APPENDIX A

On-Site Exploration Logs

Coarse-Grained Soils - More than 50% [1] Retained on No. 200 Sieve	Gravels - More than 50% [1] of Coarse Fraction Retained on No. 4 Sieve	≤5% Fines [5]	GW	Well-graded gravel and gravel with sand, little to no fines
			GP	Poorly-graded gravel and gravel with sand, little to no fines
		≥12% Fines [5]	GM	Silty gravel and silty gravel with sand
			GC	Clayey gravel and clayey gravel with sand
	Sands - 50% [1] or More of Coarse Fraction Passes No. 4 Sieve	≤5% Fines [5]	SW	Well-graded sand and sand with gravel, little to no fines
			SP	Poorly-graded sand and sand with gravel, little to no fines
		≥12% Fines [5]	SM	Silty sand and silty sand with gravel
			SC	Clayey sand and clayey sand with gravel
Fine-Grained Soils - 50% [1] or More Passes No. 200 Sieve	Silts and Clays Liquid Limit Less than 50		ML	Silt, sandy silt, gravelly silt, silt with sand or gravel
			CL	Clay of low to medium plasticity; silty, sandy, or gravelly clay, lean clay
			OL	Organic clay or silt of low plasticity
	Silts and Clays Liquid Limit 50 or More		MH	Elastic silt, clayey silt, silt with micaceous or diatomaceous fine sand or silt
			CH	Clay of high plasticity, sandy or gravelly clay, fat clay with sand or gravel
			OH	Organic clay or silt of medium to high plasticity
Highly Organic Soils			PT	Peat, muck and other highly organic soils

Terms Describing Relative Density and Consistency

	Density	SPT [2] blows/foot
Coarse-Grained Soils	Very Loose	0 to 4
	Loose	4 to 10
	Medium Dense	10 to 30
	Dense	30 to 50
	Very Dense	>50
	Consistency	**SPT [2] blows/foot**
Fine-Grained Soils	Very Soft	0 to 2
	Soft	2 to 4
	Medium Stiff	4 to 8
	Stiff	8 to 15
	Very Stiff	15 to 30
	Hard	>30

Test Symbols

G = Grain Size
M = Moisture Content
A = Atterberg Limits
C = Chemical
DD = Dry Density
K = Permeability

Component Definitions

Descriptive Term	Size Range and Sieve Number
Boulders	Larger than 12"
Cobbles	3" to 12"
Gravel	3" to No. 4 (4.75 mm)
Coarse Gravel	3" to 3/4"
Fine Gravel	3/4" to No. 4 (4.75 mm)
Sand	No. 4 (4.75 mm) to No. 200 (0.075 mm)
Coarse Sand	No. 4 (4.75 mm) to No. 10 (2.00 mm)
Medium Sand	No. 10 (2.00 mm) to No. 40 (0.425 mm)
Fine Sand	No. 40 (0.425 mm) to No. 200 (0.075 mm)
Silt and Clay	Smaller than No. 200 (0.075 mm)

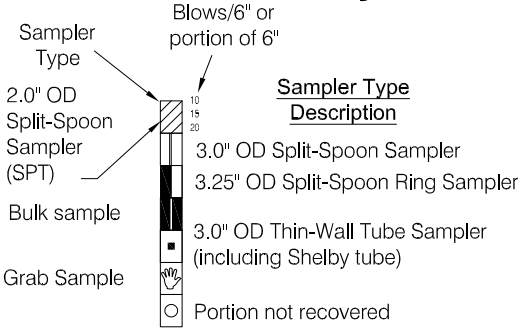
[3] Estimated Percentage

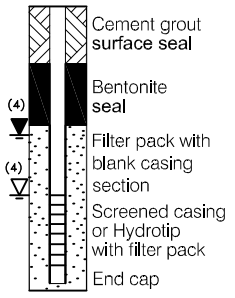
Component	Percentage by Weight
Trace	<5
Some	5 to <12
Modifier (silty, sandy, gravelly)	12 to <30
Very *modifier* (silty, sandy, gravelly)	30 to <50

Moisture Content

Dry - Absence of moisture, dusty, dry to the touch
Slightly Moist - Perceptible moisture
Moist - Damp but no visible water
Very Moist - Water visible but not free draining
Wet - Visible free water, usually from below water table

Symbols





(1) Percentage by dry weight
(2) (SPT) Standard Penetration Test (ASTM D-1586)
(3) In General Accordance with Standard Practice for Description and Identification of Soils (ASTM D-2488)
(4) Depth of ground water
▼ ATD = At time of drilling
▽ Static water level (date)
(5) Combined USCS symbols used for fines between 5% and 12%

Classifications of soils in this report are based on visual field and/or laboratory observations, which include density/consistency, moisture condition, grain size, and plasticity estimates and should not be construed to imply field or laboratory testing unless presented herein. Visual-manual and/or laboratory classification methods of ASTM D-2487 and D-2488 were used as an identification guide for the Unified Soil Classification System.

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EXPLORATION LOG KEY

FIGURE A1

associated earth sciences incorporated

Exploration Log

Project Number	Exploration Number	Sheet
120126H012	EB-1	1 of 3

Project Name	Snoqualmie Mill Site	Ground Surface Elevation (ft)	
Location	Snoqualmie, WA	Datum	N/A
Driller/Equipment	GDI / D-50	Date Start/Finish	12/19/17,12/19/17
Hammer Weight/Drop	140# / 30"	Hole Diameter (in)	~8 inches

Depth (ft)	ST	Samples	Graphic Symbol	DESCRIPTION	Well Completion	Water Level	Blows/6"	Blows/Foot (10 20 30 40)	Other Tests
				Fill					
5		S-1		Very moist, grayish brown, silty, gravelly, fine to coarse SAND; woody debris (SM).			3 5 7	▲12	
				Alluvium					
				Silty drilling action at 8 feet.					
10		S-2		Wet, gray, sandy, SILT, trace organics; massive (ML).		▼	1 1 1	▲2	
		S-3		Wet, gray, SILT (ML).					
15				No recovery.			2 4 4	▲8	
		S-4		Wet, gray, silty, fine SAND; occasional organic rich layer (0.5 to 1 inch thick); finely stratified (SM).			2 2 3	▲5	
20				No recovery.					
		S-5		Wet, gray, sandy, SILT; stratified (ML).			2 2 2	▲4	
25		S-6		Wet, gray, SILT, trace sand, trace organics; massive (ML).			3 3 3	▲6	
30		S-7		Shelby tube, no recovery. Pushed SPT sampler into disturbed material from Shelby Tube. Wet, gray, clayey, SILT (ML).					
		S-8		Shelby tube, no recovery. SPT sample in disturbed material from Shelby tube. As above (ML).					
35									
		S-9		Wet, gray, clayey, SILT; massive (ML).			2 1 2	▲3	

Sampler Type (ST):

- 2" OD Split Spoon Sampler (SPT)
- 3" OD Split Spoon Sampler (D & M)
- Grab Sample
- No Recovery
- Ring Sample
- Shelby Tube Sample
- M - Moisture
- Water Level ()
- Water Level at time of drilling (ATD)

Logged by: LDM
Approved by: CJK

AESIBOR 120126H012.GPJ March 7, 2018

associated earth sciences incorporated

Exploration Log

Project Number	Exploration Number	Sheet
120126H012	EB-1	2 of 3

Project Name	Snoqualmie Mill Site	Ground Surface Elevation (ft)	
Location	Snoqualmie, WA	Datum	N/A
Driller/Equipment	GDI / D-50	Date Start/Finish	12/19/17,12/19/17
Hammer Weight/Drop	140# / 30"	Hole Diameter (in)	~8 inches

Depth (ft)	ST	Samples	Graphic Symbol	DESCRIPTION	Well Completion	Water Level	Blows/6"	Blows/Foot (10 20 30 40)	Other Tests
		S-10		Wet, gray, clayey, SILT; massive (MH).			1 1 2	▲3	
45		S-11		Wet, gray, silty, CLAY; faintly stratified (CH).			1 2 1	▲3	
50		S-12		First 12 inches: Wet, gray, clayey, SILT to silty, CLAY (MH-CH). Last 6 inches: Wet, gray to brown, fine to medium SAND, trace silt (SP).			5 7 21	▲28	
55		S-13		Wet, gray, fine to medium silty, SAND; massive (SM).			5 7 10	▲17	
				Tokul Creek Delta Deposits					
60		S-14		Moist, light brown, fine SAND, trace silt; massive (SP).			4 11 13	▲24	
65		S-15		Very moist to wet, oxidized reddish brown grading to brown, fine to medium silty, SAND, faintly stratified (SM).			9 10 11	▲21	
70				No recovery.			11 15 18	▲33	
75		S-16		Wet, brown to reddish brown, silty, fine to medium SAND to fine SAND; massive (SM).			5 10 10	▲20	

Sampler Type (ST):

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- 3" OD Split Spoon Sampler (D & M)
- Grab Sample
- No Recovery
- Ring Sample
- Shelby Tube Sample

M - Moisture

- Water Level ()
- Water Level at time of drilling (ATD)

Logged by: LDM
Approved by: CJK

AESIBOR 120126H012.GPJ March 7, 2018

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Exploration Log

Project Number	Exploration Number	Sheet
120126H012	EB-1	3 of 3

Project Name	Snoqualmie Mill Site	Ground Surface Elevation (ft)	
Location	Snoqualmie, WA	Datum	N/A
Driller/Equipment	GDI / D-50	Date Start/Finish	12/19/17,12/19/17
Hammer Weight/Drop	140# / 30"	Hole Diameter (in)	~8 inches

Depth (ft)	ST	Samples	Graphic Symbol	DESCRIPTION	Well Completion	Water Level	Blows/6"	Blows/Foot (10 20 30 40)	Other Tests
		S-17		Wet, brown to reddish brown, fine to medium SAND, trace silt; massive (SP).			11 15 12	▲27	
85		S-18		Wet, brown to dark brown, silty, fine to medium SAND; massive (SM).			5 8 10	▲18	
90		S-19		Wet, brown grading down to gray, SILT (ML). Wet, dark brown, fine to medium SAND, some silt (SP-SM).			8 9 10	▲19	
95		S-20		Wet, brown, silty, fine SAND (SM). Wet, brown, fine to medium SAND, trace silt (SP).			8 16 17	▲33	
				Older Alluvium					
100		S-21		Wet, gray, fine to medium SAND, trace silt; massive (SP). Wet, gray, SILT, trace dropstones (≤0.25 inches in diameter); massive (ML).			11 10 14	▲24	
				Bottom of exploration boring at 101.5 feet					
105									
110									
115									

Sampler Type (ST):

- 2" OD Split Spoon Sampler (SPT)
- 3" OD Split Spoon Sampler (D & M)
- Grab Sample
- No Recovery
- Ring Sample
- Shelby Tube Sample

M - Moisture

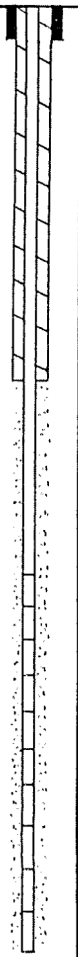
- Water Level ()
- Water Level at time of drilling (ATD)

Logged by: LDM
Approved by: CJK

AESIBOR 120126H012.GPJ March 7, 2018

EXPLORATION BORING LOG

EB-3



SEDIMENT DESCRIPTION	DEPTH
Gray-brown silt with scattered organics. (Fill)	
Mottled tan silt, scattered organics.	5
As above with thin peat layers.	
	10
Gray, micaceous silt.	
	15
As above with abundant organics.	
As above with scattered organics.	
	20
As above with minor gravel.	
	25
BOH @ 26½'	
Note: 2" PVC - casing; 10 slot, 2" PVC - screen; 12" flushed monument ; sandpacked. Surface El.: 414.97'	30

SAMPLE | GROUND WATER | STANDARD PENERATION RESISTANCE Blows/Foot (10, 20, 30, 40)

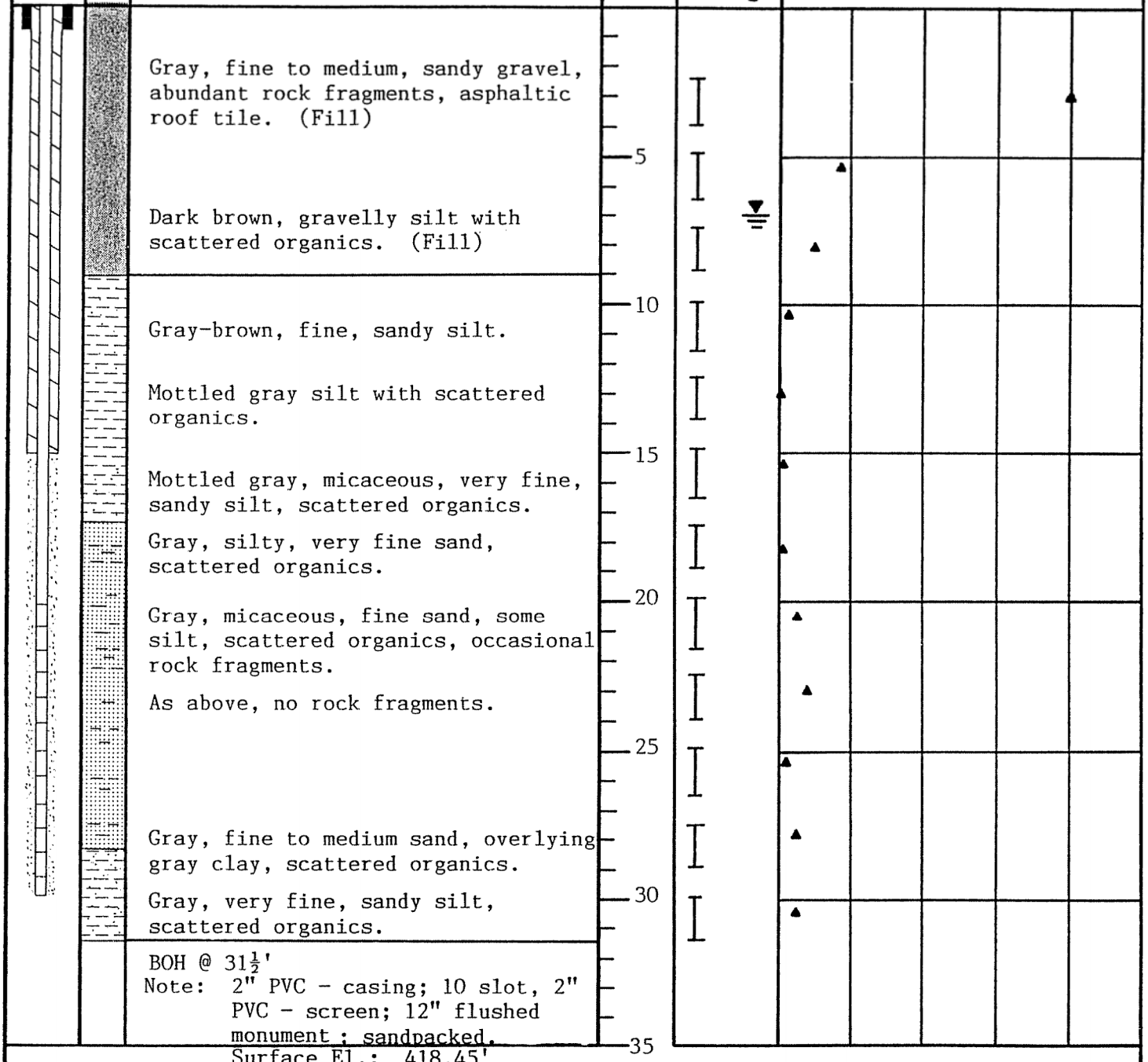
Subsurface conditions depicted represent our observations at the time and location of this exploratory hole, modified by geologic interpretation, engineering analysis, and judgment. They are not necessarily representative of other times and locations. We will not accept responsibility for the use or interpretation by others of information presented on this log.

Snoqualmie Shallow Aquifer Evaluation Snoqualmie, Washington	W92229A	10/92

ASSOCIATED EARTH SCIENCES, INC

EXPLORATION BORING LOG

EB-4



Subsurface conditions depicted represent our observations at the time and location of this exploratory hole, modified by geologic interpretation, engineering analysis, and judgment. They are not necessarily representative of other times and locations. We will not accept responsibility for the use or interpretation by others of information presented on this log.

Snoqualmie Shallow Aquifer Evaluation Snoqualmie, Washington	W92229A	10/92

ASSOCIATED EARTH SCIENCES, INC

Associated Earth Sciences, Inc.

Geologic & Monitoring Well Construction Log

Project Number	Well Number	Sheet
KH120126A	MW-1	1 of 6

Project Name: Snoqualmie Mill Site
Elevation (Top of Well Casing):
Water Level Elevation: 40.0 bgs on 5/3/12
Drilling/Equipment: Aquatech / Air Rotary
Hammer Weight/Drop: 140# / 30"

Location: Snoqualmie, WA
Surface Elevation (ft): ~419
Date Start/Finish: 4/16/12,4/18/12
Hole Diameter (in): 6 inches

Depth (ft)	Water Level	WELL CONSTRUCTION	ST	Blows/ 6"	Graphic Symbol	DESCRIPTION
		2'-foot stickup				**Fill**
		10-inch-diameter surface seal 0 to 18 feet; bentonite chips				**Overbank Deposits** Very moist, brown, silty fine SAND to sandy SILT, trace disseminated organics (wood fragments)
5						
10						Adding water.
						Adding water.
15						**River Channel Deposits** Driller reports possible saturated silty fine SAND.
						4 to 5 feet of water in boring after welding. Wet, grayish brown, micaceous silty fine SAND.
20						Wet, brown, micaceous fine SAND, few silt.
		6-inch I.D. steel casing from 2 feet above ground surface to 223.3 feet				
25						Wet, gray, fine to medium SAND, trace silt, trace organics (wood fragments).
						Wet, gray, fine to medium SAND, trace silt, trace organics.
30						Increased wood fragments.
35						Increased fine sand.
						Driller reports heave at 38 feet.

Sampler Type (ST):
- 2" OD Split Spoon Sampler (SPT)
- 3" OD Split Spoon Sampler (D & M)
- Grab Sample
- No Recovery
- Ring Sample
- Shelby Tube Sample

M - Moisture
Water Level (5/3/12)
Water Level at time of drilling (ATD)

Logged by: SST
Approved by:

NWWELL- B 120126.GPJ BORING.GDT 6/4/12

Associated Earth Sciences, Inc.

Geologic & Monitoring Well Construction Log

Project Number	Well Number	Sheet
KH120126A	MW-1	2 of 6

Project Name	Snoqualmie Mill Site	Location	Snoqualmie, WA
Elevation (Top of Well Casing)		Surface Elevation (ft)	~419
Water Level Elevation	40.0 bgs on 5/3/12	Date Start/Finish	4/16/12,4/18/12
Drilling/Equipment	Aquatech / Air Rotary	Hole Diameter (in)	6 inches
Hammer Weight/Drop	140# / 30"		

Depth (ft)	Water Level	WELL CONSTRUCTION	ST	Blows/ 6"	Graphic Symbol	DESCRIPTION
		6-inch I.D. steel casing from 2 feet above ground surface to 223.3 feet				**Lacustrine Deposits** Soft, wet, gray, CLAY/SILT.
45						Soft, wet, gray, CLAY/SILT, scattered woody debris.
50						
55						Soft, wet, gray, CLAY/SILT, scattered woody debris.
60						No sample. CLAY/SILT washed through sieve.
						No sample. CLAY/SILT washed through sieve.
65						No sample. CLAY/SILT washed through sieve.
						Soft, wet, gray, CLAY/SILT.
70						
75						

Sampler Type (ST):

- 2" OD Split Spoon Sampler (SPT)
- 3" OD Split Spoon Sampler (D & M)
- Grab Sample
- No Recovery
- Ring Sample
- Shelby Tube Sample

M - Moisture

- Water Level (5/3/12)
- Water Level at time of drilling (ATD)

Logged by: SST

Approved by:

NWWELL-B 120126.GPJ BORING.GDT 6/4/12

Associated Earth Sciences, Inc.

Geologic & Monitoring Well Construction Log

Project Number	Well Number	Sheet
KH120126A	MW-1	3 of 6

Project Name: Snoqualmie Mill Site
Elevation (Top of Well Casing):
Water Level Elevation: 40.0 bgs on 5/3/12
Drilling/Equipment: Aquatech / Air Rotary
Hammer Weight/Drop: 140# / 30"

Location: Snoqualmie, WA
Surface Elevation (ft): ~419
Date Start/Finish: 4/16/12,4/18/12
Hole Diameter (in): 6 inches

Depth (ft)	Water Level	WELL CONSTRUCTION	ST	Blows/ 6"	Graphic Symbol	DESCRIPTION
		6-inch I.D. steel casing from 2 feet above ground surface to 223.3 feet				Soft, wet, gray, CLAY/SILT.
85						
90						
95						
100						Soft, wet, gray, CLAY/SILT.
105						
110						
115						

Sampler Type (ST):
- 2" OD Split Spoon Sampler (SPT)
- 3" OD Split Spoon Sampler (D & M)
- Grab Sample
- No Recovery
- Ring Sample
- Shelby Tube Sample

M - Moisture
Water Level (5/3/12)
Water Level at time of drilling (ATD)

Logged by: SST
Approved by:

NWWELL-B 120126.GPJ BORING.GDT 6/4/12

Associated Earth Sciences, Inc.

Geologic & Monitoring Well Construction Log

Project Number	Well Number	Sheet
KH120126A	MW-1	4 of 6

Project Name: Snoqualmie Mill Site
Elevation (Top of Well Casing):
Water Level Elevation: 40.0 bgs on 5/3/12
Drilling/Equipment: Aquatech / Air Rotary
Hammer Weight/Drop: 140# / 30"

Location: Snoqualmie, WA
Surface Elevation (ft): ~419
Date Start/Finish: 4/16/12,4/18/12
Hole Diameter (in): 6 inches

Depth (ft)	Water Level	WELL CONSTRUCTION	ST	Blows/ 6"	Graphic Symbol	DESCRIPTION
		6-inch I.D. steel casing from 2 feet above ground surface to 223.3 feet				Soft, wet, gray, CLAY/SILT.
125						
130						
135						Soft, wet, gray, CLAY/SILT.
140						
145						
150						
155						Soft, wet, gray, CLAY/SILT.

Sampler Type (ST):
- 2" OD Split Spoon Sampler (SPT)
- 3" OD Split Spoon Sampler (D & M)
- Grab Sample
- No Recovery
- Ring Sample
- Shelby Tube Sample

M - Moisture
Water Level (5/3/12)
Water Level at time of drilling (ATD)

Logged by: SST
Approved by:

NWWELL-B 120126.GPJ BORING.GDT 6/4/12

Associated Earth Sciences, Inc.

Geologic & Monitoring Well Construction Log

Project Number	Well Number	Sheet
KH120126A	MW-1	5 of 6

Project Name: Snoqualmie Mill Site
Elevation (Top of Well Casing):
Water Level Elevation: 40.0 bgs on 5/3/12
Drilling/Equipment: Aquatech / Air Rotary
Hammer Weight/Drop: 140# / 30"

Location: Snoqualmie, WA
Surface Elevation (ft): ~419
Date Start/Finish: 4/16/12,4/18/12
Hole Diameter (in): 6 inches

Depth (ft)	Water Level	WELL CONSTRUCTION	ST	Blows/ 6"	Graphic Symbol	DESCRIPTION
		6-inch I.D. steel casing from 2 feet above ground surface to 223.3 feet				Soft, wet, gray, CLAY/SILT.
165						
170						Soft, wet, gray, CLAY/SILT.
175						
180						Soft, wet, gray, CLAY/SILT.
185						Wet, gray, CLAY.
190						Wet, gray, CLAY.
195						Wet, gray, CLAY, trace sand, trace wood fragments.

Sampler Type (ST):
- 2" OD Split Spoon Sampler (SPT)
- 3" OD Split Spoon Sampler (D & M)
- Grab Sample
- No Recovery
- Ring Sample
- Shelby Tube Sample

M - Moisture
Water Level (5/3/12)
Water Level at time of drilling (ATD)

Logged by: SST
Approved by:

NWWELL-B 120126.GPJ BORING.GDT 6/4/12

Associated Earth Sciences, Inc.

Geologic & Monitoring Well Construction Log

Project Number	Well Number	Sheet
KH120126A	MW-1	6 of 6

Project Name: Snoqualmie Mill Site
Location: Snoqualmie, WA
Elevation (Top of Well Casing):
Surface Elevation (ft): ~419
Water Level Elevation: 40.0 bgs on 5/3/12
Date Start/Finish: 4/16/12,4/18/12
Drilling/Equipment: Aquatech / Air Rotary
Hole Diameter (in): 6 inches
Hammer Weight/Drop: 140# / 30"

Depth (ft)	WELL CONSTRUCTION	DESCRIPTION
205	6-inch I.D. steel casing from 2 feet above ground surface to 223.3 feet	**Older Snoqualmie River Overbank Deposits** Wet, gray to trace brown, fine SAND, and silt/clay, trace wood chips, (silt/clay overstated due to clay coating of drill tooling). At 206 feet, color changes from gray to brown in discharge water.
210		**Older Snoqualmie River Channel Deposits** Wet, brown to grayish brown, fine SAND and gravel, with clay, trace wood chips. Wet, grayish brown, GRAVEL, and fine sand, little clay (gray clasts inferred to be from drill tooling). Wet, brown, fine to medium SAND, and gravel, little silt/clay, trace wood chips. (Driller not adding water.)
215		Wet, brown, fine to coarse GRAVEL, trace wood chips, water. Gray in brown matrix, fine to coarse GRAVEL with fine to coarse sand, few silt, decreased wood chips.
220	5-inch O.D. K-packer 220.2 to 221 feet	Wet, brown, fine to coarse SAND, with fine to coarse gravel, trace silt (estimated); clast colors: gray, white, orange, brown, and green). Continuous heave as drilling is taking place.
225	5-inch O.D. stainless steel well screen: 0.010-inch slot width 221 to 231.1 feet	Wet, brown, fine to coarse SAND, and fine to coarse gravel. Approximately 6 inches of gray discharge (clay/silt layer?). Decreased flow.
230	6-inch borehole backfilled with native slough 231.3 to 232 feet.	Wet, brown, fine to coarse GRAVEL, with fine to coarse sand, trace silt (estimated). At 230 feet, cuttings include occasional brown, fine to medium sandy SILT clasts. Wet, brown, fine to coarse SAND, and fine to coarse gravel, few silt.
235		Boring terminated at 232 feet. Well completed at 231.3 feet on 4/18/12.

Sampler Type (ST):
- 2" OD Split Spoon Sampler (SPT)
- 3" OD Split Spoon Sampler (D & M)
- Grab Sample
- No Recovery
- Ring Sample
- Shelby Tube Sample

M - Moisture
Water Level (5/3/12)
Water Level at time of drilling (ATD)

Logged by: SST
Approved by:

NWWELL- B 120126.GPJ BORING.GDT 6/4/12

Associated Earth Sciences, Inc.

Geologic & Monitoring Well Construction Log

Project Number	Well Number	Sheet
KH120126A	MW-2	1 of 1

Project Name: Snoqualmie Mill Site
Location: Snoqualmie, WA
Elevation (Top of Well Casing):
Surface Elevation (ft):
Water Level Elevation:
Date Start/Finish: 8/13/12,8/13/12
Drilling/Equipment: Geologic Drill / HSA
Hole Diameter (in): 8 inches
Hammer Weight/Drop: 140# / 30"

Depth (ft)	Water Level	WELL CONSTRUCTION (Above ground monument)	ST	Blows/ 6"	Graphic Symbol	DESCRIPTION
		8-inch-diameter concrete surface seal 0 to 18 inches				**Fill**
		1.5 to 12 feet; medium bentonite chips		10 10 5		Moist, brown, fine SAND, trace silt, trace fine to coarse gravel, trace organics.
5	▽					**Overbank Deposits**
				2 1 1		Wet, gray, SILT, trace clay; 3 inch woody debris / peat interval, scattered organics (grass, etc) (ML).
		2-inch I.D. Schedule 40 PVC from 2 feet above ground surface to 12.8 feet		0 0 0		Wet, gray, SILT, trace clay, scattered organics (grasses, sticks) (ML).
10				0 0 1		Very moist to wet, brownish gray, SILT, few brown sand stringers, trace organics (ML).
	▼	Sand Pack (10/20 Monterey silica sand) 12 to 17.8 feet		1 1 2		Upper 6 inches: Wet, brown to gray mottled, SILT, few fine to very fine sand (ML). Lower 12 inches: Very moist to wet, gray, very fine sandy SILT, grading to silty fine sand (ML/SM).
15		2-inch I.D. Schedule 40 PVC screen, 0.020-inch slot width, 12.8 to 17.8 feet		2 4 5		**River Channel Deposits** Upper 4 inches: Wet, gray, fine SAND, with interbeds of brown SILT with organics (grasses / seeds) (SW/ML). Next 8 inches: very moist, brown, SILT, trace organics (seeds, reeds) (ML). Lower 8 inches: Gray, wet, fine SAND (SW).
		Native heave from 17.8 to 21.5 feet.		5 5 8		Wet, gray, fine SAND (SW).
20				5 5 7		Slightly interbedded with brown, silty fine SAND, in lower 3 inches (SM at 21.2).
						Boring terminated at 21.5 feet. Well completed at 17.8 feet on 8/13/12.
		WDOE Tag #DHJ-139				
25						
30						
35						

Sampler Type (ST):
- 2" OD Split Spoon Sampler (SPT)
- 3" OD Split Spoon Sampler (D & M)
- Grab Sample
- No Recovery
- Ring Sample
- Shelby Tube Sample

M - Moisture
▽ Water Level (8/15/12)
▼ Water Level at time of drilling (ATD)

Logged by: SST
Approved by:

NWWELL- B 120126.GPJ BORING.GDT 8/23/12

LOG OF EXPLORATION PIT NO. EP-1000

Depth (ft)	This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered. **DESCRIPTION**
1	**Fill** Loose, very moist, variable brown and gray, silty fine to medium SAND, with gravel. Encountered 12-inch galvanized culvert and 6-inch wood stave water pipe.
2	
3	**Vashon Lodgement Till** Medium dense to dense, moist, blue gray, silty fine to medium SAND, little gravel.
4	
5	
6	
7	Bottom of exploration pit at depth 7 feet No apparent seepage; water flowing in from galvanized culvert. Slight sloughing from 0 to 3 feet.
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Snoqualmie Mill Site
Snoqualmie, WA

Associated Earth Sciences, Inc.

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Project No. KV120126A

5/7/12

KCTP3 120126.GPJ July 12, 2012

LOG OF EXPLORATION PIT NO. EP-1001

Depth (ft)	This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered. **DESCRIPTION**
	Fill
1	Gravel / crushed rock over 2-inch asphalt slab.
	Medium dense, wet, gray and blue gray, 3/4-inch minus CRUSHED ROCK.
2	
3	**Overbank Deposits**
4	Soft to medium stiff and loose to medium dense, moist, gray, fine sandy SILT / silty fine SAND, and gray, very fine sand.
5	4-inch diameter root
6	
7	
8	
9	Wood debris (appears in-place)
10	
11	**Lacustrine Deposits ?**
12	Loose, very moist, gray, silty CLAY, and very fine sandy SILT, trace scattered organic debris.
13	Bottom of exploration pit at depth 12 feet No seepage. Minor sloughing from 0 to 3 feet.
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LOG OF EXPLORATION PIT NO. EP-1002

This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplfication of actual conditions encountered.

Depth (ft)	DESCRIPTION
	Fill
1	Medium dense, very moist, brown, fine to coarse SAND, with fine to coarse gravel, trace cobbles, trace silt.
2	1-inch black organic layer (original topsoil?) at 1.5 feet.
	River Channel Deposits
3	Medium dense, moist to very moist, gray, fine to medium SAND, trace mica flakes.
4	
5	
6	
7	Horizon of organics (peat, sticks, organic debris) at 6.5 feet.
	Overbank Deposits
8	Soft, moist greenish gray, SILT / CLAY, abundant scattered organics.
9	
10	Bottom of exploration pit at depth 9 feet Slight seepage at 1.5 feet and at 3 feet. No sloughing.
11	
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Snoqualmie, WA

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LOG OF EXPLORATION PIT NO. EP-1003

Depth (ft)	This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered. **DESCRIPTION**
	Fill
1	Moist, brown, fine to coarse GRAVEL, with fine to coarse sand, few cobbles, abundant woody debris.
2	
3	
4	Woody debris, few fine to coarse GRAVEL, and fine to coarse SAND. Digs dense.
5	
6	
7	
8	
9	
10	**Lacustrine Deposits ?**
11	Soft, wet, gray with greenish gray mottling, SILT / CLAY, trace fine sand, trace rootlets.
12	
13	Bottom of exploration pit at depth 12 feet Seepage at 3.5 feet and at 5 feet. No sloughing.
14	
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KCTP3 120126.GPJ July 12, 2012

LOG OF EXPLORATION PIT NO. EP-1004

Depth (ft)	This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered. **DESCRIPTION**
	Fill
1	Quarry spalls (to 6-inch diameter) with wood debris, logs, fine to coarse SAND, and fine to coarse GRAVEL, variable silt. Digs very dense.
2	
3	
4	
5	
6	
7	
8	
9	2-inch original topsoil horizon at 10 feet.
10	**Overbank Deposits**
11	Medium stiff, wet, gray to greenish gray, SILT, trace fine sand, trace organics.
12	
13	Bottom of exploration pit at depth 12 feet Seepage at 3 feet. Water flowing into excavation at 8.5 feet. Slight sloughing from 0 to 3 feet.
14	
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Snoqualmie, WA

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LOG OF EXPLORATION PIT NO. EP-1005

Depth (ft)	This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplfication of actual conditions encountered. **DESCRIPTION**
	Fill
1	Moist, gray, fine to coarse GRAVEL, with fine to coarse sand, few silt. Digs dense.
2	Moist, brown, WOODY DEBRIS, few fine to coarse gravel, and fine to coarse sand - primarily wood waste.
3	Tough digging.
4	
5	
6	
7	
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15	
16	Bottom of exploration pit at depth 15 feet Seepage at 12.5 feet. No sloughing.
17	
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19	
20	

KCTP3 120126.GPJ July 12, 2012

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Snoqualmie, WA

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LOG OF EXPLORATION PIT NO. EP-1006

Depth (ft)	This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered. **DESCRIPTION**
	Fill
1	Moist to wet, brown to gray, fine to coarse GRAVEL, and fine to coarse SAND, with cobbles, asphalt refuse, roots.
2	
3	
4	1-inch topsoil horizon at 4 feet.
	Overbank Deposits
5	Medium stiff, black grading to light brown grading to gray with orange mottling, fine sandy SILT.
6	
7	
8	
9	Bottom of exploration pit at depth 8 feet Seepage from 2 to 4 feet. No sloughing.
10	
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Snoqualmie Mill Site
Snoqualmie, WA

Associated Earth Sciences, Inc.

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Project No. KV120126A

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KCTP3 120126.GPJ July 12, 2012

LOG OF EXPLORATION PIT NO. EP-1007

This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplfication of actual conditions encountered.

Depth (ft)	DESCRIPTION
	Fill
1	Medium dense, brown, fine to coarse SAND, with fine to coarse GRAVEL, little silt (Fill).
2	Filter fabric at 1.5 feet.
	River Channel Deposits
3	Dark gray stained, fine to coarse SAND, and fine to coarse GRAVEL, with silt.
4	6-inch wood staved water pipe at 4 feet.
5	
6	**Overbank Deposits**
7	Log and other woody debris at 6 feet.
8	Soft, moist, light greenish gray, SILT / CLAY, occasional brown sand stringer, trace organics.
9	
10	Bottom of exploration pit at depth 9 feet No seepage. Minor sloughing from 0 to 4 feet.
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Snoqualmie Mill Site
Snoqualmie, WA

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KCTP3 120126.GPJ July 12, 2012

LOG OF EXPLORATION PIT NO. EP-1008

Depth (ft)

This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.

DESCRIPTION

Fill

Loose, wet, black, organic-rich silty fine to medium SAND, few gravel.

River Channel Deposits

Loose, very moist to wet, brown, silty fine SAND, trace gravel.

Loose, wet, brown, fine to coarse SAND, trace fine to coarse gravel.

Bottom of exploration pit at depth 6 feet

6-inch concrete drain line encountered at 4 feet which flooded excavation. Seepage at 3 feet. No sloughing.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

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Project No. KV120126A

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LOG OF EXPLORATION PIT NO. EP-1009

Depth (ft)	This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered. **DESCRIPTION**
	Fill
1	Loose, wet, brown, fine to coarse GRAVEL, and fine to coarse SAND, trace to few sand (pit run fill).
2	
3	
4	
5	
6	
7	
	Bottom of exploration pit at depth 7 feet Seepage at 32 inches. Ruptured water line at 4 feet which flooded excavation. Severe sloughing from 0 to 7 feet.
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Snoqualmie, WA

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KCTP3 120126.GPJ July 12, 2012

LOG OF EXPLORATION PIT NO. EP-1010

Depth (ft)	This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplfication of actual conditions encountered. **DESCRIPTION**
	Fill
1	Loose, wet, brown, fine to coarse SAND, and fine to coarse GRAVEL; contains asphalt and woody debris.
2	2-inch black soot/ash horizon.
3	**Overbank Deposits**
4	Soft to loose, brown to gray, fine sandy SILT / silty fine SAND, occasional thin stringer of wet, brown, fine sand.
5	
6	
7	
8	Bottom of exploration pit at depth 8 feet Water flowing into excavation from 2 to 3 feet. Sever sloughing from 0 to 4 feet.
9	
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KCTP3 120126.GPJ July 12, 2012

LOG OF EXPLORATION PIT NO. EP-1011

Depth (ft)	This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplfication of actual conditions encountered. **DESCRIPTION**
	Fill
1	Moist, brown, fine to coarse SAND, and fine to coarse GRAVEL.
2	
	River Channel Deposits
3	Medium dense, moist, brown, fine to medium SAND, trace silt (weathered).
4	Becomes gray.
5	
6	
7	Becomes wet at 7 feet.
8	Bottom of exploration pit at depth 7.5 feet No seepage. Slight sloughing at 6 feet.
9	
10	
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LOG OF EXPLORATION PIT NO. EP-1013

This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplfication of actual conditions encountered.

Depth (ft)	DESCRIPTION
	Fill
1	Quarry spalls (to 10 inches diameter), crushed rock. Digs dense.
2	
3	
4	Becomes brown, moist, WOOD DEBRIS / LOG DEBRIS, with gravel and sand. Digs dense.
5	
6	
7	
8	
9	**Lacustrine Deposits ?**
10	Soft, wet, gray with brown mottling, fine sandy SILT.
11	Soft, wet, greenish gray with brown mottling, fine sandy SILT, trace clay.
12	
13	Includes trace fine sand.
14	
15	
16	
17	**Overbank Deposits**
18	Medium dense, wet, gray with some brown mottling, fine SAND, trace to few silt, trace mica.
19	Bottom of exploration pit at depth 18 feet Seepage at 3 feet and at 10 feet. Slight to moderate sloughing from 0 to 9 feet.
20	

Snoqualmie Mill Site
Snoqualmie, WA

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KCTP3 120126.GPJ July 12, 2012

LOG OF EXPLORATION PIT NO. EP-1014

This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.

Depth (ft)	DESCRIPTION
	Fill
1	Quarry spalls (to 6-inch diameter), with fine to coarse gravel, and fine to coarse sand, few silt. Digs dense.
2	
3	Filter fabric at 3 feet
	Medium dense, wet, brown, fine to coarse GRAVEL, and fine to coarse SAND, with woody debris.
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	**Lacustrine Deposits ?**
	Soft, gray with greenish brown mottling, SILT / CLAY
17	
18	Bottom of exploration pit at depth 17 feet Water flowing into excavation at 3 feet on top of filter fabric. Moderate sloughing from 0 to 3 feet.
19	
20	

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Snoqualmie, WA

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KCTP3 120126.GPJ July 12, 2012

LOG OF EXPLORATION PIT NO. EP-1015

Depth (ft)	This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplfication of actual conditions encountered. **DESCRIPTION**
	Fill
1	Wet, brown, COBBLES, little fine to coarse sand, and fine gravel.
	Lacustrine Deposits ?
2	Soft, wet, gray, CLAY / SILT.
3	
4	
5	
6	
7	
	Bottom of exploration pit at depth 7 feet Minor seepage at 1.5 feet. No sloughing.
8	
9	
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11	
12	
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Snoqualmie, WA

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KCTP3 120126.GPJ July 12, 2012

LOG OF EXPLORATION PIT NO. EP-1016

Depth (ft)	This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered. **DESCRIPTION**
	Fill
1	Moist, gray, fine to coarse GRAVEL, and fine to coarse SAND, little cobbles, occasional boulder. Digs dense.
2	
3	
4	Moist, grayish brown, silty fine SAND.
5	Abandoned 2-inch steel pipe encountered at 5 feet.
6	
7	
8	
9	
	Lacustrine Deposits ?
10	Soft, wet, gray with greenish brown mottling, SILT / CLAY.
11	
12	
13	
14	Thin stringer of brown fine SAND.
15	
16	Bottom of exploration pit at depth 15 feet Seepage at 5 feet and at 9.5 feet. Slight sloughing at 9.5 feet.
17	
18	
19	
20	

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KCTP3 120126.GPJ July 12, 2012

LOG OF EXPLORATION PIT NO. EP-1017

Depth (ft)	This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplfication of actual conditions encountered. **DESCRIPTION**
1	**Fill** Wet, brown, fine to coarse GRAVEL, and fine to coarse SAND, few silt, trace cobbles, occasional boulder.
2	
3	
4	**Overbank Deposits** Soft, very moist, gray, CLAY / SILT, occasional brown fine sand stringer, trace organics
5	
6	
7	Bottom of exploration pit at depth 6 feet Water piping at 4 feet through clean gravel fill. No sloughing.
8	
9	
10	
11	
12	
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Snoqualmie Mill Site
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KCTP3 120126.GPJ July 12, 2012

LOG OF EXPLORATION PIT NO. EP-1018

Depth (ft)	This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplfication of actual conditions encountered. **DESCRIPTION**
1	**Fill** Construction debris (concrete debris, rebar, metal debris, etc.), with fine to coarse SAND, and fine to coarse gravel.
2	
3	
4	**Overbank Deposits** Soft, moist to very moist, brown, SILT / CLAY, trace very fine sand, trace organics.
5	
6	**Lacustrine Deposits ?** Soft very moist, gray, CLAY.
7	
8	Bottom of exploration pit at depth 8 feet No seepage. No sloughing.
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	

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Snoqualmie, WA

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KCTP3 120126.GPJ July 12, 2012

LOG OF EXPLORATION PIT NO. EP-1019

This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.

Depth (ft)	DESCRIPTION
	Fill
1	Soft, very moist, black, ash.
2	
3	Loose, very moist, brown, fine to coarse GRAVEL, and fine to coarse SAND, few silt.
4	**Overbank Deposits**
5	Soft to medium stiff, moist, gray with brown mottling, sandy SILT, trace organics.
6	
7	
8	**Lacustrine Deposits ?**
9	Soft, very moist, fine sandy SILT / CLAY.
10	
11	
12	Becomes mottled brown.
13	
14	
15	**Overbank Deposits** Loose to medium dense, wet, silty fine SAND / fine sandy SILT, trace organics (rushes).
16	**River Channel Deposits**
17	Wet, gray, fine to medium SAND.
18	
19	Bottom of exploration pit at depth 19 feet
20	Seepage from 3 to 4 feet, and from 8.5 to 9 feet. Slight to moderate sloughing from 5 to 19 feet.

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LOG OF EXPLORATION PIT NO. EP-1020

Depth (ft)	This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered. **DESCRIPTION**
1	**Fill** Medium dense, moist, brown, fine to coarse SAND, with fine to coarse gravel, few silt; debris includes 6-foot steel rail, geotextile fabric at 2 feet.
2	Wood debris. 1-foot thick wedge of gray, wet, fine to coarse GRAVEL, and fine to coarse SAND, little silt.
3	
4	**Overbank Deposits** Soft, wet, brown, SILT, trace organics.
5	
6	
7	
8	
9	Medium dense, wet, brown, fine to coarse SAND, with silt, trace organics.
10	
11	
12	**River Channel Deposits**
13	Medium dense, wet, gray, fine to coarse SAND, with fine to coarse gravel, trace silt.
14	
15	
16	
17	
18	
19	Bottom of exploration pit at depth 18 feet Seepage at 9 feet. Hit abandoned fire line at 4 feet, water poured into excavation. Slight sloughing from 9 to 18 feet.
20	

Snoqualmie Mill Site
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KCTP3 120126.GPJ July 12, 2012

LOG OF EXPLORATION PIT NO. EP-1021

This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.

Depth (ft)	DESCRIPTION
	Fill
1	Very moist, gray, fine to medium SAND, and fine to coarse GRAVEL, few silt.
2	Dark brown to black, organic layer.
3	
	Overbank Deposits
4	Soft, very moist to wet, greenish gray, SILT / CLAY, slight brown mottling, trace organics, occasional thin fine sand stringer.
5	
6	
7	
8	Bottom of exploration pit at depth 7 feet Slight seepage at 1.5 feet. No sloughing.
9	
10	
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Snoqualmie Mill Site
Snoqualmie, WA

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KCTP3 120126.GPJ July 12, 2012

LOG OF EXPLORATION PIT NO. EP-1022

Depth (ft)	This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered. **DESCRIPTION**
	Fill
1	Medium dense, moist, gray, fine to coarse GRAVEL, with fine to coarse sand, trace silt.
2	WOODY DEBRIS, with fine to coarse gravel, and fine to coarse sand, few silt; woody debris includes dimensional lumber. Digs dense.
3	
4	
5	
6	
7	
8	
9	
10	**Lacustrine Deposits ?**
11	Soft, light gray with slight greenish gray mottling, SILT / CLAY.
12	Bottom of exploration pit at depth 11 feet Water flowing into excavation at 6 feet. Slight sloughing from 0 to 3 feet.
13	
14	
15	
16	
17	
18	
19	
20	

Snoqualmie Mill Site
Snoqualmie, WA

Associated Earth Sciences, Inc.

Logged by: SST

Approved by:

Project No. KV120126A

5/7/12

KCTP3 120126.GPJ July 12, 2012

LOG OF EXPLORATION PIT NO. EP-1023

Depth (ft)	This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered. **DESCRIPTION**
	Fill
1	Moist, gray, QUARRY SPALLS (to 6-inch diameter), with fine to medium sand, and fine to coarse gravel, trace to few silt, occasional woody debris.
2	
3	Wet, brown, WOOD DEBRIS, LOGS, with fine to coarse gravel, and fine to coarse gravel.
4	
5	
6	
7	
8	
9	
10	**Overbank Deposits**
11	Soft to medium stiff, wet, tan to gray with reddish mottling, SILT, few fine sand, trace organics.
12	
13	
14	
15	
16	
17	**Lacustrine Deposits ?**
18	Soft, wet, gray with brown mottling, SILT / CLAY, few fine sand.
19	Bottom of exploration pit at depth 18 feet Seepage at 5 feet. Water pouring into excavation at 6.5 feet. Slight sloughing from 0 to 18 feet.
20	

KCTP3 120126.GPJ July 12, 2012

Snoqualmie Mill Site
Snoqualmie, WA

Logged by: SST

Approved by:

Associated Earth Sciences, Inc.

Project No. KV120126A

5/7/12

LOG OF EXPLORATION PIT NO. EP-1024

This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.

Depth (ft)	DESCRIPTION
1	**Fill** Wood chips
2	Loose to medium dense, very moist, gray, fine to coarse SAND, and fine to coarse GRAVEL, few to little silt.
3	
4	**Overbank Deposits**
5	Loose, wet, brown, SILT / CLAY, with wood debris.
6	
7	
8	
9	
10	**Peat** **Overbank Deposits**
11	Loose to medium stiff, gray with brown mottling, SILT / CLAY, abundant rootlets, leave, mica flakes.
12	
13	
14	**River Channel Deposits** Medium dense, wet, very fine SAND, stratified, trace rootlets, leaves, mica flakes.
15	
16	
17	Bottom of exploration pit at depth 16 feet Abundant seepage from 1 to 1.5 feet. No sloughing.
18	
19	
20	

Snoqualmie Mill Site
Snoqualmie, WA

Associated Earth Sciences, Inc.

Logged by: SST

Approved by:

Project No. KV120126A

5/7/12

KCTP3 120126.GPJ July 12, 2012

LOG OF EXPLORATION PIT NO. EP-1025

Depth (ft)

This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplfication of actual conditions encountered.

DESCRIPTION

Grass / Weeds over Fill

3 inch layer of black ash at base of fill.

Overbank Deposits

Loose to medium dense, moist, gray with slight black mottling, fine SAND, few silt, slightly stratified, trace plant material (rushes).

Lacustrine Sediments ?

Soft, very moist, gray, SILT / CLAY, trace fine sand, trace rushes and grasses.

Bottom of exploration pit at depth 10.5 feet
Water seeping from approximately 5 to 5.5 feet. Moderate sloughing from 2 to 5 feet.

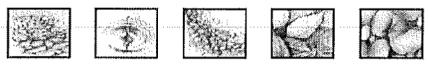
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Snoqualmie Mill Site
Snoqualmie, WA

Associated Earth Sciences, Inc.

Logged by:

Approved by:



Project No. KV120126A

7/24/12

KCTP3 120126.GPJ July 28, 2012

LOG OF EXPLORATION PIT NO. EP-1026

Depth (ft)

This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplfication of actual conditions encountered.

DESCRIPTION

Fill

Primarily wood chips.

4 inch layer of black ash at base of fill.

Lacustrine Sediments ?

Soft, very moist, gray with brown mottling, SILT, few clay.

Bottom of exploration pit at depth 6 feet
Slight sloughing from 0 to 2.5 feet.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Snoqualmie Mill Site
Snoqualmie, WA

Associated Earth Sciences, Inc.

Logged by:

Approved by:

Project No. KV120126A

7/24/12

KCTP3 120126.GPJ July 28, 2012

LOG OF EXPLORATION PIT NO. EP-1027

Depth (ft)

This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplfication of actual conditions encountered.

DESCRIPTION

Fill

Includes wood chips, cobbles, boulders.

8 inch layer of black ash at base of fill.

Overbank Deposits

Loose to medium stiff, moist to very moist, gravelly SILT, trace fine sand, trace clay, abundant disseminated organics.

Lacustrine Sediments ?

Medium stiff, moist, gray with brown mottling, SILT, few to little clay.

Bottom of exploration pit at depth 7 feet
Seepage from 2.5 to 3 feet. no sloughing.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Snoqualmie Mill Site
Snoqualmie, WA

Associated Earth Sciences, Inc.

Logged by:

Approved by:

Project No. KV120126A

7/24/12

KCTP3 120126.GPJ July 28, 2012

LOG OF EXPLORATION PIT NO. EP-1028

Depth (ft)	This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplfication of actual conditions encountered. **DESCRIPTION**
1	**Fill** Brown to gray, SAND, gravel cobbles, boulders.
2	
3	
4	**Overbank Deposits**
5	Medium stiff, moist, gray with brown mottling SILT, trace very fine sand, trace clay, scattered plant material, rhizospheres (red ox occuring - hydric).
6	At west end of pit at 4.5 feet: Medium stiff, very moist, light brown with reddish brown mottling, SILT, little very fine sand (redox).
7	
8	Bottom of exploration pit at depth 7 feet No seepage. No sloughing.
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	

Snoqualmie Mill Site
Snoqualmie, WA

Associated Earth Sciences, Inc.

Logged by:

Approved by:

Project No. KV120126A

7/24/12

KCTP3 120126.GPJ July 28, 2012

LOG OF EXPLORATION PIT NO. EP-1029

Depth (ft)

This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.

DESCRIPTION

Fill

River Channel Deposits

Medium dense, moist to very moist, gray, fine to medium SAND, trace scattered organics.

Overbank Deposits

Loose to medium dense, very moist, gray, SILT, scattered grasses, rushes, pockets of peat.

Bottom of exploration pit at depth 7 feet
Seepage at 5 feet. Slight sloughing from 4 to 5.5 feet.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Snoqualmie Mill Site
Snoqualmie, WA

Associated Earth Sciences, Inc.

Logged by:

Approved by:

Project No. KV120126A

7/24/12

KCTP3 120126.GPJ July 28, 2012

LOG OF EXPLORATION PIT NO. EP-1030

Depth (ft)

This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplfication of actual conditions encountered.

DESCRIPTION

Fill

Brown / black / gray, SAND, and gravel.

River Channel Deposits

Medium dense, moist, gray, very fine SAND, few to little silt.

Few clasts of dense, brownish gray, silty fine to medium SAND, trace fine to coarse gravel, unsorted (diamict) at 5 feet.
Tree roots at 5.5 feet.

Overbank Deposits

Medium stiff, moist, gray with brown mottling, SILT, trace to few fine SAND, trace scattered organics, trace clay; twin horizons of peat.

Bottom of exploration pit at depth 7.5 feet
No seepage. No sloughing.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Snoqualmie Mill Site
Snoqualmie, WA

Associated Earth Sciences, Inc.

Logged by:

Approved by:

Project No. KV120126A

7/24/12

KCTP3 120126.GPJ July 28, 2012

LOG OF EXPLORATION PIT NO. EP-1031

Depth (ft)	This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplfication of actual conditions encountered. **DESCRIPTION**
1	**Fill** Includes gravel, cobbles, boulders, debris.
2	
3	
4	**Overbank Deposits**
5	Soft, very moist, gray / brown, SILT, trace to few very fine sand, trace scattered organics (rushes, grasses); (not hydric soil).
6	Loose, very moist grading to wet, light brown, very fine SAND, few silt, trace mica, and organics.
7	
8	
9	
10	
11	Bottom of exploration pit at depth 10 feet No seepage. Sloughing from 4 feet to 10 feet.
12	
13	
14	
15	
16	
17	
18	
19	
20	

Snoqualmie Mill Site
Snoqualmie, WA

Associated Earth Sciences, Inc.

Logged by:

Approved by:

Project No. KV120126A

7/24/12

KCTP3 120126.GPJ July 28, 2012

LOG OF EXPLORATION PIT NO. EP-1032

Depth (ft)	This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered. **DESCRIPTION**
1	**Fill** Includes, sand, gravel, ash deposits, cobbles.
2	
3	
4	**Overbank Deposits**
5	Soft to medium stiff, moist to very moist, brownish gray, SILT, few very fine sand, trace scattered organics.
6	Medium stiff, very moist to wet, gray with brown mottling, SILT, little clay, trace very fine sand.
7	
8	Stratified with lenses of gray, fine to medium SAND at 8 feet.
9	
10	
11	Bottom of exploration pit at depth 10 feet No seepage. No sloughing.
12	
13	
14	
15	
16	
17	
18	
19	
20	

Snoqualmie Mill Site
Snoqualmie, WA

Associated Earth Sciences, Inc.

Logged by:

Approved by:

Project No. KV120126A

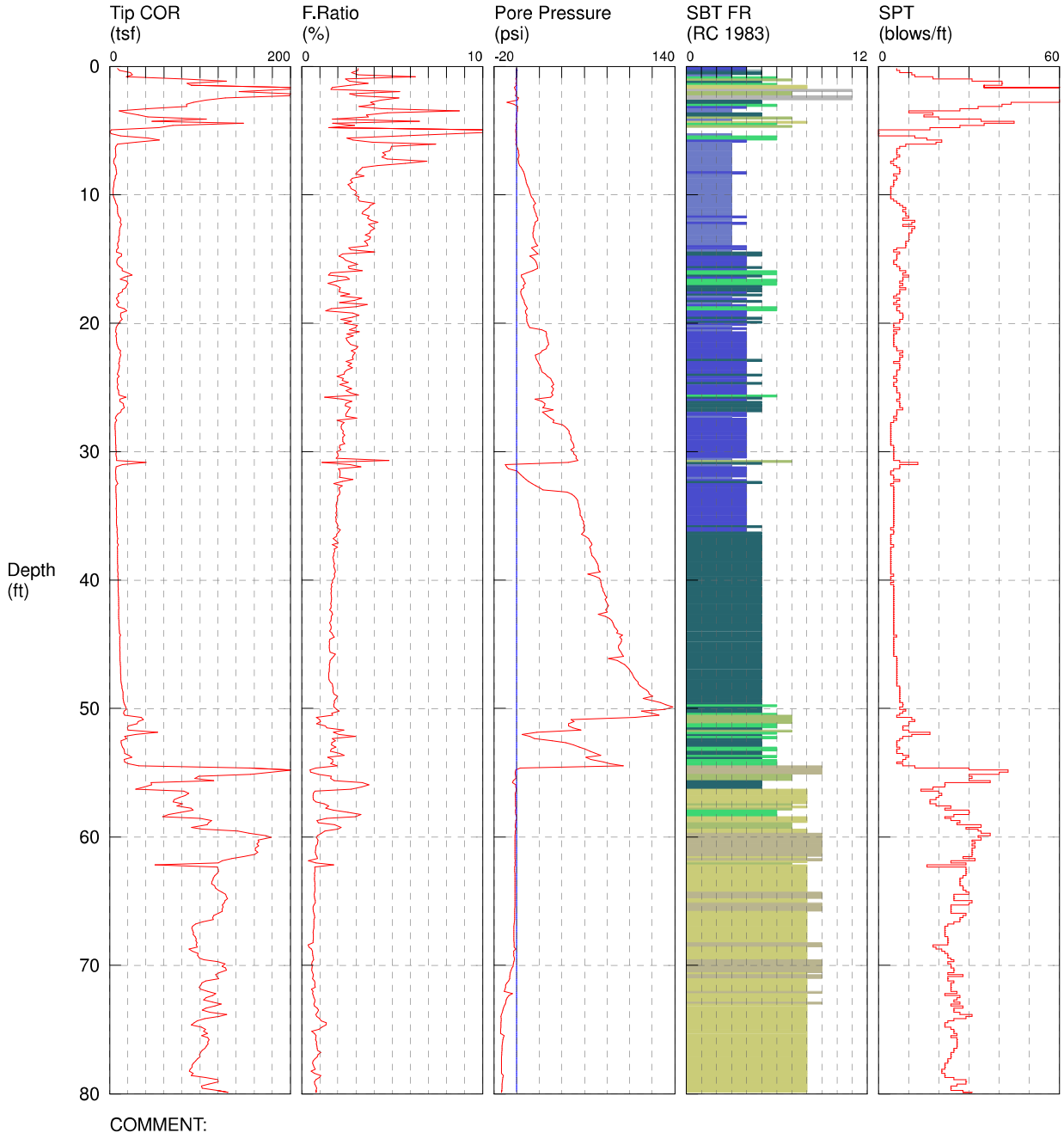
7/24/12

KCTP3 120126.GPJ July 28, 2012

CPT-01

CPT CONTRACTOR: InSitu Engineering
CUSTOMER: AES
LOCATION: Snoqualmie
JOB NUMBER: 120126H012

OPERATOR: Romanelli
CONE ID: DDG1263
TEST DATE: 12/7/2017 9:08:30 AM
PREDRILL: N/A
BACKFILL: 20% Bentonite Grout
SURFACE PATCH: Granular Bentonite Chip

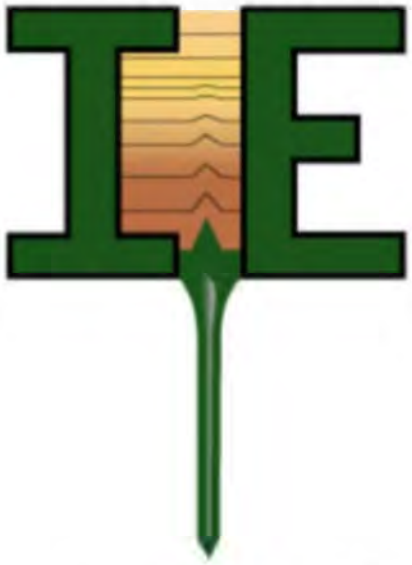


COMMENT:

1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

*SBT/SPT CORRELATION: UBC-1983

HOLE NUMBER: CPT-01



OPERATOR: Romanelli

CUSTOMER: AES

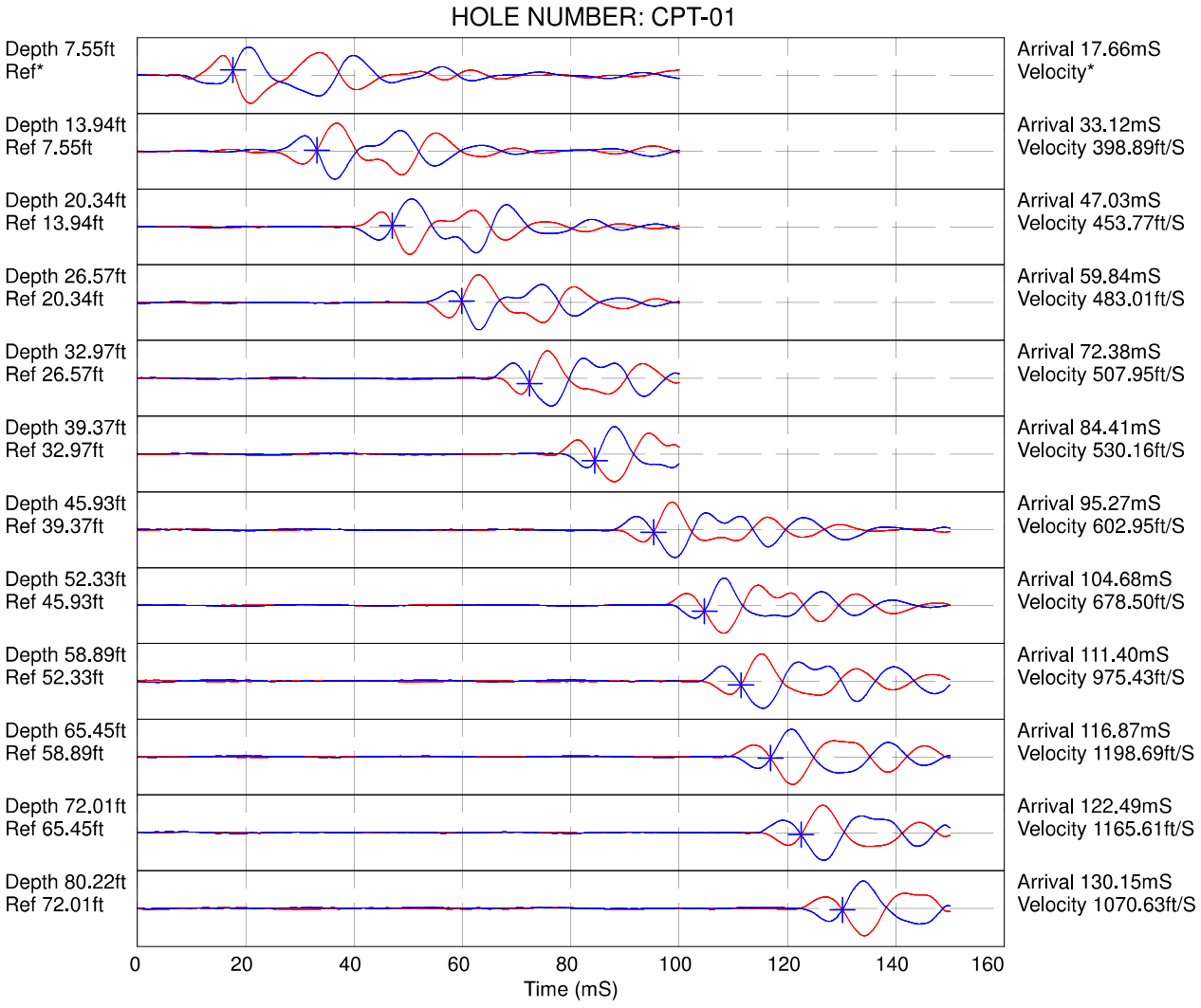
LOCATION: Snoqualmie

JOB NUMBER: 120126H012

CPT CONTRACTOR: InSitu Engineering

CONE ID: DDG1263

TEST DATE: 12/7/2017 9:08:30 AM

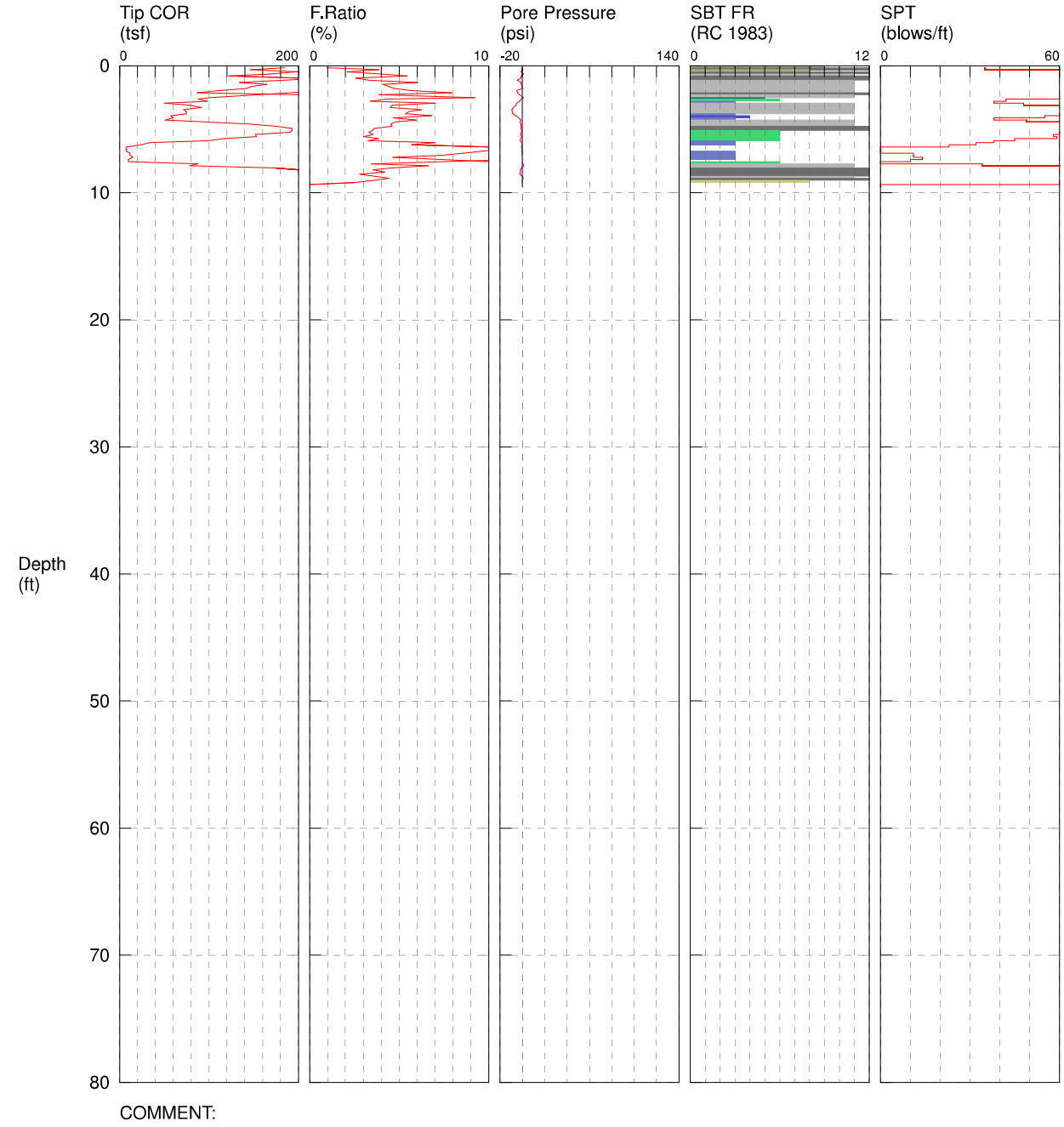


Hammer to Rod String Distance (ft): 2.82
* = Not Determined

CPT-02

CPT CONTRACTOR: InSitu Engineering
CUSTOMER: AES
LOCATION: Snoqualmie
JOB NUMBER: 120126H012

OPERATOR: Romanelli
CONE ID: DDG1263
TEST DATE: 12/7/2017 10:30:47 AM
PREDRILL: N/A
BACKFILL: 20% Bentonite Grout
SURFACE PATCH: Granular Bentonite Chip



COMMENT:

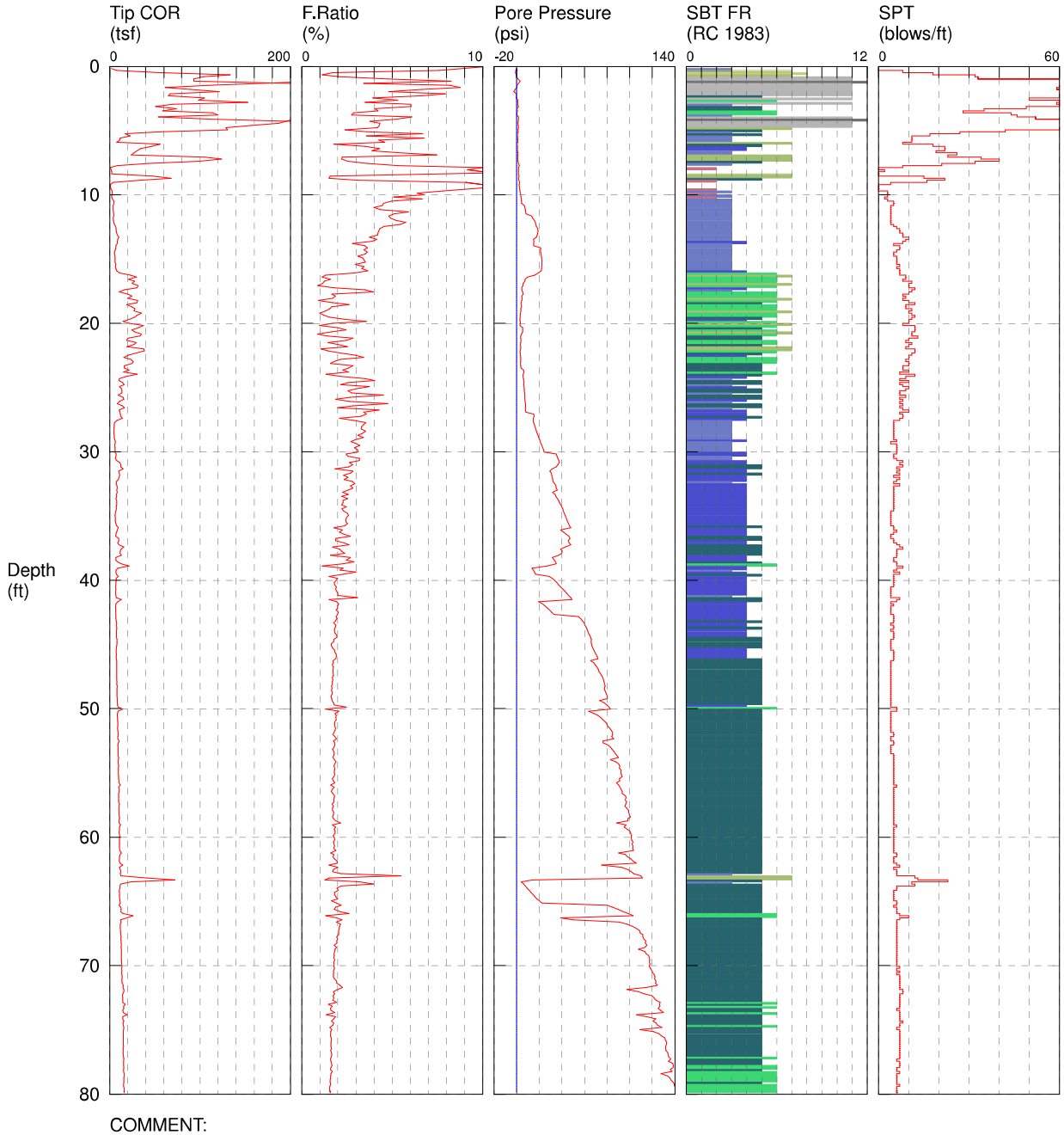
1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

*SBT/SPT CORRELATION: UBC-1983

CPT-02a

CPT CONTRACTOR: InSitu Engineering
CUSTOMER: AES
LOCATION: Snoqualmie
JOB NUMBER: 120126H012

OPERATOR: Romanelli
CONE ID: DDG1263
TEST DATE: 12/7/2017 10:49:48 AM
PREDRILL: N/A
BACKFILL: 20% Bentonite Grout
SURFACE PATCH: Granular Bentonite Chip

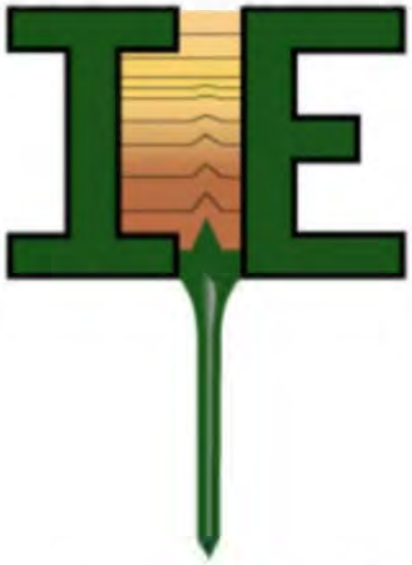


COMMENT:

1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

*SBT/SPT CORRELATION: UBC-1983

HOLE NUMBER: CPT-02a



OPERATOR: Romanelli

CUSTOMER: AES

LOCATION: Snoqualmie

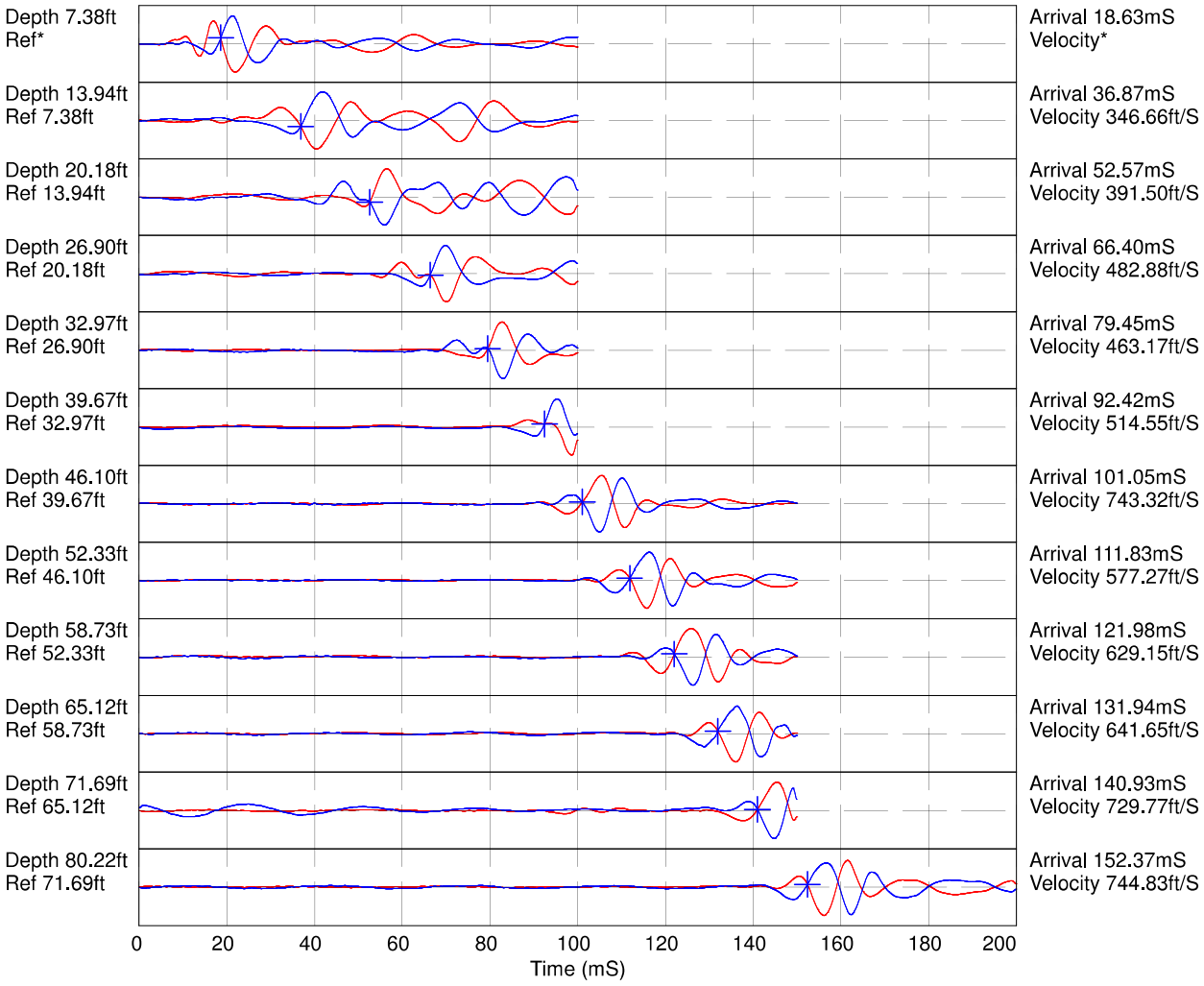
JOB NUMBER: 120126H012

CPT CONTRACTOR: InSitu Engineering

CONE ID: DDG1263

TEST DATE: 12/7/2017 10:49:48 AM

HOLE NUMBER: CPT-02a

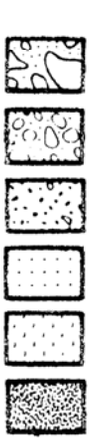


Hammer to Rod String Distance (ft): 2.82
* = Not Determined

APPENDIX B

Off-Site Boring & Well Logs

LEGEND



- COBBLES
- GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- BEDROCK

DRILLING METHOD: Cyclone TH-60 with air-operated, down-hole, DDH-15 hammer.

SAMPLING METHOD: continuous sampling of cuttings; 3.75" I.D. split spoon sampler 18" in length, at 20' intervals beginning 18' below surface elevation; samples transferred to Weyerhaeuser storage.

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
	10	tan-gray, sandy GRAVEL with moderate cobbles (Qvdg)	
	20		
	30		
	40	tan-gray, medium SAND with occasional gravel (Qvds)	
	50		

NOTES: Tokul Creek Delta boring (TK-1) is located about 2000 feet north and 1700 feet east of the SE corner of S. 19, T. 24 N., R. 8 E.

PROJECT NO. 837-1
BORING NO. TK-1
ELEVATION 541
PAGE 1 **OF** 4

DRILLING LOG

ASSOCIATED EARTH SCIENCES, INC.
ECONOMIC GEOLOGISTS / ENGINEERING GEOLOGISTS
13717 PARK LANE • KIRKLAND, WASHINGTON 98033 • 206-827-7701

LEGEND

- COBBLES
- GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- BEDROCK

DRILLING METHOD : same

SAMPLING METHOD : same

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
	60	tan-gray, medium SAND with occasional gravel (Qvds)	
	70		
	80		
	90	tan-gray, sandy GRAVEL with occasional cobbles (Qvdg)	
	100		

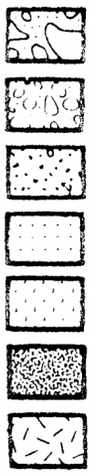
NOTES:

PROJECT NO. 837-1
BORING NO. TK-1
ELEVATION same
PAGE 2 **OF** 4

DRILLING LOG

ASSOCIATED EARTH SCIENCES, INC.
ECONOMIC GEOLOGISTS / ENGINEERING GEOLOGISTS
137½ PARK LANE • KIRKLAND, WASHINGTON 98033 • 206-827-7701

LEGEND



- COBBLES
- GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- BEDROCK

DRILLING METHOD : same

SAMPLING METHOD : same

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
	110	tan-gray, sandy GRAVEL with occasional cobbles (Qvdg)	
	120	tan-gray, fine to medium SAND with occasional gravel (Qvds)	
	130		
	140	tan-gray, sandy GRAVEL with minor to moderate cobbles (Qvdg)	
	150		

NOTES:

PROJECT NO. 837-1
BORING NO. TK-1
ELEVATION same
PAGE 3 **OF** 4

DRILLING LOG

ASSOCIATED EARTH SCIENCES, INC.
ECONOMIC GEOLOGISTS / ENGINEERING GEOLOGISTS
13717 PARK LANE • KIRKLAND, WASHINGTON 98033 • 206-827-7701

LEGEND

- COBBLES
- GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- BEDROCK

DRILLING METHOD : same

SAMPLING METHOD : same

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
	160	tan-gray, sandy GRAVEL with minor to moderate cobbles (Qvdg)	
	170		
	180		
	190		
	200		

NOTES:

PROJECT NO. 837-1
BORING NO. TK-1
ELEVATION same
PAGE 4 **OF** 4

DRILLING LOG

ASSOCIATED EARTH SCIENCES, INC.
ECONOMIC GEOLOGISTS / ENGINEERING GEOLOGISTS
137½ PARK LANE • KIRKLAND, WASHINGTON 98033 • 206-827-7701

EXPLORATION BORING LOG

EB #1

GRAPH	USCS	SEDIMENT DESCRIPTION	DEPTH	SAMPLE / GROUND WATER	STANDARD PENETRATION RESISTANCE BLOWS/FOOT 10 20 30 40
		Wet, brown, sandy, gravelly silt.	0	ele.421'	
		Moist, brown, silty sand. Some organics to 12'.	5	416'	
			10	411'	
			15	406'	
			20	401'	
			25	396'	
			30	391'	
			35	386'	
			40	381'	

PRELIMINARY

Snoqualmie WWTP

8811-18G | Dec 1988

ASSOCIATED EARTH SCIENCES, INC

EXPLORATION BORING LOG

EB #1 Cont.

GRAPH	USCS	SEDIMENT DESCRIPTION	DEPTH	SAMPLE / GROUND WATER
		Moist, brown, silty sand.	40	ele.381'
		Moist, brown, fine sandy silt.		
		BOH at 44'	45	376'
			50	
			55	
			60	
			65	
			70	
			75	
			80	

STANDARD PENETRATION RESISTANCE
BLOWS/FOOT
10 20 30 40

▲

PRELIMINARY

Snoqualmie WWTP

8811-18G | Dec 1988

ASSOCIATED EARTH SCIENCES, INC

EXPLORATION BORING LOG

EB #2

USCS	SEDIMENT DESCRIPTION	DEPTH	SAMPLE / GROUND WATER	STANDARD PENETRATION RESISTANCE (BLOWS/FOOT) 10 20 30 40
	Moist, brown, silty, sandy gravel, with cobbles. Rough drilling. (RR grade fill)	0 ele.443'		▲
		5 438'		70 ▲
		10 433'		▲
	Damp, brown mottled grey, sandy gravel, with some silt. Very rough drilling. Qvr	15 428'		65 ▲
		20 423'		50/6 ▲
	BOH at 24'	25 418'		
	Note: Stopped due to lack of penetration by auger.			

PRELIMINARY

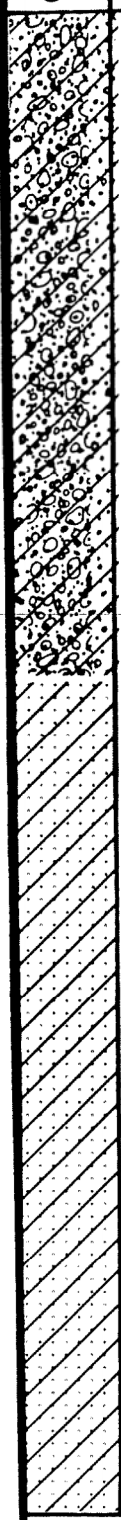
Snoqualmie WWTP

8811-18G | Dec. 1988 | B.T.S.

ASSOCIATED EARTH SCIENCES, INC

EXPLORATION BORING LOG

EB #3



USCS	SEDIMENT DESCRIPTION	DEPTH	SAMPLE / GROUND WATER
	Moist, dark brown, silty gravelly sand. Some organics. (RR grade fill)	0	ele.443'
		5	438'
		10	433'
		15	428'
	Moist, brown, silty, well sorted medium sand. Qvr	20	423'
		25	418'
		30	413'
		35	408'
		40	403'

STANDARD PENETRATION RESISTANCE
BLOWS/FOOT
10 20 30 40

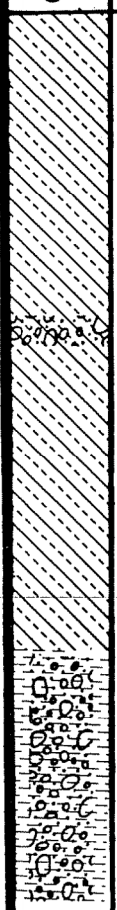
Snoqualmie WWTP

8811-18G | Dec 1988

ASSOCIATED EARTH SCIENCES, INC

EXPLORATION BORING LOG

EB #3 Cont.



USCS	SEDIMENT DESCRIPTION	DEPTH	SAMPLE	GROUND WATER	STANDARD PENETRATION RESISTANCE BLOWS/FOOT 10 20 30 40
	Moist, brown, silty, well sorted medium sand.	40	ele.403'		▲
		45	398'		
	2" gravel layer with water. Moist to wet, grey-brown, silty sand.	50	393'	▽	▲
	Moist, grey-brown, silty, very fine sand, with scattered gravel and cobbles. Rough drilling. Qvr	55	388'		▲
	Very wet, grey-brown, silty, clayey gravel, with cobbles. Qva	60	383'		▲
	BOH at 63½'	65	378'		50/4
	Note: Stopped due to lack of penetration by auger.	70	373'		
		75			
		80			

PRELIMINARY

Snoqualmie WWTP

8811-18G | Dec 1988

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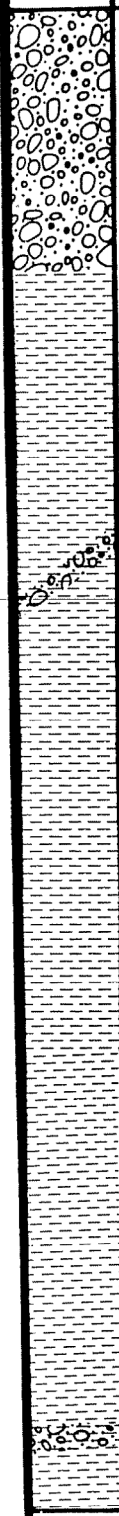
EXPLORATION BORING LOG

EB #4



USCS	SEDIMENT DESCRIPTION	DEPTH	SAMPLE / GROUND WATER	STANDARD PENETRATION RESISTANCE BLOWS/FOOT (10 20 30 40)
	Moist, brown, silty, gravelly sand (RR grade fill).	0	ele.437'	
		5	432'	▲
	Some water.			
	Wet, grey mottled brown, silt.	10	427'	▲
	Moist, grey, clayey, silty sand, with some gravel.	15	422'	59 ▲
	Damp, grey, clayey silt.	20	417'	▲
	-Moist-	25	412'	▲
		30	407'	▲
	-Wet-	35	402'	▲
	2" gravel layer with water. Moist, grey, clayey silt.	40	397'	▲

Snoqualmie WWTP

8811-18G | Dec. 1988 | B. A.

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EXPLORATION BORING LOG

EB #4 Cont.

GRAPH	USCS	SEDIMENT DESCRIPTION	DEPTH	SAMPLE / GROUND WATER	STANDARD PENETRATION RESISTANCE BLOWS/FOOT 10 20 30 40
		Moist, grey, clayey silt.	40	ele.397'	
			45	392'	
			50	387'	
			55	382'	
		BOH at 59'	60	377'	67
			65		
			70		
			75		
			80		

Snoqualmie WWTP

8811-18G | Dec. 1988 | W. L.

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EXPLORATION BORING LOG

EB #5

USCS	SEDIMENT DESCRIPTION	DEPTH	SAMPLE / GROUND WATER
	Forest duff and cobbles. Very rough drilling.	0	ele.437'
	Moist, grey mottled brown, silt, with trace scattered gravel.	5	432'
	Moist, grey, clayey silt. Smooth drilling. Qva	10	427'
		15	422'
	-Wet-		
	-Moist-	20	417'
		25	412'
		30	407'
	-Wet-		
	-Moist-	35	402'
		40	397'

STANDARD PENETRATION RESISTANCE
BLOWS/FOOT
10 20 30 40

8811-18G | Dec 1988

Snoqualmie WWTP

ASSOCIATED EARTH SCIENCES, INC

EXPLORATION BORING LOG

EB #5 Cont.

GRAPH	USCS	SEDIMENT DESCRIPTION	DEPTH	SAMPLE / GROUND WATER	STANDARD PENETRATION RESISTANCE (BLOWS/FOOT) 10 20 30 40
		Moist, grey, clayey silt. Smooth drilling. Qvg	40	ele.397'	
			45	392'	
		-Wet-	50	387'	
			55	382'	
		BOH at 59'	60	377'	
		Note: No groundwater or bedrock.	65		
			70		
			75		
			80		

PRELIMINARY

Snoqualmie WWTP

8811-18G | Dec. 1988

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EXPLORATION BORING LOG

EB #6

GRAPH	USCS	SEDIMENT DESCRIPTION	DEPTH	SAMPLE	GROUND WATER	STANDARD PENETRATION RESISTANCE BLOWS/FOOT 10 20 30 40
		Forest duff with cobbles.	0	ele.439		
		Wet, grey/brown, silty, gravelly sand, with some cobbles.	5	434'		
			10	429'		58
		Wet, grey, clayey silt. Smooth drilling.	15	424'		
		Damp, grey, fine sandy, silt. Qvg	20	419'		
		Moist to wet, grey, silt, with trace scattered gravel. Qvg	25	414'		
			30	409'		53
			35	404'		61
			40	399'		55

Snoqualmie WWTP

8811-18G | Dec. 1988 | B. A

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EXPLORATION BORING LOG

EB #6 Cont.

GRAPH	USCS	SEDIMENT DESCRIPTION	DEPTH	SAMPLE	GROUND WATER	STANDARD PENETRATION RESISTANCE BLOWS/FOOT 10 20 30 40
		Moist, grey, silt. Very hard drilling.	40	ele. 399		
			45	394'		64
		Very dark grey to black bedrock.				50/2
		BOH at 50'	50	389'		
		Note: Stopped due to lack of penetration by auger.	55	384'		
			60			
			65			
			70			
			75			
			80			

Snoqualmie WWTP

8811-18G | Dec. 1988

ASSOCIATED EARTH SCIENCES, INC

LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD : Reverse Air

SAMPLING METHOD : Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
	10	Silty, sandy, wood derbis. (Fill) Poor sample recovery.	
	20	Brown, dry, slightly silty, fine to coarse sand with gravels and wood fragmwents.	
	30	Brown, dry, cobbly, sandy gravels. Becoming moist at 28'	
	40		
	50	Brown, moist, gravelly, fine to medium sand. Fining downward with less gravels with depth. Cobbles and boulders between 49-52'	

NOTES:

PROJECT NO. E93013A
BORING NO. EB-A1
ELEVATION 660
PAGE 1 **OF** 2

DRILLING LOG

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LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD : Reverse Air

SAMPLING METHOD : Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
		Brown, moist, fine to medium sand 52-54'	
		Granite boulders at 54'	
	60	Dry, brown, silty, gravelly, fine to coarse sand with cobbles.	
		Grey bedrock. (Refusal)	
		TD 57'	
	70		
	80		
	90		
	100		

NOTES:

PROJECT NO. E93013A
BORING NO. EB-A1
ELEVATION 660
PAGE 2 **OF** 2

DRILLING LOG

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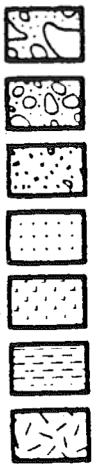
LEGEND



SANDY GRAVEL WITH COBBLES
SANDY GRAVEL
POORLY SORTED SAND
WELL SORTED SAND
DIAMICTON
SILT - CLAY
PEAT
BEDROCK
SILTY

DRILLING METHOD : Reverse Air

SAMPLING METHOD : Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
	10	Brown, dry, gravelly cobbles.	
	20	Brown, moist, gravelly, fine to coarse sand with cobbles.	
	30	Brown, dry, gravelly cobbles.	
	40	Brown, dry, sandy, cobbly gravels.	
	50	Brown, moist, gravelly, fine to coarse sand. Coarsening downward with cobbles below 45 feet.	

NOTES:

PROJECT NO. E93013A
BORING NO. EB-A2
ELEVATION 590
PAGE 1 OF 2

DRILLING LOG

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LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD : Reverse Air

SAMPLING METHOD : Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
	60	Brown, moist, fine to medium sand with scattered gravels between 49-51'	
		Brown, moist, gravelly, fine to coarse sand. Becoming medium to coarse sand with gravels. Containing occasional very dense, fine sand lenses.	
	70	Brown, moist, silty, gravelly, fine to coarse sand. containing cobbles and clay between 56-58 feet.	
		Grey bedrock.	
		TD 65' (Refusal)	
	80		
	90		
	100		

NOTES:

PROJECT NO. E93013A
BORING NO. EB-A2
ELEVATION 590
PAGE 2 OF 2

DRILLING LOG

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LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD : Reverse Air

SAMPLING METHOD : Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
	10	Brown, dry, sandy, gravelly, cobbles.	
	20	Cobbly, boulders at 12' Cobbly, boulders at 16'	
	30	Cobbly, boulders at 26-28'	
	40	Brown, moist, sandy gravel with cobbles. Containing very dense fine sand lenses at 28-30'. Slightly silty 34-36'	
	50	Containing some clay at 46-47' Coarsening downward into slightly sandy gravels at 48-50 feet.	

NOTES:

PROJECT NO. E93013A
BORING NO. EB-A3
ELEVATION 580
PAGE 1 OF 3

DRILLING LOG

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LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD: Reverse Air

SAMPLING METHOD: Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
	60	Grading into brown, moist, slightly silty, sandy gravel with cobbles at 50'	
	70	Grading into medium to coarse sand at 64-66 feet.	
	80	Brown, moist, slightly silty, sandy gravel with cobbles. Increase in cobble content with depth.	
	90	Brown, moist, sandy gravel.	
	100	Brown, dry, sandy gravel with cobbles. Increase in cobble content with depth.	
		Brown, moist, gravelly, fine to coarse sand.	

NOTES:

PROJECT NO. E93013A
BORING NO. EB-A3
ELEVATION 580
PAGE 2 OF 3

DRILLING LOG

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LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD : Reverse Air

SAMPLING METHOD : Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
	110	Fining downward to fine sand at 114 feet.	
	120	Brown, moist, gravelly, fine to coarse sand.	
		Grey, dry, silty, angular gravel and sand. (Crushed Bedrock)	
	130	TD 118½' (Refusal)	
	140		
	150		

NOTES:

PROJECT NO. E93013A
BORING NO. EB-A3
ELEVATION 580
PAGE 3 OF 3

DRILLING LOG

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LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD : Reverse Air

SAMPLING METHOD : Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
	10	Brown, dry 1-2" size gravels.	
	20	Brown and grey, sandy, gravelly, cobbles. Granodiorite boulder at 6'	
	30		
	40	Brown, moist to dry, cobbly, sandy gravel. Containing some clay at 33-35 feet.	
	50		

NOTES:

PROJECT NO. E93013A
BORING NO. EB-A4
ELEVATION 580
PAGE 1 OF 4

DRILLING LOG

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LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD: Reverse Air

SAMPLING METHOD: Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
	60	As above	
	70		
	80	Gravelly, medium to coarse sand layers at 76-78' and 80-82 feet.	
	90	Brown, dry, gravelly, slightly silty, fine to coarse sand with cobbles.	
	100	Brown, moist, gravelly, medium to coarse sand with scattered cobbles.	

NOTES:

PROJECT NO. E93013A
BORING NO. EB-A4
ELEVATION 580
PAGE 2 **OF** 4

DRILLING LOG

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LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD: Reverse Air

SAMPLING METHOD: Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
		As above	
	110		
		Brown, dry, sandy gravel.	
	120		
	130	Grey, dry, cobbly, gravelly, fine to coarse sand.	
		Brown, moist, gravelly, fine to coarse sand with cobbles.	
	140		
		Brown, moist, sandy gravel.	
		Cobbly boulder zone 147-150'	
	150		

NOTES:

PROJECT NO. E93013A
BORING NO. EB-A4
ELEVATION 580
PAGE 3 OF 4

DRILLING LOG

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LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD : Reverse Air

SAMPLING METHOD : Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
		As above	
	160	Brown, dry, sandy, well sorted $\frac{1}{2}$" size gravels. Becoming sandier with depth.	
	170	Brown, moist, sandy gravels with cobbles, gravels up to 2" in size. Grading into gravelly, coarse sand at 170 feet.	
	180	Cobbles and boulders.	
		TD 175' (Refusal)	
	190		
	200		

NOTES:

PROJECT NO. E93013A
BORING NO. EB-A4
ELEVATION 580
PAGE 4 **OF** 4

DRILLING LOG

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LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD: Reverse Air

SAMPLING METHOD: Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
	10	Brown, dry, silty, sandy, cobbly, gravels with wood pieces. (Fill)	
		Brown to grey, sandy gravelly cobbles.	
	20	Cobbly boulder zone 11-17'	
	30		
	40	Cobbly boulder zone 34-46½'. Containing some clay.	
	50	Brown, moist, sandy gravel.	

NOTES:

PROJECT NO. E93013A
BORING NO. EB-A51
ELEVATION 590
PAGE 1 **OF** 2

DRILLING LOG

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LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD: Reverse Air

SAMPLING METHOD: Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
	60	Grading into gravelly, fine to coarse sand at 50 feet. Gravel layer at 58-59 feet.	
	70	Fine to coarse sandy layer with gravels at 64 feet. Boulder at 67½ feet.	
	80	Grading into fine to medium sand with occasional gravels and cobbles.	
	90		
		Saturated, grey, sandy clay with gravels.	▼ WD 89' 8/13/90
		Saturated, brown, sandy, clayey cobbles and boulders.	
	100	TD 98' (Refusal)	

NOTES: WD= While drilling. Water added to hole to prevent clay from binding up sample hose.

PROJECT NO. E93013A
BORING NO. EB-A51
ELEVATION 590
PAGE 2 **OF** 2

DRILLING LOG

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LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD: Reverse Air

SAMPLING METHOD: Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
	10	Brown, oxidized, dry, silty, gravelly, fine to coarse sand with wood pieces and minor organics. (Fill)	
	20	Grey, dry, sandy, gravelly, cobbles with boulders. Boulder zone 5-7 feet. Containing fine to coarse sand layer at 9-10 feet.	
	30	Pushing boulders with drill bit 20-29 feet. Poor recovery on samples.	
	40	Gravelly, fine to coarse sand layer at 34-36 feet. Coarsening downward into cobbles at 38-39 feet.	
	50	Brown, moist, gravelly, medium to coarse sand. Cobble zone at 47 feet.	

NOTES: Drilled 30 Ft. North of EB-A51

PROJECT NO. E93013A
BORING NO. EB-A52
ELEVATION 590
PAGE 1 **OF** 2

DRILLING LOG

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LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD : Reverse Air

SAMPLING METHOD : Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
		As above	
	60	Grey, dry, gravelly cobbles.	
		Boulder at 66 feet.	
	70	TD 67' (Refusal)	
	80		
	90		

NOTES:

PROJECT NO. E93013A
BORING NO. EB-A52
ELEVATION 590
PAGE 2 **OF** 2

DRILLING LOG

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LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD : Reverse Air

SAMPLING METHOD : Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
	10	Brown, moist, silty, fine to medium sand with gravels.	
		Brown, dry, gravelly, silty fine to coarse sand. Containing cobbles at 6 feet.	
	20	Grading into grey, dry, sandy gravels with cobbles. Cobbly zone at 8-11 feet.	
	30	Brown, moist, gravelly fine to coarse sand with cobbles. Gravelly coarse sand layer at 26'	
	40	Cobble zone at 33-35 feet. Cobble zone at 38-40 feet.	
	50	Brown, moist, gravelly, coarse sand with scattered cobbles. Cobble zone at 46-48 feet.	

NOTES:

PROJECT NO. E93013A
BORING NO. EB-A6
ELEVATION 560
PAGE 1 **OF** 5

DRILLING LOG

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LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD : Reverse Air

SAMPLING METHOD : Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
	60	Sandy, well sorted $\frac{1}{2}$ to 1" gravels at 50-52 feet.	
		Brown, dry, gravelly cobbles.	
	70	Brown, moist, gravelly, medium to coarse sand. Coarsening downward to gravelly coarse sand.	
	80	Brown, moist, sandy, well sorted gravels ($\frac{1}{2}$-1") with cobbles. grading into sandy, cobbly, poorly sorted gravel at 82 feet.	
	90	Brown, moist, gravelly, coarse sand.	
	100	Grey, dry, gravelly cobbles.	

NOTES:

PROJECT NO. E93013A
BORING NO. EB-A6
ELEVATION 560
PAGE 2 **OF** 5

DRILLING LOG

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LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD : Reverse Air

SAMPLING METHOD : Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
	110	As above with clayey, sandy, cobbly gravel layer at 99-101 feet.	
	120	Cobble zone 119-120 feet.	
		Brown, moist, gravelly, medium to coarse sand.	
	130	Brown, moist, sandy gravel with scattered cobbles	
	140	Cobble zone at 130-133 feet.	
	150		

NOTES:

PROJECT NO. E93013A
BORING NO. EB-A6
ELEVATION 560
PAGE 3 OF 5

DRILLING LOG

ASSOCIATED EARTH SCIENCES, INC.
ECONOMIC GEOLOGISTS / ENGINEERING GEOLOGISTS
13714 PARK LANE • KIRKLAND, WASHINGTON 98033 • 206-827-7701

LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD : Reverse Air

SAMPLING METHOD : Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
	160	Cobbly, medium to coarse sand 150-153 feet Sandy gravel layer at 156-158 feet.	
	170	Becoming sandy, cobbly gravels at 166 feet.	
	180	Brown, dry, sandy gravel.	
		Brown, dry, gravelly cobbles.	
	190	Brown, moist, cobbly, gravelly, fine to coarse sand.	
	200	Fining downward into fine to coarse sand at 192-195'	

NOTES:

PROJECT NO. E93013A
BORING NO. EB-A6
ELEVATION 560
PAGE 4 **OF** 5

DRILLING LOG

ASSOCIATED EARTH SCIENCES, INC.
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13714 PARK LANE • KIRKLAND, WASHINGTON 98033 • 206-827-7701

LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD : Reverse Air

SAMPLING METHOD : Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
	210	As above. Cobble zone at 200-201 feet. Cobble zone at 205-206 feet. Containing less cobbles below 208 feet.	
	220	Gravelly, medium to coarse sand layer with cobbles at 218-220 feet.	
	230	Brown, dry, sandy, gravelly, cobbles and boulders.	
	240	TD 229' (Refusal)	
	250		

NOTES:

PROJECT NO. E93013A
BORING NO. EB-A6
ELEVATION 560
PAGE 5 OF 5

DRILLING LOG

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LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- GRAVELLY SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD :

HOLLOW-STEM AUGER

SAMPLING METHOD :

2.5 Inch I.D. Split Spoon diven by a 300 lb. hammer falling 30 inches.

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
	5	Slightly silty to silty, medium to coarse sandy GRAVEL --Qvdg	
	10		
	15		
	20	Gravelly, poorly sorted SAND --Qvdg	
	25	Poorly sorted sandy GRAVEL--Qvdg	

NOTES:

PROJECT NO. E93013A
BORING NO. EB-A7
ELEVATION 590'
PAGE 1 OF 4

DRILLING LOG

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LEGEND

SANDY GRAVEL WITH COBBLES

SANDY GRAVEL

GRAVELLY SAND

WELL SORTED SAND

DIAMICTON

SILT - CLAY

PEAT

BEDROCK

SILTY

DRILLING METHOD :

SAMPLING METHOD :

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
	30	Poorly sorted sandy GRAVEL--Qvdg	
	35		
	40	Gravelly, poorly sorted SAND --Qvdg	
	45		
	50		

NOTES:

PROJECT NO. E93013A
BORING NO. EB-A7
ELEVATION 590'
PAGE 2 OF 4

DRILLING LOG

ASSOCIATED EARTH SCIENCES, INC.
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LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- GRAVELLY SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD :

SAMPLING METHOD :

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
	55	Gravelly, poorly sorted SAND--Qvdg	
	60	Fine to medium, sandy GRAVEL--Qvdg	
	65	Gravelly. fine to medium SAND--Qvdg	
	70	Poorly sorted SAND with scattered gravel--Qvds	
	75		

NOTES:

PROJECT NO. E93013A
BORING NO. EB-A7
ELEVATION 590'
PAGE 3 OF 4

DRILLING LOG

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LEGEND


SANDY GRAVEL WITH COBBLES


SANDY GRAVEL


GRAVELLY SAND


WELL SORTED SAND


DIAMICTON


SILT - CLAY


PEAT


BEDROCK


SILTY

DRILLING METHOD :

SAMPLING METHOD :

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
	80	Poorly sorted SAND with scattered gravel--Qvds	
	85	Gravelly, well sorted, medium SAND--Qvds	
	90	Well sorted, fine to medium SAND--Qvds	
		Gravelly, well sorted, medium SAND--Qvds	
	95	Sandy, gravelly SILT--Qpvu	
TD	100		

NOTES:

PROJECT NO. E93013A
BORING NO. EB-A7
ELEVATION 590'
PAGE 4 **OF** 4

DRILLING LOG

ASSOCIATED EARTH SCIENCES, INC.
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• KIRKLAND, WASHINGTON 98033 • 206-827-7701

LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD : Reverse Air

SAMPLING METHOD : Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
	10	Brown, dry, cobbly, gravelly, silty fine to coarse sand. (Fill)	
	20	Brown, dry, gravelly, cobbles with boulders. Boulder zone at 12-16 feet.	
	30	Brown, dry becoming moist with depth, sandy, gravel with cobbles.	
	40	Increase in cobble content below 31 feet.	
	50	Cobbly boulder zone between 36-38 feet	

NOTES:

PROJECT NO. E93013A
BORING NO. EB-B1
ELEVATION 580
PAGE 1 OF 5

DRILLING LOG

ASSOCIATED EARTH SCIENCES, INC.
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LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD : Reverse Air

SAMPLING METHOD : Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
	60	Pushing boulders with drill bit Poor sample recovery between 50-60 feet. Becoming less cobbly 59-60 feet.	
	70	Cobble zone 66-70'	
	80		
	90	Brown, moist, gravelly, fine to coarse sand.	
	100	Gravelly, medium to coarse sand layer between 94-98'	

NOTES:

PROJECT NO. E93013A
BORING NO. EB-B1
ELEVATION 580
PAGE 2 OF 5

DRILLING LOG

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LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD : Reverse Air

SAMPLING METHOD : Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
		As above.	
	110	Grading into brown, moist, gravelly, medium to coarse sand.	
	120		
	130		
		Brown, moist, sandy gravel.	
	140		
		Brown, moist, slightly silty, fine to coarse sand.	
	150	Brown, moist, sandy, gravel, grading to slightly sandy, well sorted 1" gravels.	

NOTES:

PROJECT NO. E93013A
BORING NO. EB-B1
ELEVATION 555
PAGE 3 **OF** 5

DRILLING LOG

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LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD: Reverse Air

SAMPLING METHOD: Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
	160	Brown, moist, gravelly, fine to coarse sand. Sandy gravel layer 153-160 feet.	
	170		
	180	Grading into brown, moist, gravelly, medium to coarse sand. Becoming cobbly, gravelly, fine to coarse sand with depth.	
	190	Containing some clay 181-184 feet.	
	200	Grading into brown, moist, gravelly, medium to coarse sand. Cobble zone at 199-200 feet.	

NOTES:

PROJECT NO. E93013A
BORING NO. EB-B1
ELEVATION 555
PAGE 4 OF 5

DRILLING LOG

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LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD: Reverse Air

SAMPLING METHOD: Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
		As above.	
	210	Brown, moist, cobbly boulders with some clay.	
		Brown, moist, fine to coarse sand.	
	220	Cobbly boulder zone at 216-219 feet.	
		Grading into brown, moist, fine to medium sand with scattered gravels.	
	230		
		Grading into brown, moist, gravelly, fine to coarse sand. Cobbles and boulders at 234-236 feet.	
	240	Brown, moist, sandy gravel with cobbles.	
		TD 241'	
	250		

NOTES:

PROJECT NO. E93013A
BORING NO. EB-B1
ELEVATION 555
PAGE 5 **OF** 5

DRILLING LOG

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13714 PARK LANE • KIRKLAND, WASHINGTON 98033 • 206-827-7701

LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD : Reverse Air

SAMPLING METHOD : Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
		Brown, dry, silty, fine to coarse sand with gravels. (Fill)	
	10	Brown, dry, sandy, gravelly, cobbles.	
	20	Boulder zone at 12 feet. Pushing boulders with drill bit. Poor sample recovery between 12-50 feet.	
	30		
	40		
	50		

NOTES:

PROJECT NO. E93013A
BORING NO. EB-B2
ELEVATION 535
PAGE 1 OF 4

DRILLING LOG

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13714 PARK LANE • KIRKLAND, WASHINGTON 98033 • 206-827-7701

LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD : Reverse Air

SAMPLING METHOD : Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
		As above.	
		Brown, moist, gravelly, fine to coarse sand.	
	60	Brown, moist, sandy gravel with cobbles.	
	70		
	80	Cobbly boulders 75-82 feet. Poor sample recovery 75-79 feet Pushing boulder with drill bit.	
	90	Brown, moist, gravelly, fine to coarse sand. Cobble content increasing below 93 feet.	
	100	Gravelly cobble zone 93-97 feet.	

NOTES:

PROJECT NO. E93013A
BORING NO. EB-B2
ELEVATION 535
PAGE 2 **OF** 4

DRILLING LOG

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13714 PARK LANE • KIRKLAND, WASHINGTON 98033 • 206-827-7701

LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD: Reverse Air

SAMPLING METHOD: Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
		As above.	
	110	Grading into brown, silty, gravelly, fine to coarse sand with cobbles.	
		Highly oxidized 113-114 feet.	
	120		
	130	Containing less silt below 128 feet.	
	140	Sandy, gravelly, cobble zone 134-137 feet.	
	150	Sandy, gravelly, cobble zone at 144-147 feet.	

NOTES:

PROJECT NO. E93013A
BORING NO. EB-B2
ELEVATION 535
PAGE 3 OF 4

DRILLING LOG

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13714 PARK LANE • KIRKLAND, WASHINGTON 98033 • 206-827-7701

LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD : Reverse Air

SAMPLING METHOD : Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
	160	As above. Brown, moist, fine to coarse sand with minor gravels. Increase gravel content below 160 feet.	
	170	Cobble zone at 172-174 feet.	
	180	Grading into sandy gravels with cobbles. Coarsening downward with depth. Boulders at 183 feet.	
	190	TD 183' (Refusal)	
	200		

NOTES:

PROJECT NO. E93013A
BORING NO. EB-B2
ELEVATION 535
PAGE 4 **OF** 4

DRILLING LOG

ASSOCIATED EARTH SCIENCES, INC.
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13717 PARK LANE • KIRKLAND, WASHINGTON 98033 • 206-827-7701

LEGEND


SANDY GRAVEL WITH COBBLES


SANDY GRAVEL


POORLY SORTED SAND


WELL SORTED SAND


DIAMICTON


SILT - CLAY


PEAT


BEDROCK


SILTY

DRILLING METHOD: Reverse air circulation

SAMPLING METHOD: Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	Initiated 3/29/91 DESCRIPTION	WATER TABLE(S)
		Brown, dry, sandy, gravelly cobbles.	
	10	Brown, dry, cobbles with gravels.	
	20	Boulders and cobbles 18'-23'.	
	30	Brown, dry, sandy gravel.	
	40	Grading interbeds of brown, moist, gravelly, fine to coarse sand and sandy gravel with occasional cobbles.	
	50		

NOTES:

PROJECT NO. E93013A
BORING NO. EB-B3
ELEVATION 555
PAGE 1 **OF** 5

DRILLING LOG

ASSOCIATED EARTH SCIENCES, INC.
ECONOMIC GEOLOGISTS / ENGINEERING GEOLOGISTS
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LEGEND


SANDY GRAVEL WITH COBBLES


SANDY GRAVEL


POORLY SORTED SAND


WELL SORTED SAND


DIAMICTON


SILT - CLAY


PEAT


BEDROCK


SILTY

DRILLING METHOD: Reverse air circulation

SAMPLING METHOD: Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
	60	As above. Cobble zone 57'-58'.	
	70	Highly oxidized, gravelly cobbles 63'-64'.	
	80		
	90	Gravelly cobble zone 80'-83'.	
	100	Cobble zone 97'-101'.	

NOTES:

PROJECT NO. E93013A
BORING NO. EB-B3
ELEVATION 555
PAGE 2 **OF** 5

DRILLING LOG

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LEGEND


SANDY GRAVEL WITH COBBLES


SANDY GRAVEL


POORLY SORTED SAND


WELL SORTED SAND


DIAMICTON


SILT - CLAY


PEAT


BEDROCK


SILTY

DRILLING METHOD: Reverse air circulation

SAMPLING METHOD: Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
	110	Grading interbeds of brown, moist, gravelly, fine to coarse sand and sandy gravel with occasional cobbles. Gravelly cobble zone 110'-112'. Cobble zone 114'-116'. Cobble zone 119'-122'.	
	120		
	130		
	140	Becoming brown, moist to wet, fine to medium sand 134'-144'.	
	150	Grading interbeds of brown, moist, gravelly, fine to coarse sand and sandy gravel with cobbles. Cobble zone 148'-150'.	

NOTES:

PROJECT NO. E93013A
BORING NO. EB-B3
ELEVATION 555
PAGE 3 OF 5

DRILLING LOG

ASSOCIATED EARTH SCIENCES, INC.
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LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD: Reverse air circulation

SAMPLING METHOD: Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
		As above.	
	160		
	170	Sandy, gravelly cobble zone 167'-171'.	
	180		
	190	Cobble zones 190'-191' 194'-195' 197'-198'.	
	200		

NOTES:

PROJECT NO. E93013A
BORING NO. EB-B3
ELEVATION 555
PAGE 4 OF 5

DRILLING LOG

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LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD: Reverse air circulation

SAMPLING METHOD: Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
	210	As above. Containing minor silt clast and silt/clay on gravels.	
	220	Becoming moist to wet 218'-220'.	
	230	Gravelly, cobble zone 227'-229'. Boulder 229'-232'	
	240	Brown, moist, cemented (?), sandy, cobbly gravels. (Hard drilling) Cobble zone 237'-238'.	
	250	TD @ 244' 4/4/91 Refusal	

NOTES:

PROJECT NO. E93013A
BORING NO. EB-B3
ELEVATION 555
PAGE 5 OF 5

DRILLING LOG

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LEGEND


SANDY GRAVEL WITH COBBLES


SANDY GRAVEL


POORLY SORTED SAND


WELL SORTED SAND


DIAMICTON


SILT - CLAY


PEAT


BEDROCK


SILTY

DRILLING METHOD: Reverse air circulation

SAMPLING METHOD: Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	Initiated 4/8/91 DESCRIPTION	WATER TABLE(S)
	10	Brown, wet, sandy gravelly cobbles.	
	20	Becoming dry with some silt content below 10'.	
	30		
	40	Brown, wet, gravelly, fine to coarse sand with scattered cobbles. Cobble zone at 38-40'	
		Brown, moist, sandy, well sorted sand with scattered cobbles.	
	50	Brown, moist, gravelly, fine to coarse sand with cobbles. Containing less cobbles below 48'.	

NOTES:

PROJECT NO. E93013A
BORING NO. EB-B4W
ELEVATION 545
PAGE 1 OF 6

DRILLING LOG

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LEGEND


SANDY GRAVEL WITH COBBLES


SANDY GRAVEL


POORLY SORTED SAND


WELL SORTED SAND


DIAMICTON


SILT - CLAY


PEAT


BEDROCK


SILTY

DRILLING METHOD: Reverse air circulation

SAMPLING METHOD: Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
		As above. Well sorted ½"-1" gravels at 50'-56½'.	
	60	Grading interbeds of brown, moist, sandy gravel and gravelly, fine to coarse sand.	
		Well sorted 1" gravels 60'-63'.	
	70		
	80		
	90		
	100		

NOTES:

PROJECT NO. E93013A
BORING NO. EB-B4W
ELEVATION 545
PAGE 2 OF 6

DRILLING LOG

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ECONOMIC GEOLOGISTS / ENGINEERING GEOLOGISTS
• KIRKLAND, WASHINGTON 98033 • 206-827-7701

LEGEND


SANDY GRAVEL WITH COBBLES


SANDY GRAVEL


POORLY SORTED SAND


WELL SORTED SAND


DIAMICTON


SILT - CLAY


PEAT


BEDROCK


SILTY

DRILLING METHOD: Reverse air circulation

SAMPLING METHOD: Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
	110	As above.	
	120		
	130	Interbedded zones of brown, cemented, dry, silty, fine to coarse sand (hard drilling) and brown, moist, fine to coarse sand with varying gravel content.	
	140		
	150		

NOTES:

PROJECT NO. E93013A
BORING NO. EB-B4W
ELEVATION 545
PAGE 3 OF 6

DRILLING LOG

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LEGEND


SANDY GRAVEL WITH COBBLES


SANDY GRAVEL


POORLY SORTED SAND


WELL SORTED SAND


DIAMICTON


SILT - CLAY


PEAT


BEDROCK


SILTY

DRILLING METHOD: Reverse air circulation

SAMPLING METHOD: Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
	160	As above.	Water added 152'-180'
	170	Becoming brown-grey 156'-177'. Losing fines content between 152'-180' due to adding water.	
	180	Cobble zone 166'-170'.	
	190		
	200		

NOTES:

PROJECT NO. E93013A
BORING NO. EB-B4W
ELEVATION 545
PAGE 4 **OF** 6

DRILLING LOG

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LEGEND

SANDY GRAVEL WITH COBBLES
SANDY GRAVEL
POORLY SORTED SAND
WELL SORTED SAND
DIAMICTON
SILT - CLAY
PEAT
BEDROCK
SILTY

DRILLING METHOD: Reverse air circulation

SAMPLING METHOD: Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
		As above	Water added 205'-208'
	210		
	220	Brown, dry, sandy, well sorted 1" gravels at 222'-224'. Limited sample return 224'-232'.	
	230		▽
		Brown, wet, sandy, well sorted 3/4"-1" gravels with minor cobbles.	Trace while drilling
		Brown, wet to saturated, unsorted, clayey, sandy silt.	
	240	Brown, dry, silty, fine to coarse sand with minor cobbles and gravels. Becoming wet below 246' where water added. (Hard drilling)	Water added 246'-248'
	250		

NOTES:

PROJECT NO. E93013A
BORING NO. EB-B4W
ELEVATION 545
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DRILLING LOG

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LEGEND


SANDY GRAVEL WITH COBBLES


SANDY GRAVEL


POORLY SORTED SAND


WELL SORTED SAND


DIAMICTON


SILT - CLAY


PEAT


BEDROCK


SILTY

DRILLING METHOD: Reverse air circulation

SAMPLING METHOD: Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
		Brown, dry becoming wet where water added, subangular medium to coarse sand	Water added 251'-260'
	260	Brown, wet to saturated, unsorted, sandy silt. (Hard drilling) Losing some fines content due to adding water.	
	270	TD 260' 4/13/91 Refusal	
	280		
	290		
	300		

NOTES:

PROJECT NO. E93013A
BORING NO. EB-B4W
ELEVATION 545
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DRILLING LOG

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LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD : Reverse air circulation

SAMPLING METHOD : Continuous

WATER LEVEL					
DATE					
TIME					

STRATA	DEPTH	Initiated 2/7/91 DESCRIPTION	WATER TABLE(S)
	10	Brown, dry to moist, oxidized, gravelly, silty, fine to coarse sand with cobbles.	
	20	Cobbles with gravels 13'-22'.	
	30	Cobbles 24'-26'.	
	40		
	50	Brown, moist, medium to coarse sand with scattered cobbles.	

NOTES:

PROJECT NO. 9006-18E
BORING NO. EB-C1W
ELEVATION 520
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DRILLING LOG

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LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD : Reverse air circulation

SAMPLING METHOD : Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
	60	Brown, moist, slightly oxidized, silty to slightly silty, gravelly, fine to coarse sand with scattered cobbles. Cobble zone 52'-54'.	
	70	Becoming gravellier below 64' with silt/clay on gravels. Containing scattered lenses of silt. Cobble zone at 68'.	
		Brown, moist, gravelly, medium to coarse sand.	
	80	Moist, sandy, cobbly gravels.	
	90	Brown, dry to moist, slightly oxidized, gravelly, silty to slightly silty, fine to coarse sand with cobbles.	
		Gravelly cobbles 90'-94'.	
	100	Brown, dry becoming moist, gravelly, fine to medium sand with occasional cobbles. Slightly silty in areas. Silt/clay on gravels.	

NOTES:

PROJECT NO. 9006-18E
BORING NO. EB-C1W
ELEVATION 520
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DRILLING LOG

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LEGEND


SANDY GRAVEL WITH COBBLES


SANDY GRAVEL


POORLY SORTED SAND


WELL SORTED SAND


DIAMICTON


SILT - CLAY


PEAT


BEDROCK


SILTY

DRILLING METHOD : Reverse air circulation

SAMPLING METHOD : Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
	110	As above.	
	120		
	130		
	140	Brown, dry to moist, sandy, cobbly gravels.	
		Grading into cobbly, gravelly, fine to coarse sand.	
	150	Grading into cobbly, sandy gravel.	

NOTES:

PROJECT NO. 9006-18E
BORING NO. EB-C1W
ELEVATION 520
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DRILLING LOG

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LEGEND


SANDY GRAVEL WITH COBBLES


SANDY GRAVEL


POORLY SORTED SAND


WELL SORTED SAND


DIAMICTON


SILT - CLAY


PEAT


BEDROCK


SILTY

DRILLING METHOD : Reverse air circulation

SAMPLING METHOD : Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
		Brown, dry, cobbly, sandy gravels.	
	160	Brown, moist, slightly silty, fine to medium sand. Containing scattered gravels and less silt with depth. Cobble zone 158'-159'.	
	170		
	180		
	190		
	200	Increase gravel content 194'-195'. Cobbles and boulders 195'-197'.	

NOTES:

PROJECT NO. 9006-18E
BORING NO. EB-C1W
ELEVATION 520
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DRILLING LOG

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LEGEND


SANDY GRAVEL WITH COBBLES


SANDY GRAVEL


POORLY SORTED SAND


WELL SORTED SAND


DIAMICTON


SILT - CLAY


PEAT


BEDROCK


SILTY

DRILLING METHOD : Reverse air circulation

SAMPLING METHOD : Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
	210	As above. Slightly silty 206'-208'.	
	220	Brown, dry, cemented (?), gravelly, fine to coarse sand with cobbles. Brown, dry, sandy, gravelly cobbles 220'-224'	
		Brown, dry, sandy, cobbly gravels with some boulders.	
	230	Brown, moist, fine to medium sand with occasional gravels and silt lenses.	
	240	Brown, moist, cemented (?), silty, fine to coarse sand with well sorted gravels. Containing silt lenses. Sandy, gravelly cobbles and boulders 233'-235'.	
	250	Grading into brown, moist, silty, fine to medium sand with gravels.	

NOTES:

PROJECT NO. 9006-18E
BORING NO. EB-C1W
ELEVATION 520
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DRILLING LOG

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LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD : Reverse air circulation

SAMPLING METHOD : Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
	260	As above.	
	270	Brown, moist, sandy, coarse silt with inter-bedded, fine sand lenses.	▽ 259.3' 3/28/91 ▽ 266' While drilling 2/8/91
	280	Becomes wet at 274'. Grading into silty, fine sand below 278'. Predominant amount of fines lost due to addition of water.	Water added while drilling at 281
	290		
	300	TD @ 291' 3/28/91	

NOTES:

PROJECT NO. 9006-18E
BORING NO. EB-C1W
ELEVATION 520
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DRILLING LOG

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LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD : Reverse air circulation

SAMPLING METHOD : Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
		Initiated 2/6/91	
		Topsoil	
	10	Brown, dry, slightly oxidized, silty, gravelly fine to coarse sand w/ cobbles. Increase in cobble content below 8'-25'	
	20	cobble zone 16-18'	
	30	sample return 32-38', drill bit pushing little cobbles.	
	40		
	50	Cobble zone 46-48	

NOTES:

PROJECT NO. 9006-18E
BORING NO. EB-C2
ELEVATION 515
PAGE 1 OF 3

DRILLING LOG

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LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD : Reverse air circulation

SAMPLING METHOD : continuous

WATER LEVEL					
DATE					
TIME					

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
		As above	
	60	Brown, dry, sandy, gravelly cobbles with boulders.	
	70		
77'			
	80	Brown, moist, fine to medium sand with scattered gravels and cobbles. Containing occassional clay/silt lenses and less cobbles with depth.	
	90		
	100	gravelly cobbles and boulders 98-106	

NOTES:

PROJECT NO. 9006-18E
BORING NO. EB-C2
ELEVATION _____
PAGE 2 **OF** 3

DRILLING LOG

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LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD : Reverse air circulation

SAMPLING METHOD : Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
		Gravelly cobbles and boulders 98 - 106	
	110	Brown moist fine to coarse sand w/ cobbles Grading into fine Sand w/ depth	
	120	Brown, moist, fine to medium sand w/ occassional gravels. Containing Silt/clay on on gravels. Grading into fine sand, Containing, clay Clasts at 118?	
	130	TD 128 2/6/91	
	140		
	150		

NOTES:

PROJECT NO. 9006-18E
BORING NO. ES-C2
ELEVATION _____
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DRILLING LOG

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LEGEND

- SANDY GRAVEL WITH COBBLES
- SANDY GRAVEL
- POORLY SORTED SAND
- WELL SORTED SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD: Reverse air circulation

SAMPLING METHOD: Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	Initiated 2/6/91 DESCRIPTION	WATER TABLE(S)
	10	Brown, moist, silty, gravelly, fine to coarse sand with cobbles. Containing silt/ clay on gravels.	
	20	Brown, moist, sandy, cobbly gravels. Increase in sand content 18'-19'.	
	30	Brown, dry to moist, silty, gravelly, fine to coarse sand with cobbles.	
	40	Brown, moist, sandy, cobbly gravels. Cobble zone 38'-40'.	
	50	Cobble zone 48'-50'.	

NOTES:

PROJECT NO. 9006-18E
BORING NO. EB-C3
ELEVATION 545
PAGE 1 OF 3

DRILLING LOG

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LEGEND


SANDY GRAVEL WITH COBBLES


SANDY GRAVEL


POORLY SORTED SAND


WELL SORTED SAND


DIAMICTON


SILT - CLAY


PEAT


BEDROCK


SILTY

DRILLING METHOD :

Reverse air circulation

SAMPLING METHOD :

Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
		Brown, moist, sandy, cobbly gravels.	
	60	Brown, moist, slightly silty, gravelly, fine to coarse sand with scattered cobbles. Silt/clay on gravels. Cobble zone 61'-65'.	
	70	Cobble zone 69'-75'.	
		Brown, dry, silty, sandy gravels with cobbles.	
	80	Brown, dry, gravelly cobbles.	
	90		
	100		

NOTES:

PROJECT NO. 9006-18E
BORING NO. EB-C3
ELEVATION 545
PAGE 2 OF 3

DRILLING LOG

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LEGEND


SANDY GRAVEL WITH COBBLES


SANDY GRAVEL


POORLY SORTED SAND


WELL SORTED SAND


DIAMICTON


SILT - CLAY


PEAT


BEDROCK


SILTY

DRILLING METHOD :

Reverse air circulation

SAMPLING METHOD :

Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
		As above. Boulder 101'-102'.	
		Brown, dry, cemented (?), sandy gravels.(Hard drilling)	
	110	Brown, moist, fine to medium sand with scattered gravels. Containing less gravels with depth. Silt/clay on gravels.	
	120	Becoming slightly silty 120'-130'.	
	130		
		Brown, moist, slightly silty, fine sand.	
		Becoming very silty 135'-137'.	
	140		
		TD @ 140' 2/7/91	
	150		

NOTES:

PROJECT NO. 9006-18E
BORING NO. EB-C3
ELEVATION 545
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DRILLING LOG

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LEGEND


COBBLES AND GRAVEL


SANDY GRAVEL


GRAVELLY SAND


SAND


DIAMICTON


SILT - CLAY


PEAT


BEDROCK


SILTY

DRILLING METHOD : Air Rotary

SAMPLING METHOD : Continuous

WATER LEVEL	161.0		161.0	
DATE	11-1-85		10-29-85	
TIME	12:45pm		10:25	am

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
		Topsoil	
	5	Grey, GRAVEL with Cobbles --Qvdg	
	10	Grey, brown sandy GRAVEL --Qvdg	
	15	With COBBLES	
	20	Brown, sandy GRAVEL --Qvdg	
	25		

NOTES:

PROJECT NO. 8412-06
BORING NO. SS&G#1
ELEVATION 505'
PAGE 1 **OF** 15

DRILLING LOG

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LEGEND

- COBBLES AND GRAVEL
- SANDY GRAVEL
- GRAVELLY SAND
- SAND
- DIAMICTON
- SILT - CLAY
- PEAT
- BEDROCK
- SILTY

DRILLING METHOD : Air Rotary

SAMPLING METHOD : Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
		As Above with Cobbles	
	30	Brown, slightly silty, GRAVEL --Qvdg	
	35	Brown, sandy GRAVEL interbedded with brown, medium SAND--Qvdg	
	40		
	45		
	50	With COBBLES	

NOTES:

PROJECT NO. 8412-06
BORING NO. SS&G#1
ELEVATION 505'
PAGE 2 OF 15

DRILLING LOG

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LEGEND

COBBLES AND GRAVEL

SANDY GRAVEL

GRAVELLY SAND

SAND

DIAMICTON

SILT - CLAY  PEAT

BEDROCK  SILTY

DRILLING METHOD :

Air Rotary

SAMPLING METHOD :

Continuous

WATER LEVEL				
DATE				
TIME				

DEPTH	DESCRIPTION	WATER TABLE(S)
	As Above	
55	Brown, gravelly SAND--Qvdg	
60		
	Brown, medium-coarse, sandy GRAVEL--Qvdg	
65		
70		
	With COBBLES	
75		

ES:

CT NO. 8412-06

NO. SS&G#1

VATION 505'

3 OF 15

DRILLING LOG

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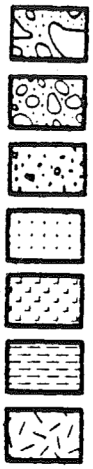
LEGEND



COBBLES AND GRAVEL
SANDY GRAVEL
GRAVELLY SAND
SAND
DIAMICTON
SILT - CLAY
PEAT
BEDROCK
SILTY

DRILLING METHOD : Air Rotary

SAMPLING METHOD : Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
		As Above	
	105	Brown, medium to coarse, sandy GRAVEL --Qvdg	
	110		
	115	With COBBLES	
	120		
	125	Brown, slightly sandy GRAVEL --Qvdg	

NOTES:

PROJECT NO. 8412-06
BORING NO. SS&G#1
ELEVATION 505'
PAGE 5 **OF** 15

DRILLING LOG

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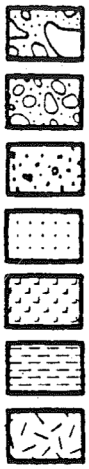
LEGEND



COBBLES AND GRAVEL
SANDY GRAVEL
GRAVELLY SAND
SAND
DIAMICTON
SILT - CLAY
PEAT
BEDROCK
SILTY

DRILLING METHOD : Air Rotary

SAMPLING METHOD : Continuous

WATER LEVEL				
DATE				
TIME				

STRATA	DEPTH	DESCRIPTION	WATER TABLE(S)
	130	As Above	
	135	Brown, medium to coarse sandy GRAVEL--Qvdg	
	140		
	145		
	150	Brown, gravelly SAND --Qvdg	

NOTES:

PROJECT NO. 8412-06
BORING NO. SS&G#1
ELEVATION 505'
PAGE 8 **OF** 15

DRILLING LOG

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