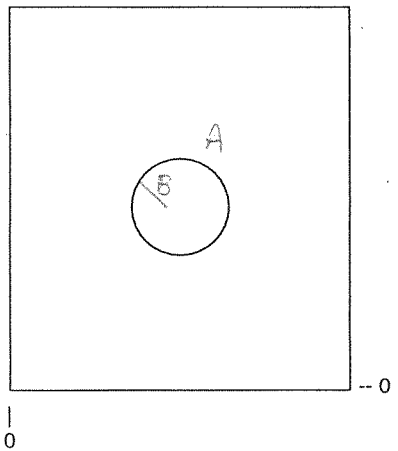
HDPE PIPE BOOT CONSTRUCTION FORM

CONSTRUCTION INSPECTION FORM
PROJECT NO. 07207006.01

LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

SCS ENGINEERS

Panel Orientation:	Well No. GW 59 R98XX (No Well)	Roll No. N/A	Deploy Date 3/16/08	Boot Location
N ↑	Smooth / Textured (circled)	Lot No. N/A	Deploy Time 09:50	See Well Location Map



Seam Welding

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings
3/16/08	09:55		A	NWL	1	500
↓	09:58		B	↓	↓	↓

Seam Leak Testing

Date	Distance Tested and Loc.*	Test Type	Tech	Pass/ Fail
3/18/08	A 1339	VAC	NWL	P
" "	B 1358	" "	" "	P

Repair Welding

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings

Repair Leak Testing

Date	Test Type	Tech	Pass/ Fail

INSPECTOR'S SIGNATURE Eric Soosthagen DATE 3/16/08 3/18/08

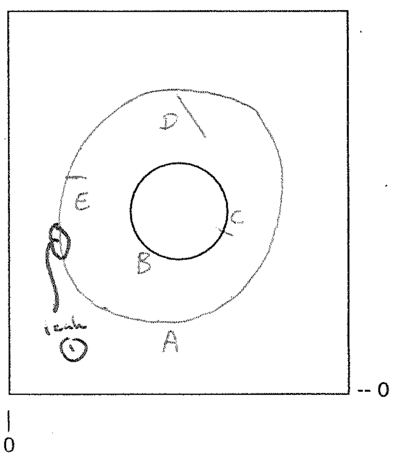
☐ CHECK (✓) HERE IF REVERSE SIDE IS USED

HDPE PIPE BOOT CONSTRUCTION FORM

CONSTRUCTION INSPECTION FORM
PROJECT NO. 07207006.01

LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

SCS ENGINEERS



Panel Orientation:	Well No. GW 59R #98		Roll No. N/A	Deploy Date 3/15/08	Boot Location
N ↑	Smooth	(Textured)	Lot No. N/A	Deploy Time 11:50	See Well Location Map

Seam Welding / **Seam Leak Testing**

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings	Date	Distance Tested and Loc.*	Test Type	Tech	Pass/ Fail
3/15/08	11:59		A	NWL	1	503	3/18/08	A 1553	VAC	NWL	F
	13:12		B					B	—	—	—
	13:11		C					C	—	—	—
	12:02		D					D	—	—	—
↓	12:01		E	↓	↓	↓	↓	E 1602	VAC	NWL	P

Repair Welding / **Repair Leak Testing**

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings	Date	Test Type	Tech	Pass/ Fail
3/18/08	1610		①	NWL	363	489	3/18/08	VAC	NWL	P

INSPECTOR'S SIGNATURE [signature]   DATE 3/15/08 3/18/08

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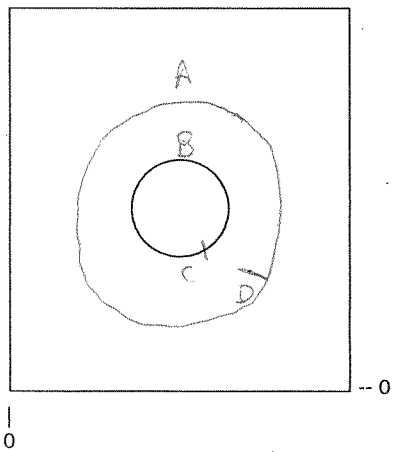
HDPE PIPE BOOT CONSTRUCTION FORM

CONSTRUCTION INSPECTION FORM
PROJECT NO. 07207006.01

LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

SCS ENGINEERS

Panel Orientation:	Well No.	Roll No.	Deploy Date	Boot Location
N 4	GW 53R - #99	N/A	3/16/08	See Well Location Map
	Smooth / (Textured)	Lot No. N/A	Deploy Time 10:30	



Seam Welding

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings
3/16/08	10:33		A	NWL	1	500
↓	10:46		B	↓	↓	↓
↓	10:45		C	↓	↓	↓
↓	10:42		D	↓	↓	↓

Seam Leak Testing

Date	Distance Tested and Loc.*	Test Type	Tech	Pass/ Fail
3/18/08	A 1400	VAC	NWL	P
↓	B	—	—	—
↓	C	—	—	—
↓	D	—	—	—

Repair Welding

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings

Repair Leak Testing

Date	Test Type	Tech	Pass/ Fail

INSPECTOR'S SIGNATURE Eric Strathmeyer DATE 3/16/08

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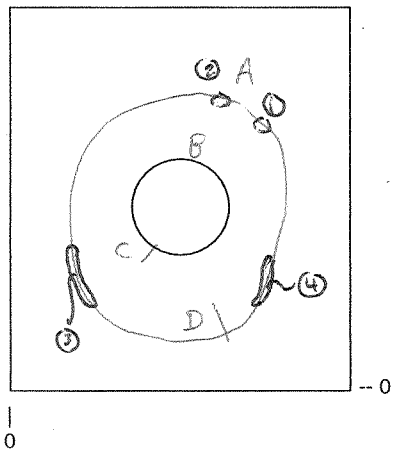
HDPE PIPE BOOT CONSTRUCTION FORM

CONSTRUCTION INSPECTION FORM
PROJECT NO. 07207006.01

LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

SCS ENGINEERS

Panel Orientation: N	Well No. GW 62R #100	Roll No. N/A	Deploy Date 3/15/08	Boot Location
	Smooth / (Textured)	Lot No. N/A	Deploy Time 15:50	See Well Location Map



Seam Welding

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings
3/15/08	15:53		A	NWL	1	501
	16:06		B			
	16:05		C			
	15:54		D			

Seam Leak Testing

Date	Distance Tested and Loc.*		Test Type	Tech	Pass/ Fail
3/15/08	A	1457	VAC	NWL	F
	B	—	—	—	—
	C	—	—	—	—
	D	—	—	—	—

Repair Welding

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings
3/18/08	1515		①	NWL	363	563
	1514		②			
	1511		③			
	1517		④			

Repair Leak Testing

Date	Test Type	Tech	Pass/ Fail
3/18/08	VAC	NWL	P
			P
			P
			P

INSPECTOR'S SIGNATURE Eric Santiago DATE 3/15/08 3/18/08

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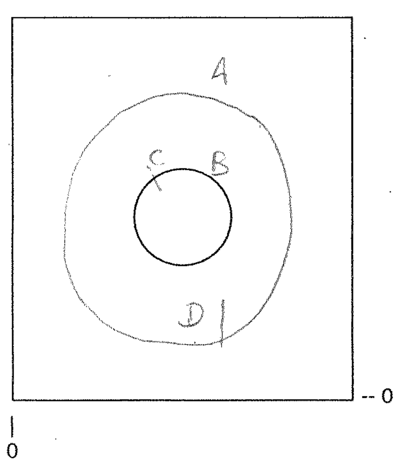
HDPE PIPE BOOT CONSTRUCTION FORM

CONSTRUCTION INSPECTION FORM
PROJECT NO. 07207006.01

LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

SCS ENGINEERS

Panel Orientation: N ↑	Well No. GW 65R #101		Roll No. N/A	Deploy Date 3/16/08	Boot Location
	Smooth	(Textured)	Lot No. N/A	Deploy Time 08:49	See Well Location Map



Seam Welding / **Seam Leak Testing**

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings	Date	Distance Tested and Loc.*	Test Type	Tech	Pass/ Fail
3/16/08	08:51		A	NWL	1	500	3/18/08	A 1412	VAC	NWL	P
↓	08:58		B	↓	↓	↓	↓	B —	—	—	—
↓	08:57		C	↓	↓	↓	↓	C —	—	—	—
↓	08:53		D	↓	↓	↓	↓	D 1415	VAC	NWL	P

Repair Welding / **Repair Leak Testing**

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings	Date	Test Type	Tech	Pass/ Fail

INSPECTOR'S SIGNATURE [signature]   DATE 3/16/08 (3/18/08)

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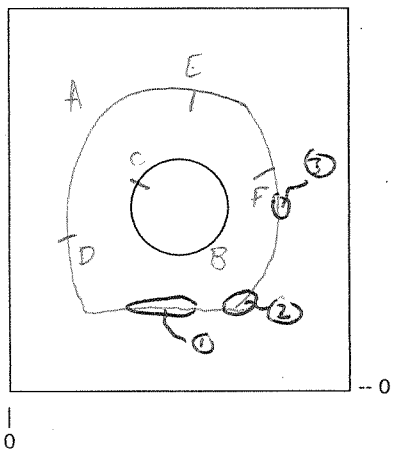
HDPE PIPE BOOT CONSTRUCTION FORM

CONSTRUCTION INSPECTION FORM
PROJECT NO. 07207006.01

LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

SCS ENGINEERS

Panel Orientation:	Well No. GW 67R #102		Roll No. N/A	Deploy Date 3/15/08	Boot Location
N	Smooth	Textured	Lot No. N/A	Deploy Time 11:00	See Well Location Map



Seam Welding

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings
3/15/08	11:03		A	NWL	1	498
	11:14		B			
	11:13		C			
	11:07		D			
	11:09		E			
	11:08		F			

Seam Leak Testing

Date	Distance Tested and Loc.*	Test Type	Tech	Pass/ Fail
	A 1312	VAC	NWL	F
	B —	—	—	—
	C —	—	—	—
	D 1315	VAC	NWL	P
	E —	—	—	—
	F —	—	—	—

Repair Welding

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings
3/18/08	1334		1	NWL	383	496
	1335		2			
	1336		3			

Repair Leak Testing

Date	Test Type	Tech	Pass/ Fail
3/18/08	VAC	NWL	P
			P
			—

INSPECTOR'S SIGNATURE Eric Soosthagen DATE 3/15/08

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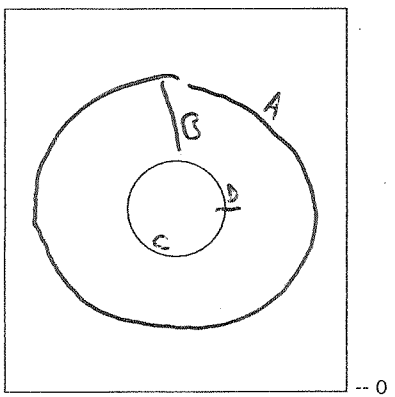
HDPE PIPE BOOT CONSTRUCTION FORM

CONSTRUCTION INSPECTION FORM
PROJECT NO. 07207006.01

LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

SCS ENGINEERS

Panel Orientation:	Well No. GW-56R #103	Roll No. N/A	Deploy Date 3/18/08	Boot Location
N ↑	Smooth / (Textured)	Lot No. N/A	Deploy Time 1625	See Well Location Map



Seam Welding

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings
3/18/08 A	1651		A	NWL	363	486
B	1655		B	↓	↓	↓
C	1649		C	↓	↓	↓
D	1657		D	↓	↓	↓

Seam Leak Testing

Date	Distance Tested and Loc.*	Test Type	Tech	Pass/ Fail
3/18/08	A 1707	VAC	NWL	P
↓	B 1709	↓	↓	P
↓	C —	—	—	—
↓	D —	—	—	—

Repair Welding

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings

Repair Leak Testing

Date	Test Type	Tech	Pass/ Fail

INSPECTOR'S SIGNATURE _____ DATE 3/18/08

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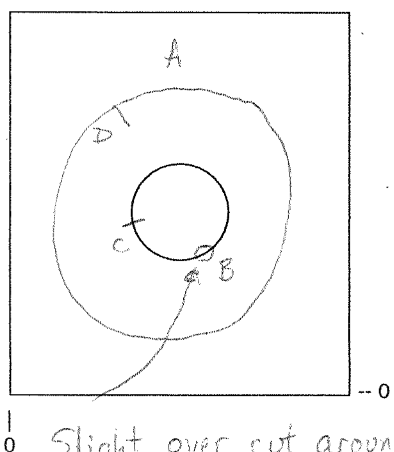
HDPE PIPE BOOT CONSTRUCTION FORM

CONSTRUCTION INSPECTION FORM
PROJECT NO. 07207006.01

LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

SCS ENGINEERS

Panel Orientation: N ↑	Well No. GW 66R #104		Roll No.	N/A	Deploy Date 3/15/08	Boot Location
	Smooth	(Textured) — circled	Lot No.	N/A	Deploy Time 10:00	See Well Location Map



Slight over cut around seam B at point O (used Extruder to seal)

Seam Welding

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings
3/15/08	10:07		A	NWL	1	500
↓	10:16		B	↓	↓	↓
↓	10:15		C	↓	↓	↓
↓	10:08		D	↓	↓	↓

Seam Leak Testing

Date	Distance Tested and Loc.*	Test Type	Tech	Pass/ Fail
3/18/08	A 1350	VAC	NWL	P
↓	B —	—	—	—
↓	C —	—	—	—
↓	D 1356	VAC	NWL	P

Repair Welding

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings

Repair Leak Testing

Date	Test Type	Tech	Pass/ Fail

INSPECTOR'S SIGNATURE [signature]   DATE 3/15/08 (3/18/08)

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HDPE PIPE BOOT CONSTRUCTION FORM

CONSTRUCTION INSPECTION FORM
PROJECT NO. 07207006.01

LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

SCS ENGINEERS

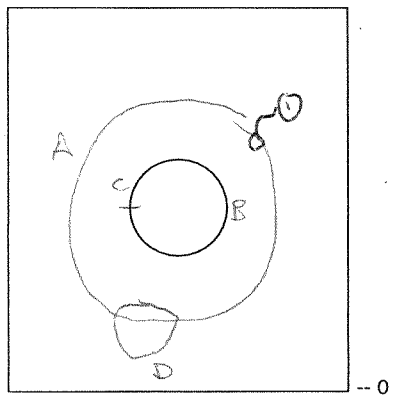
Panel Orientation:	Well No.	Roll No.	Deploy Date	Boot Location
N 4	GW 63R #105	N/A	3/15/08	See Well Location Map
	Smooth / Textured (circled)	Lot No. N/A	Deploy Time 14:00	

Seam Welding

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings
3/15/08	14:03		A	NWL	1	502
	14:28		B			
	14:27		C			
	14:18		D			

Seam Leak Testing

Date	Distance Tested and Loc.*	Test Type	Tech	Pass/ Fail
3/18/08	A 1471	VAC	NWL	P
	B	—	—	—
	C	—	—	—
	D 1429	VAC	NWL	P



Patch D is over a wrinkle in liner

Repair Welding

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings
3/18/08	1449		(1)	NWL	363	500

Repair Leak Testing

Date	Test Type	Tech	Pass/ Fail
3/18/08	VAC	NWL	P

INSPECTOR'S SIGNATURE Eric Santiago 3/18/08

DATE 3/15/08

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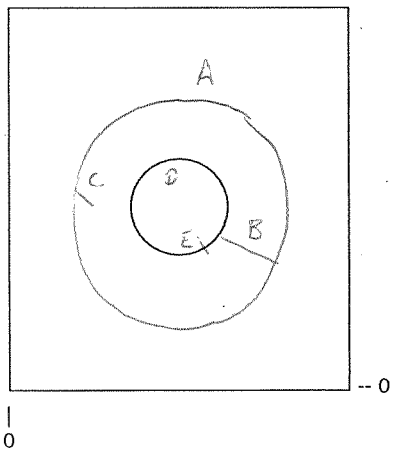
HDPE PIPE BOOT CONSTRUCTION FORM

CONSTRUCTION INSPECTION FORM
PROJECT NO. 07207006.01

LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

SCS ENGINEERS

Panel Orientation:	Well No. GW-45R #106		Roll No. N/A	Deploy Date 3/20/08	Boot Location
N ↑	Smooth	Textured	Lot No. N/A	Deploy Time 14:04	See Well Location Map



Seam Welding

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings
3/20/08	14:22		A	NWL	373	50 psi
↓	14:24		B	↓	↓	↓
	14:27		C			
	14:19		D			
	14:25		E			

Seam Leak Testing

Date	Distance Tested and Loc.*	Test Type	Tech	Pass/ Fail
3/20/08	A 14:45	Vac	NWL	P
↓	B 14:46	↓	↓	P
	C 14:48			P
	D –	–	–	–
	E –	–	–	–

Repair Welding

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings

Repair Leak Testing

Date	Test Type	Tech	Pass/ Fail

INSPECTOR'S SIGNATURE _____ DATE 3/20/08

☐ CHECK (✓) HERE IF REVERSE SIDE IS USED

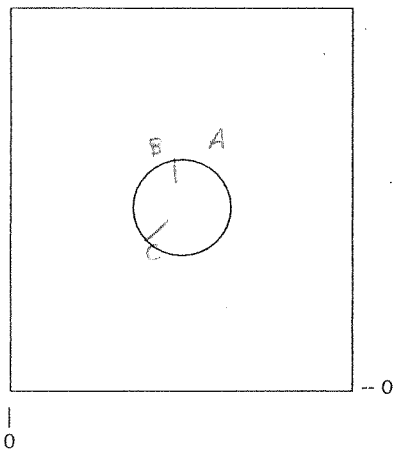
HDPE PIPE BOOT CONSTRUCTION FORM

CONSTRUCTION INSPECTION FORM
PROJECT NO. 07207006.01

LANDFILL GAS WELL INSTALLATION CQA
OLYMPIC VIEW SANITARY LANDFILL

SCS ENGINEERS

Panel Orientation:	Well No. GW-44Rx No Boring Log		Roll No. N/A	Deploy Date 3/20/08	Boot Location
N ↑	Smooth	Textured	Lot No. N/A	Deploy Time 14:55	See Well Location Map



Seam Welding

Date	Time	Amb Temp	Loc.*	Tech	Mach No.	Mach Settings
3/20/08	15:01		A	NWL	373	500
↓	15:06		B	↓	↓	↓
↓	15:10		C	↓	↓	↓

Seam Leak Testing

Date	Distance Tested and Loc.*	Test Type	Tech	Pass/ Fail
3/20/08	A 15:52	Vac	NWL	P
↓	B 15:54	↓	↓	P
↓	C 15:55	↓	↓	P

Repair Welding

Date	Time	Amb Temp	Repair No.	Tech	Mach No.	Mach Settings

Repair Leak Testing

Date	Test Type	Tech	Pass/ Fail

INSPECTOR'S SIGNATURE _____ DATE 3/20/08

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TRIAL WELD FORM

PROJECT NAME: Olympic View
NWLG PROJECT # N08933
NWLG SUPERINTENDANT: Glen
MATERIAL DESCRIPTION: HDPE 60 mil

DATE: / /

SHEET _____ of _____

					EXTRUSION WELDS			FUSION WELDS				
DATE/ TIME	SEAMER INITIALS	MACHINE NUMBER	AMBIENT TEMP	WEATHER	BARREL TEMP	PREHEAT TEMP	PEEL / TENSILE	WEDGE TEMP	SET SPEED FT/MIN	PEEL / TENSILE	PASS / FAIL	COMMENTS
3/14/08 900AM	CW	205	44	o/c	500	450	62/63					
3/15/08 815AM	JH	363	42	o/c	500	450	97/43					
3/15/08 845	CW	205	42	o/c	500	475	69/62					
3/16/08 830	CW	205	40	o/c	500	500	48/63/42					
3/16/08 245PM	CW	270	46	o/c	500	450	70/68/42					
/ /												
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