CDM
11811 N.E. 1st Street, Suite 201
Bellevue, Washington 98005
tel: 425 453-8383
fax: 425 646-9523

September 6, 2007

Mr. Steve Ritt
LeatherCare, Inc.
901 Elliott Avenue W.
Seattle, Washington 98119

Subject: Catch Basin, Sump, Drain Cleaning
LeatherCare, Inc.
901 Elliott Avenue W.
Seattle, Washington

Dear Steve:

This letter documents interim remedial actions involving the cleaning of catch basins, sumps and drain lines at the LeatherCare, Inc. (LeatherCare) facility on Elliott Avenue in Seattle. Sludge and water samples collected from these appurtenances were found to contain the dry cleaning solvent tetrachloroethene (PCE) and its degradation products as a result of historical dry cleaning operations that used PCE. LeatherCare no longer uses PCE in its operations, but the PCE had become entrained in the sludge, which required its physical removal. CDM subcontracted with Envirotech Systems, Inc. to perform the work and manage appropriate disposal of the generated waste. CDM oversaw the work, which occurred on March 16, 2007.

Sewage Drainage System Description

The sewer line that services the facility is located in Elliott Ave. W. Because the elevation of Elliott Ave. W. is higher than main floor of the facility, waste water has to be pumped up to the sewer line. Originally because it was an apple processing facility, the building was constructed with a series of concrete trenches, which were used as a fluid-based system of transport for the apples and apple waste products. LeatherCare modified the existing trench and sump system, filling some with pea gravel and concreting them over, and retaining others as needed.

There are two interior sumps; one is located between the spray booth and clothes dryers near the east side of the facility and the second is located near the washer at west end of the facility. Both sumps are concrete, but the second sump contains a metal liner. Water that enters both of these sumps is pumped and conveyed through piping located along the ceilings to the sewer line in Elliott Avenue. Located underneath the dryers near the east end of the building is a vault that contains water which is recirculated through the cooling tower. There is one concrete catch basin located outside the facility next to the natural gas meter.

Water that enters this catch basin is conveyed to the sump located near the east side of the facility.

The sump on the west end of the facility receives water from a regular household type of washing machine and small floor drains. Based on the condition of the floor drains (i.e., dry, full of lint), they rarely see any water. An open trench extends from the washing machine directly to the sump. The floor drains appear to be connected in series via a pipe — it is believed to have been a modified trench. The pipe then discharges to an open trench that "T's" into the first trench.

The sump at the east side of the facility receives waste water from four sources: 1) the adjacent utility sink, 2) the outside catch basin, 3) a floor drain located next to the washers that are located on the south side of the building, and 4) a partially open trench drain that extends from the boiler room and washers that are on the north/central side of the facility. Except for #4, all of these conveyances appear to be tight-lined. The #4 drain system appears to be part of the original trench drain system, part of which may have been tight-lined and is covered over by the concrete slab flooring. It should be noted that this trench should not have been significantly impacted by PCE because PCE using machines, the still or PCE storage were not located along this line.

The outdoor catch basin captures water from a curtain drain that surrounds an adjacent concrete pad, a roof downspout, two small catch basins in the parking lot next to the store front, and the parking lot itself.

Methods

Envirotech utilized a vactor truck and pressure wash system to conduct the work. The work consisted of vactoring out sludge in the catch basins/sumps/drain lines described above, followed by pressure washing. All wash water generated was also vactored. Photographs taken during the cleaning effort are included as **Attachment A.**

The sumps, cooling water vault, and catch basin were fully cleaned of sludge, soil, and debris. Drain lines on the west side of the facility and the tight-lined drain that extends from the floor drain next to the washers (east side) to the sump were fully pressure washed. At the outdoor catch basin, the upgradient line was cleaned, but the downgradient line encountered an obstruction. The partially open trench drain that extends from the boiler room and washers on the north/central side of the facility was cleaned to the extent practicable. The pressure washer was not able to extend through the portion of the drain line that is covered over by the

floor slab. Also, the steel plates could not be removed over a portion of the trench drain where the spray booth is located.

The sludge, water, and wash water was disposed of as hazardous waste. A total of 1,928 gallons of sludge and water were generated during this effort. A copy of waste manifest is attached.

Sampling

The volatile organic compound concentrations in the initial water samples collected were not particularly high, containing up to 13 micrograms per liter (µg/L) PCE and 14 µg/L vinyl chloride. The initial sample locations were sampled again about a week after the cleaning occurred. The two inside samples contained similarly fairly low concentrations of PCE but the PCE concentration in the outdoor catch basin was an order of magnitude higher. A third sampling conducted in June, showed an undetectable concentration of PCE in the main indoor sump. However, water sampled from the catch basin contained 1,400 µg/L cis-1,2-dichloroethene, indicating that chlorinated solvents were continuing to leach from the catch basin. **Table 1** presents the water data from these three sampling rounds and the sample locations are shown on **Figure 1**. The analytical reports were included in prior groundwater monitoring reports and are therefore not included here.

To remove any further concerns that residual PCE and/or its degradation products may be entrained within the catch basin, all parties involved have decided that the best course of action is to remove the catch basin entirely and replace it. The catch basin removal is scheduled for August 2007.

Very truly yours,

Pamela J. Morrill, CHMM, LHG
Project Manager
Camp Dresser & McKee Inc.

Attachments

cc: Ms. Jo Flannery, Ryan, Swanson & Cleveland, PLLC
Mr. Dale Myers, Department of Ecology

CDM

Table

Table 1
Sump and Catch Basin Water Analytical Summary
LeatherCare, Inc.
Seattle, Washington

Sample Location	Sample ID	Date	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,1,-Dichloroethene	Vinyl Chloride
			µg/L					
CB1	CB1	2/13/2007	13	<0.2	<0.2	<0.2	<0.2	<0.2
	CB1a	3/22/2007	7.1	<0.2	<0.2	<0.2	<0.2	<0.2
CB2	CB1	2/13/2007	8.1	6.9	52	0.6	<0.2	14
	CB2a	3/22/2007	14	7.4	3.8	<0.2	<0.2	<0.2
	Sump	6/20/2007	<1.0	<1.0	1.4	<1.0	<1.0	<1.0
CB4		2/13/2007	NS	NS	NS	NS	NS	NS
	CB4a	3/22/2007	290	20	27	<2.0	<2.0	<2.0
	Drain	6/20/2007	10	15	1,400	8.2	2.0	10

Notes:
February 13, 2007 data is prior to sump/catch basin cleaning. All other samples collected subsequent to sump/catch basin cleaning.
NS - not sampled, insufficient water for sampling.
< - analyte not detected at or greater than the listed concentration.
µg/L - micrograms per liter.

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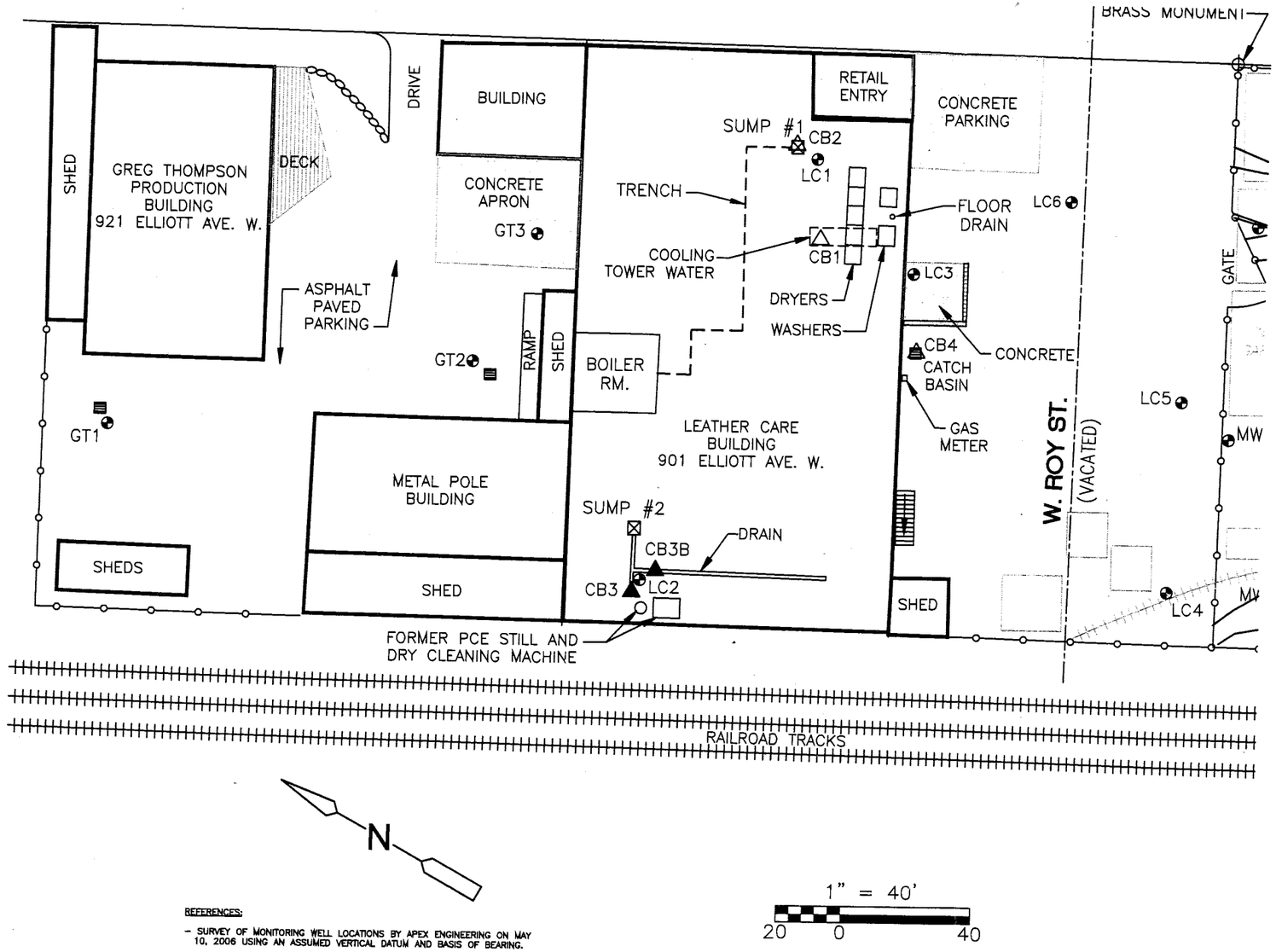
Figure



1" = 40'

20 0 40

REFERENCES:

- SURVEY OF MONITORING WELL LOCATIONS BY APEX ENGINEERING ON MAY 10, 2006 USING AN ASSUMED VERTICAL DATUM AND BASIS OF BEARING.
- FIELD MEASUREMENTS OF LEATHERCARE AND GREG THOMPSON PRODUCTION BUILDINGS BY CDM ON MAY 10, 2006.
- ENTRIX, WEST FARM FOODS FIELD INVESTIGATION DATA SUMMARY REPORT, MAY 10, 2001, FIGURE 2.
- ENTRIX ENVIRONMENTAL DATA SUMMARY FROM PREVIOUS STUDIES AND REPORTS, WEST FARM FOODS SITE, MAY 10, 2001. FIGURE-3.
- HISTORICAL AERIAL PHOTOGRAPHS DATED 1936 AND 1946.
- SANBORN MAP DATED 1950.
- POLK DIRECTORIES DATED 1938-1996

LEGEND:

- MW1 ⊕ MONITORING WELL LOCATION AND DESIGNATION AND ELEVATION IN FEET
- FENCE
- RAILROAD TRACKS
- CB4 △ SUMP/TRENCH/CATCH BASIN SAMPLE LOCATION AND DESIGNATION, SLUDGE AND/OR WATER
- CB3 ▲ SUMP/TRENCH/CATCH BASIN SAMPLE LOCATION AND DESIGNATION, SLUDGE ONLY
- ▤ CATCH BASIN
- INDICATES HISTORICAL FEATURES — HISTORICAL FEATURES

P:\56498\59679\Ryan Swanson\ Fig-1 08/29/07 11:53 riehlepj XREFS: 11X17BDR, 59679-site

CDM

RYAN SWANSON & CLEVELAND PLLC
LEATHERCARE
SEATTLE, WASHINGTON

Figure No. 1
SUMP/TRENCH/CATCH BASIN
SAMPLE LOCATION MAP

CDM

Attachment A
Field Photographs

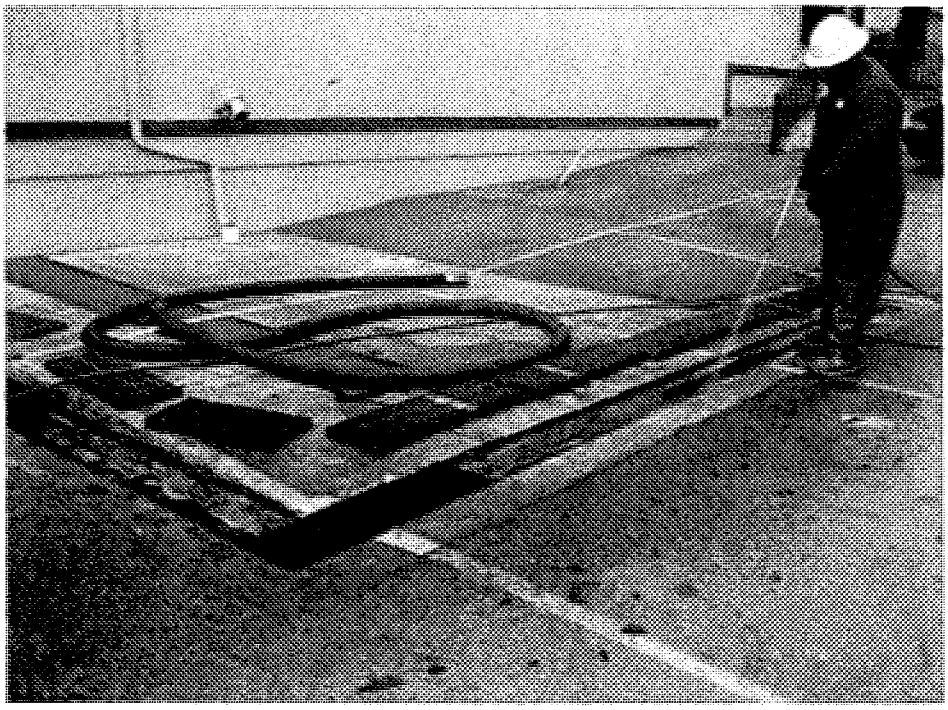
FIELD PHOTOGRAPHY LOG SHEET
Sump/Trench/Catch Basin Cleaning
LeatherCare, Inc.
Seattle, Washington

February 2, 2007

Photograph No. A1

Photographed By:
Pam Morrill

Description: Pressure washing outside trench to catch basin.



February 2, 2007

Photograph No. A2

Photographed By:
Pam Morrill

Description: Vactoring outside catch basin.

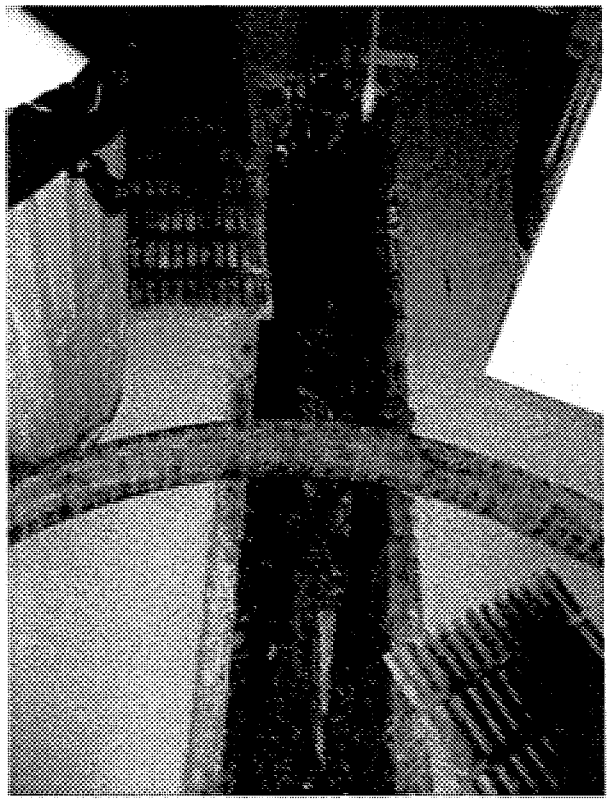
FIELD PHOTOGRAPHY LOG SHEET
Sump/Trench/Catch Basin Cleaning
LeatherCare, Inc.
Seattle, Washington

February 2, 2007

Photograph No. A3

Photographed By:
Pam Morrill

Description: Trench drain at west end of building before cleaning.

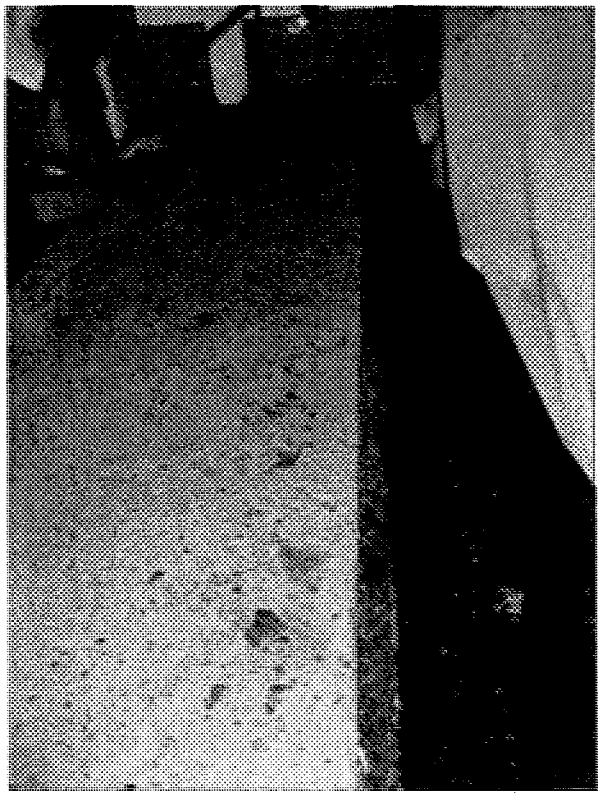


February 2, 2007

Photograph No. A4

Photographed By:
Pam Morrill

Description: Same trench drain at west end of building after cleaning.



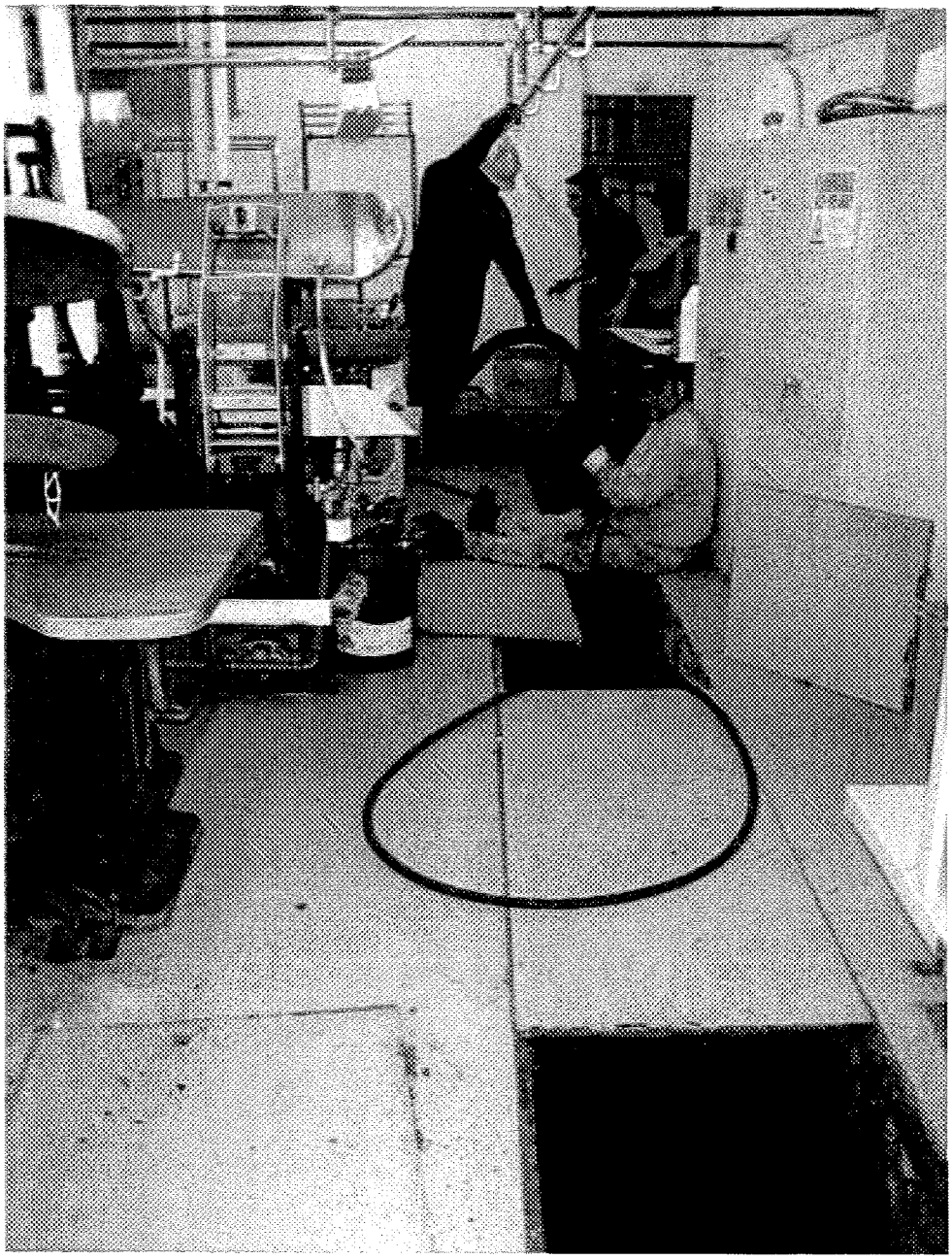
FIELD PHOTOGRAPHY LOG SHEET
Sump/Trench/Catch Basin Cleaning
LeatherCare, Inc.
Seattle, Washington

February 2, 2007

Photograph No. A5

Photographed By:
Pam Morrill

Description: Cleaning the trench that extends from the boiler room to the sump at the east side of the building.



FIELD PHOTOGRAPHY LOG SHEET
Sump/Trench/Catch Basin Cleaning
LeatherCare, Inc.
Seattle, Washington

February 2, 2007

Photograph No. A6

Photographed By:
Pam Morrill

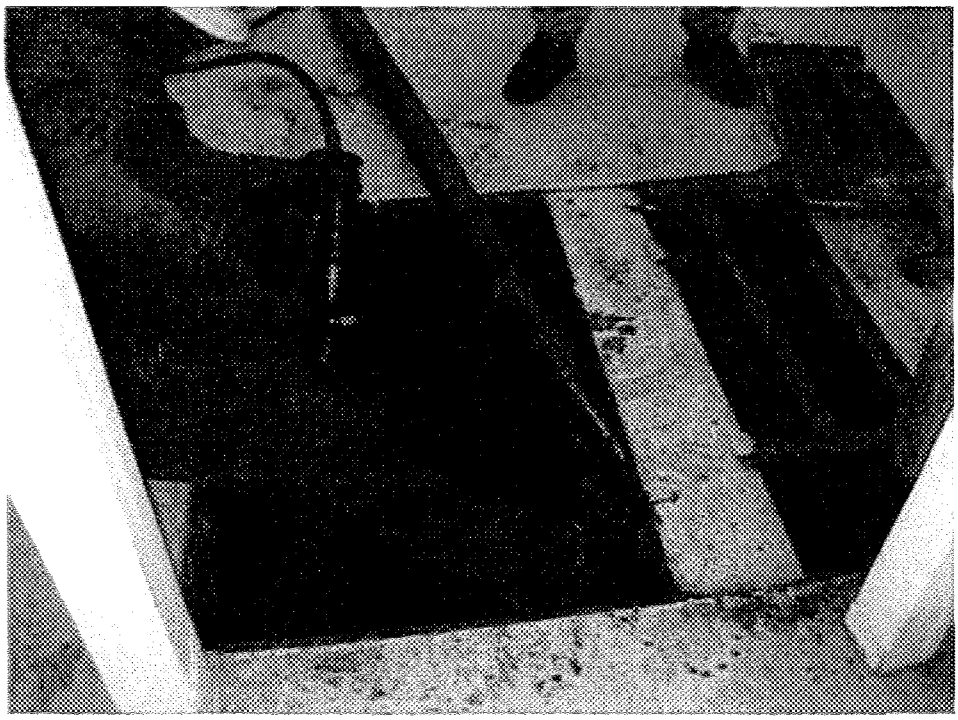
Description: Cleaning the vault that contains the cooling tower water.

February 2, 2007

Photograph No. A7

Photographed By:
Pam Morrill

Description: Cleaning the sump at the east side of the building.



CDM

Attachment B
Waste Manifest

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: WAD988093621
2. Page 1 of: 1
3. Emergency Response Phone: (206) 353-5000
4. Manifest Tracking Number: 001323020 JJK

GENERATOR

5. Generator's Name and Mailing Address:
LEATHER CARE INC./PRESTIGE CLEANERS
901 ELLIOTT AVE W
SEATTLE, WA 98119

Generator's Site Address (if different than mailing address):
LEATHER CARE INC./PRESTIGE CLEANERS
901 ELLIOTT AVE W
SEATTLE WA 98119

Generator's Phone:

6. Transporter 1 Company Name: EMERALD PETROLEUM SERV
U.S. EPA ID Number: WAD058367152

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address:
EMERALD
1301 ALEXANDER AVE
TACOMA WA 98421
253-227-0500
U.S. EPA ID Number: WAD022557945

Facility's Phone:

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ HAZARDOUS WASTE LIQUID N.O.S. 9 MARKING RQ F002 F003 F005 (TETRACHLOROETHYLENE, TRICHLOROETHENE)	1	TT	1926	G	D039		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information:
ACCUMULATED WASTE ONSITE 90 DAYS OR LESS. 40 CFR 262.34

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Steven Kitt
Signature:
Month: 3 Day: 16 Year: 07

INTL

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Carl G. Kitrell
Signature:
Month: 3 Day: 16 Year: 07

Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number:

Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month: Day: Year:

18. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Wanda Grandahl
Signature:
Month: 3 Day: 19 Year: 07

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

TRANSPORTER'S COPY

Tracy Williams

From: RBarrick@entrix.com
Sent: Wednesday, August 29, 2007 3:18 PM
To: damy461@ecy.wa.gov
Cc: Kim Johannessen; Pete Parker; Tracy Williams
Subject: DNAPL potential at Darigold VCP #NW 1267 -- boring logs
Attachments: KleinfelderDarigold 635 Elliott boring logs.pdf

Hi Dale --
Attached are boring logs for the geotechnical work that was completed by Kleinfelder. Those 14 boreholes are shown on Figure 1 as locations K-1 through K-14 attached to the letter in my previous e-mail I sent this morning. In the attached file they are labeled B-1 through B-14. They were relabeled for Figure 1 to avoid duplication of a B-xx series used by ENTRIX.

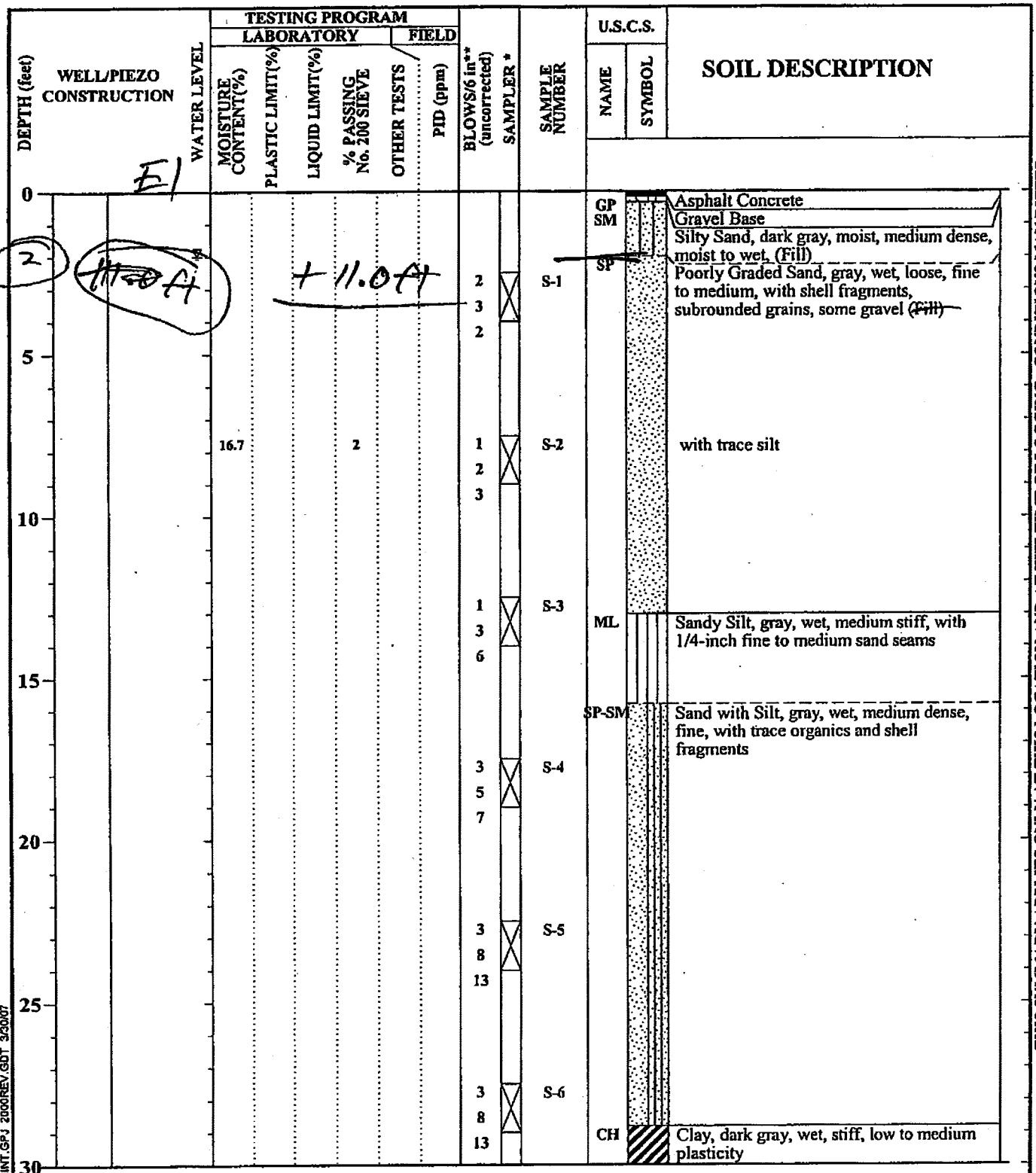
The attached are the only prepared boring logs for the deep subsurface work conducted at the Darigold property. The other drilling and push-probe work was conducted for exploratory purposes and documented by field notes and laboratory analyses of some soil intervals. Figure 1 of the letter submitted to you summarizes observations and results for chlorinated solvents from that information.

If you have any questions, please do not hesitate to call me. Best regards,

Rob

Robert C. Barrick
Senior Consultant
ENTRIX, Inc.
2701 First Avenue, Suite 500
Seattle, WA 98121

Tel: (206) 269-0104 ext 555
Direct Tel: (206) 418-1260
Direct Fax : (206) 418-1261
Cell: (206) 779-5339
rbarrick@entrix.com
www.entrix.com



THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH TIME. DATA PRESENTED IS A SIMPLIFICATION.

APPROV: _____ BY: _____

DATE DRILLED: 1-29-07
LOGGED BY:
REVIEWED BY: Rolf Hyllseth

SURFACE ELEVATION (feet): 13.0
TOTAL DEPTH (feet): 68.5
DIAMETER OF BORING (in):

DRILLING METHOD: HSA
DRILLER: Holt
CASING SIZE:

KLEINFELDER
GEOTECHNICAL AND ENVIRONMENTAL ENGINEERS
SOILS AND MATERIALS TESTING

PROJECT NUMBER: 78654

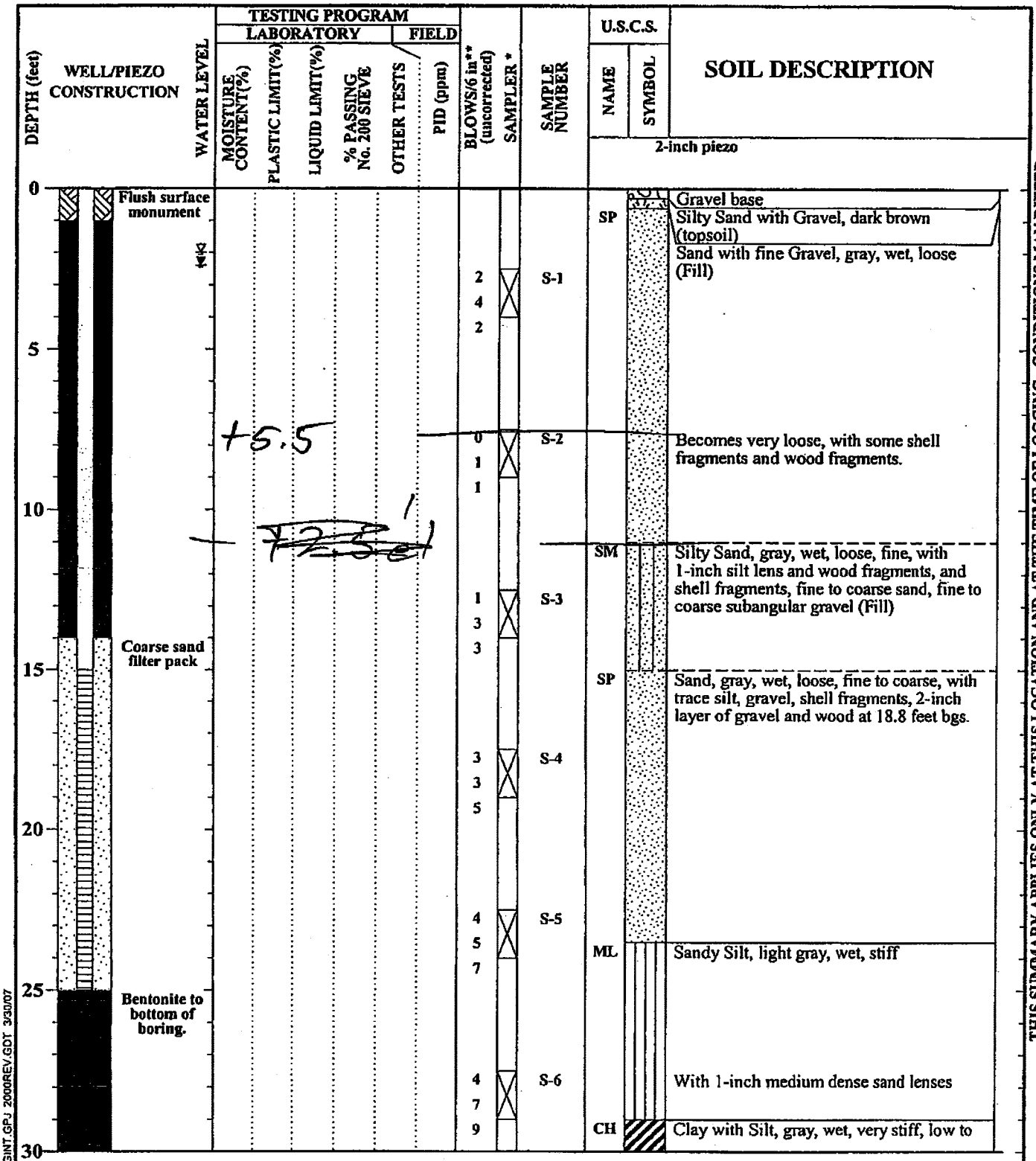
Elliott Ave. Seattle

BORING LOG
B-1

West Farms
- a

PAGE 1 of 3

2002 STAN. INPUT/ALL OUTPUT 78654 GINT.GPJ 2000REV.GDT 3/30/07



DATE DRILLED: 1-30-07 | SURFACE ELEVATION (feet): 13.5 | DRILLING METHOD: HSA

LOGGED BY: | TOTAL DEPTH (feet): 69.0 | DRILLER: Holt

REVIEWED BY: Rolf Hylliseth | DIAMETER OF BORING (in): | CASING SIZE:

KLEINFELDER

GEOTECHNICAL AND ENVIRONMENTAL ENGINEERS
SOILS AND MATERIALS TESTING

PROJECT NUMBER: 78654

Elliott Ave. Seattle

BORING LOG
B-2

West Farms

- a

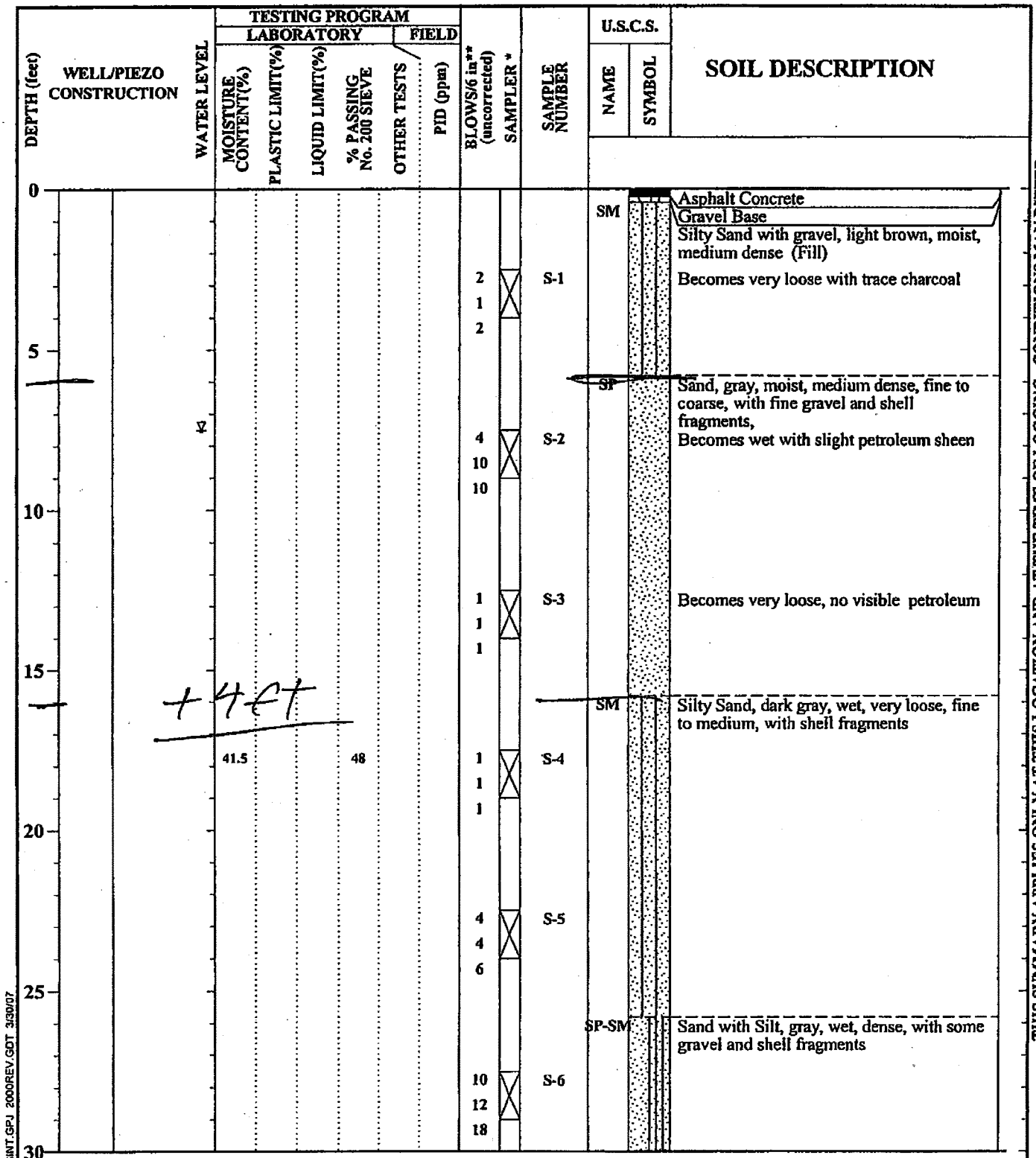
PAGE 1 of 3

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH TIME. DATA PRESENTED IS A SIMPLIFICATION.

APPROV: _____

BY: _____

2002 STAN. INPUT/ALL OUTPUT 78654 GINT.GPJ 2000REV.GDT 3/30/07



DATE DRILLED: 1-31-07
LOGGED BY:
REVIEWED BY: Rolf Hyllseth

SURFACE ELEVATION (feet): 20.0
TOTAL DEPTH (feet): 68.0
DIAMETER OF BORING (in):

DRILLING METHOD: HSA
DRILLER: Holt
CASING SIZE:

KLEINFELDER
GEOTECHNICAL AND ENVIRONMENTAL ENGINEERS
SOILS AND MATERIALS TESTING

PROJECT NUMBER: 78654

Elliott Ave. Seattle

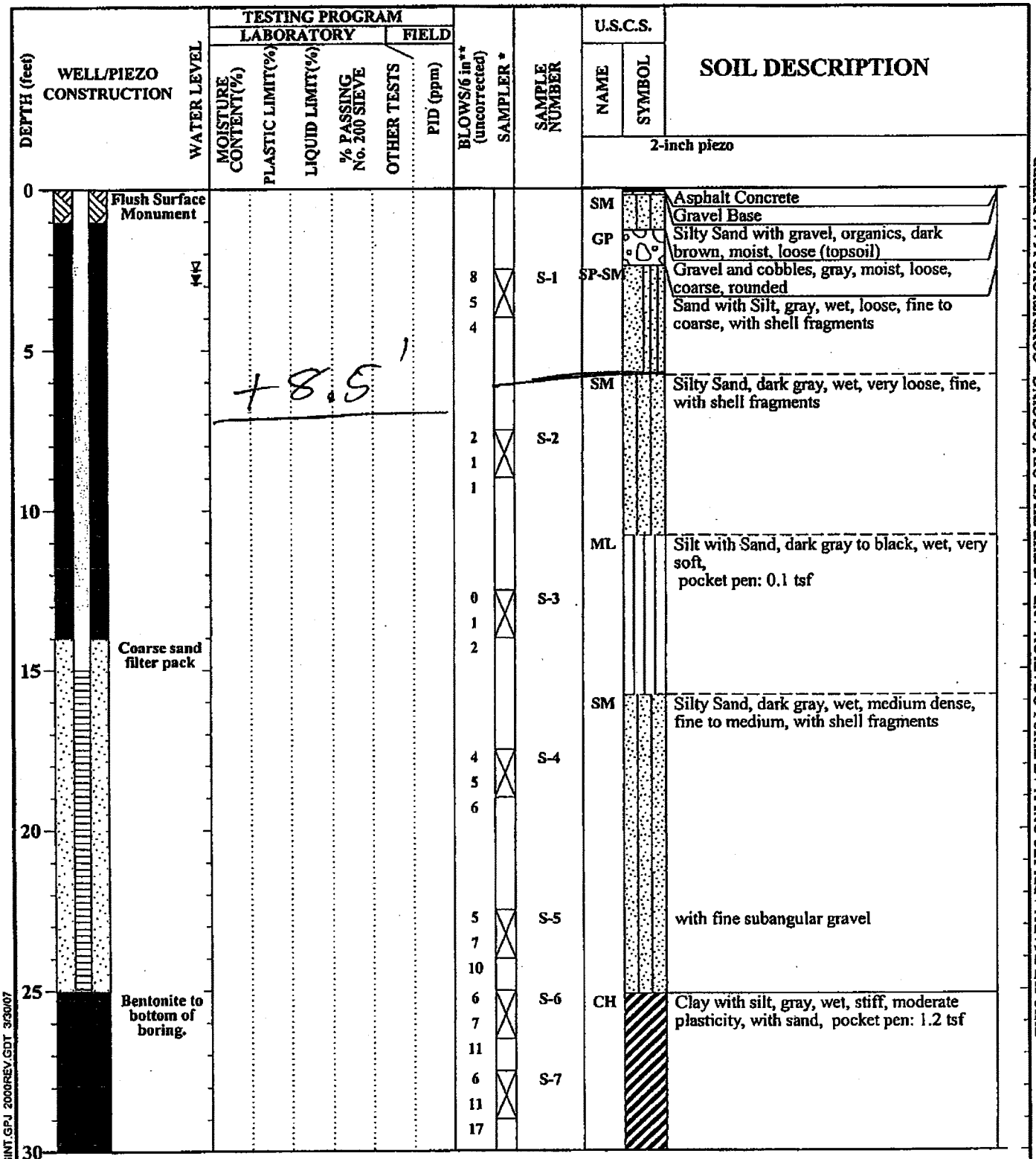
BORING LOG
B-3

West Farms
- a
PAGE 1 of 3

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH TIME. DATA PRESENTED IS A SIMPLIFICATION.

APPROV: _____
BY: _____

2002 STAN. INPUT/ALL OUTPUT 78654 GINT.GPJ 2000REV.GDT 3/30/07



DATE DRILLED: 2-1-07
LOGGED BY:
REVIEWED BY: Rolf Hyllseth

SURFACE ELEVATION (feet): 14.5
TOTAL DEPTH (feet): 63.0
DIAMETER OF BORING (in):

DRILLING METHOD: HSA
DRILLER: Holt
CASING SIZE:

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH TIME. DATA PRESENTED IS A SIMPLIFICATION.

APPROV: _____

BY: _____

KLEINFELDER
GEOTECHNICAL AND ENVIRONMENTAL ENGINEERS
SOILS AND MATERIALS TESTING

PROJECT NUMBER: 78654

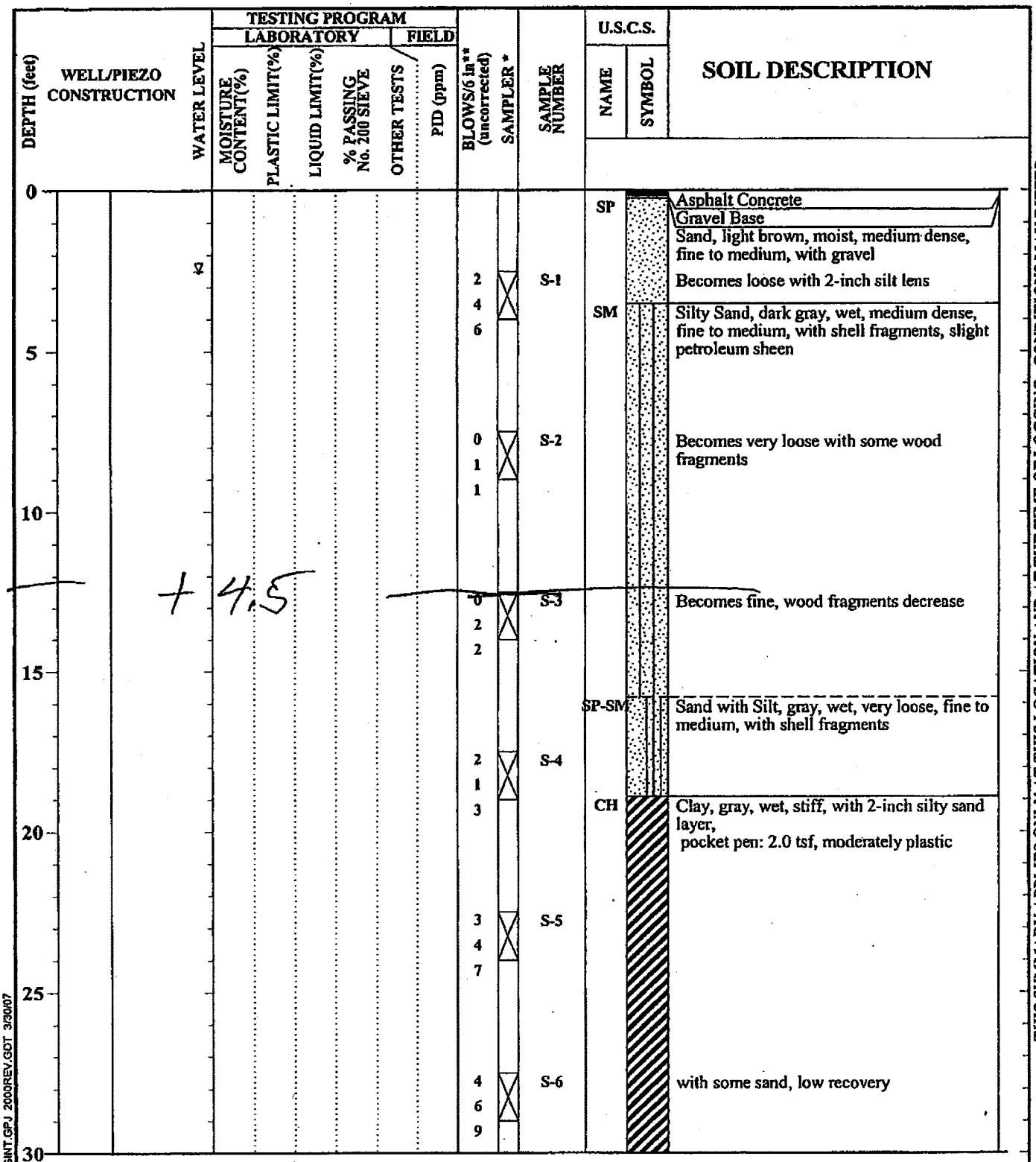
Elliott Ave. Seattle

BORING LOG
B-4

West Farms
- a

PAGE 1 of 3

2002 STAN. INPUT/ALL OUTPUT 78654 GINT.GPJ 2000REV.GDT 3/30/07



DATE DRILLED: 2-2-07
LOGGED BY:
REVIEWED BY: Rolf Hyllseth

SURFACE ELEVATION (feet): 16.5
TOTAL DEPTH (feet): 58.5
DIAMETER OF BORING (in):

DRILLING METHOD: HSA
DRILLER: Holt
CASING SIZE:

KLEINFELDER
GEOTECHNICAL AND ENVIRONMENTAL ENGINEERS
SOILS AND MATERIALS TESTING

PROJECT NUMBER: 78654

Elliott Ave. Seattle

BORING LOG
B-5

West Farms
- a

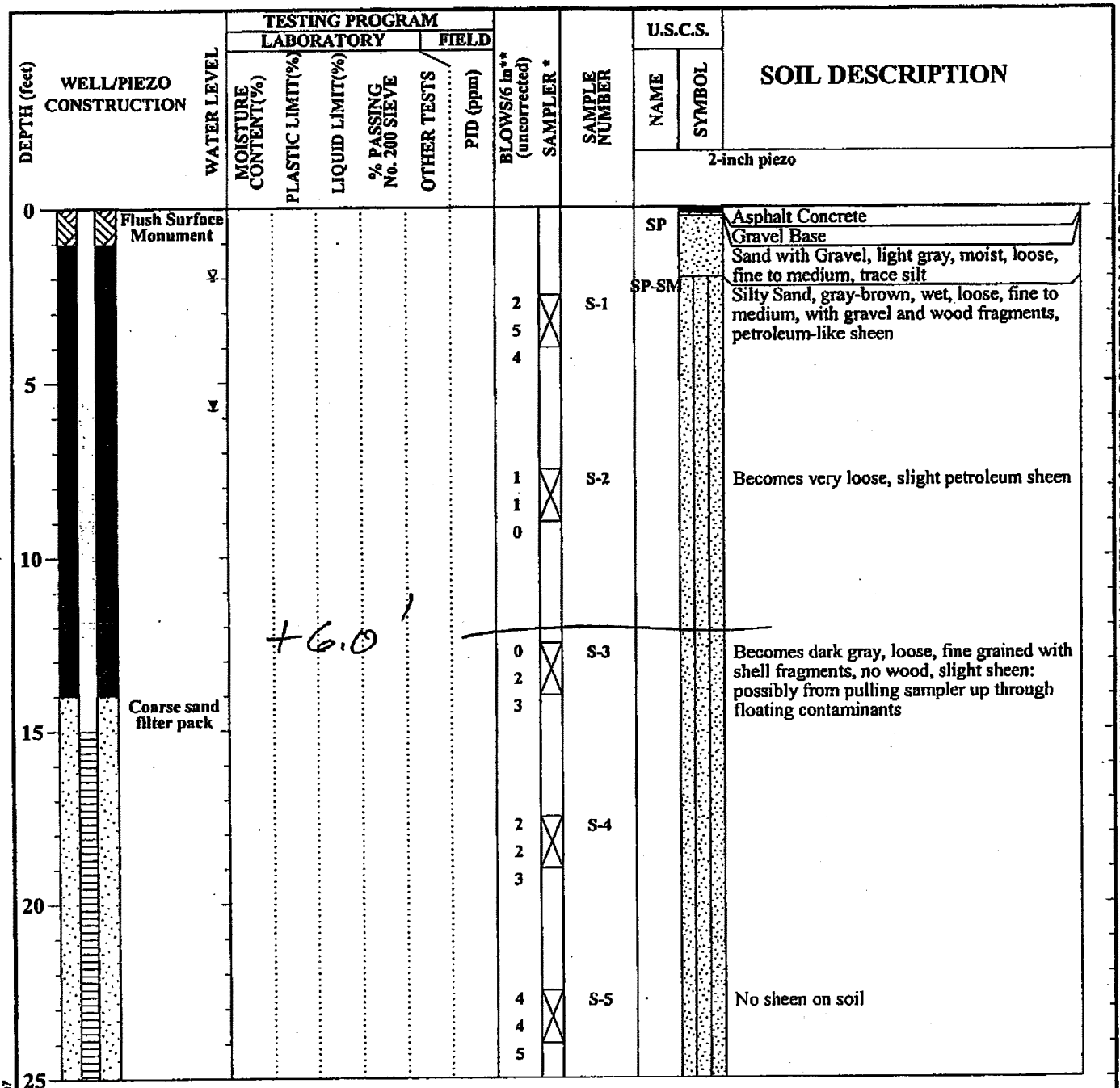
PAGE 1 of 3

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH TIME. DATA PRESENTED IS A SIMPLIFICATION.

APPROV: _____

BY: _____

2002 STAN. INPUT/ALL OUTPUT 78654 GINT.GPJ 2000REV.GDT 3/30/07



Boring completed at 25 feet bgs on 3/20/07. 2-inch piezometer placed in hole from 0 to 25 feet. Slotted pipe from 15 feet to 25 feet, solid pipe from 0 to 15 feet. Bentonite seal from 0 to 14 feet. Coarse sand from 14 to 25 feet. Flush surface monument.

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH TIME. DATA PRESENTED IS A SIMPLIFICATION.

APPROV: _____

BY: _____

DATE DRILLED: 3-20-07
LOGGED BY:
REVIEWED BY: Rolf Hyllseth

SURFACE ELEVATION (feet): 18.0
TOTAL DEPTH (feet): 25.0
DIAMETER OF BORING (in):

DRILLING METHOD: Holt
DRILLER: Holt
CASING SIZE:

KLEINFELDER
GEOTECHNICAL AND ENVIRONMENTAL ENGINEERS
SOILS AND MATERIALS TESTING

PROJECT NUMBER: 78654

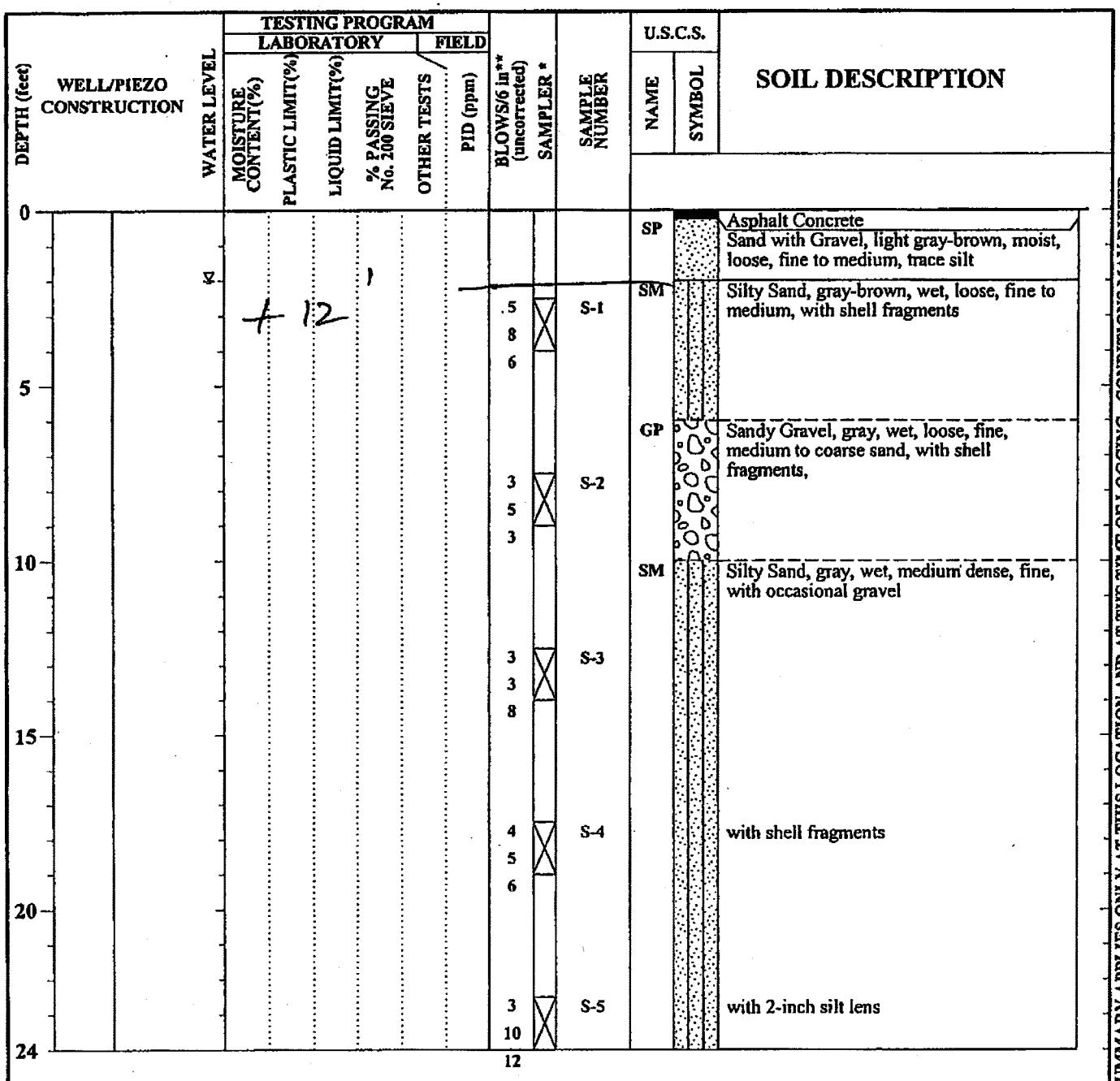
Elliott Ave. Seattle

BORING LOG
B-6D

West Farms

PAGE 1 of 1

2002 STAN. INPUT/ALL OUTPUT 78654 GINT.GPJ 2000REV.GDT 3/30/07



Boring completed at 25 feet bgs on 3/19/07.
Boring was abandoned with bentonite and surface concrete plug.

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH TIME. DATA PRESENTED IS A SIMPLIFICATION.

APPROV: _____

BY: _____

DATE DRILLED: 3-19-07
LOGGED BY:
REVIEWED BY: Rolf Hyllseth

SURFACE ELEVATION (feet): 14.0
TOTAL DEPTH (feet): 24.0
DIAMETER OF BORING (in):

DRILLING METHOD: Holt
DRILLER: Holt
CASING SIZE:

KLEINFELDER
GEOTECHNICAL AND ENVIRONMENTAL ENGINEERS
SOILS AND MATERIALS TESTING

PROJECT NUMBER: 78654

Elliott Ave. Seattle

BORING LOG
B-7

West Farms

-

PAGE 1 of 1

2002 STAN. INPUT/ALL OUTPUT 78654 GINT.GPJ 2000REV.GDT 3/30/07

DEPTH (feet)	WELL/PIEZO CONSTRUCTION	WATER LEVEL	TESTING PROGRAM: LABORATORY: MOISTURE CONTENT(%)	PLASTIC LIMIT(%)	LIQUID LIMIT(%)	% PASSING No. 200 SIEVE	OTHER TESTS	FIELD: PID (ppm)	BLOWS/6 in** (uncorrected)	SAMPLER *	SAMPLE NUMBER	U.S.C.S. NAME	U.S.C.S. SYMBOL	SOIL DESCRIPTION
0												GP		Asphalt Concrete
														Sandy Gravel, gray, moist, loose, fine to coarse, trace silt
		▽										SP		Sand with gravel lens, light gray, wet, loose, fine to medium
					+12.3				7		S-1			
									4					
5									3					
									2		S-2			
									2					
10									2					
									1		S-3	SM		Silty Sand, dark gray, wet, loose, fine, with gravel and shell fragments
									3					
15									6					
									4		S-4			grades to medium dense, no gravel
									5					
20									7					
									10		S-5			Becomes very dense
24									23					
									31					

Boring completed at 25 feet bgs on 3/19/07.
Boring was abandoned with bentonite and surface concrete plug.

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH TIME. DATA PRESENTED IS A SIMPLIFICATION.

APPROV: _____

BY: _____

DATE DRILLED: 3-19-07
LOGGED BY:
REVIEWED BY: Rolf Hyllseth

SURFACE ELEVATION (feet): 14.3
TOTAL DEPTH (feet): 24.0
DIAMETER OF BORING (in):

DRILLING METHOD: Holt
DRILLER: Holt
CASING SIZE:

KLEINFELDER
GEOTECHNICAL AND ENVIRONMENTAL ENGINEERS
SOILS AND MATERIALS TESTING

PROJECT NUMBER: 78654

Elliott Ave. Seattle

BORING LOG
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West Farms

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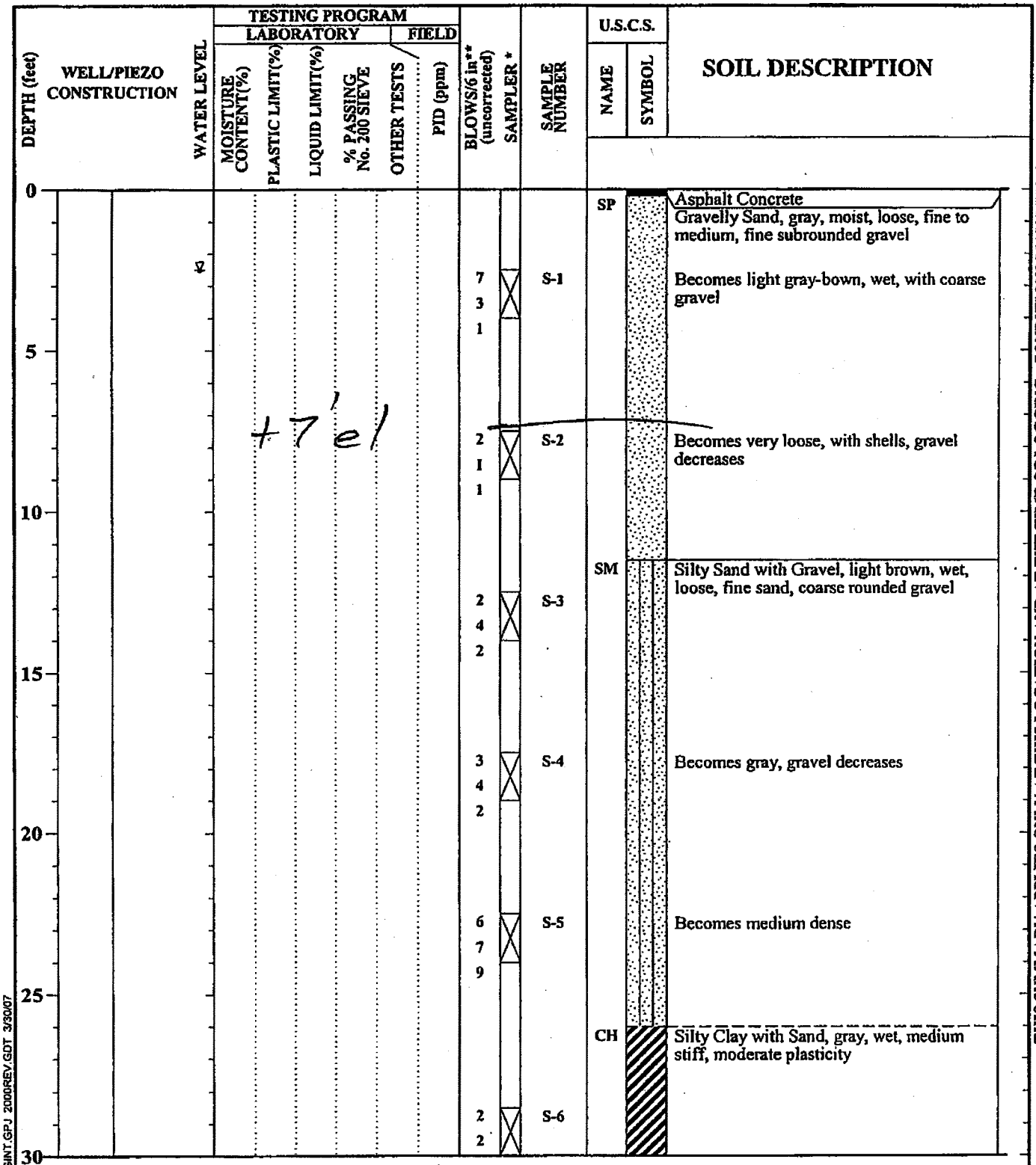

DATE DRILLED: 3-21-07
LOGGED BY:
REVIEWED BY: Rolf Hyllseth

SURFACE ELEVATION (feet): 15.0
TOTAL DEPTH (feet): 80.0
DIAMETER OF BORING (in):

DRILLING METHOD: Holt
DRILLER: Holt
CASING SIZE:

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APPROV: _____

BY: _____

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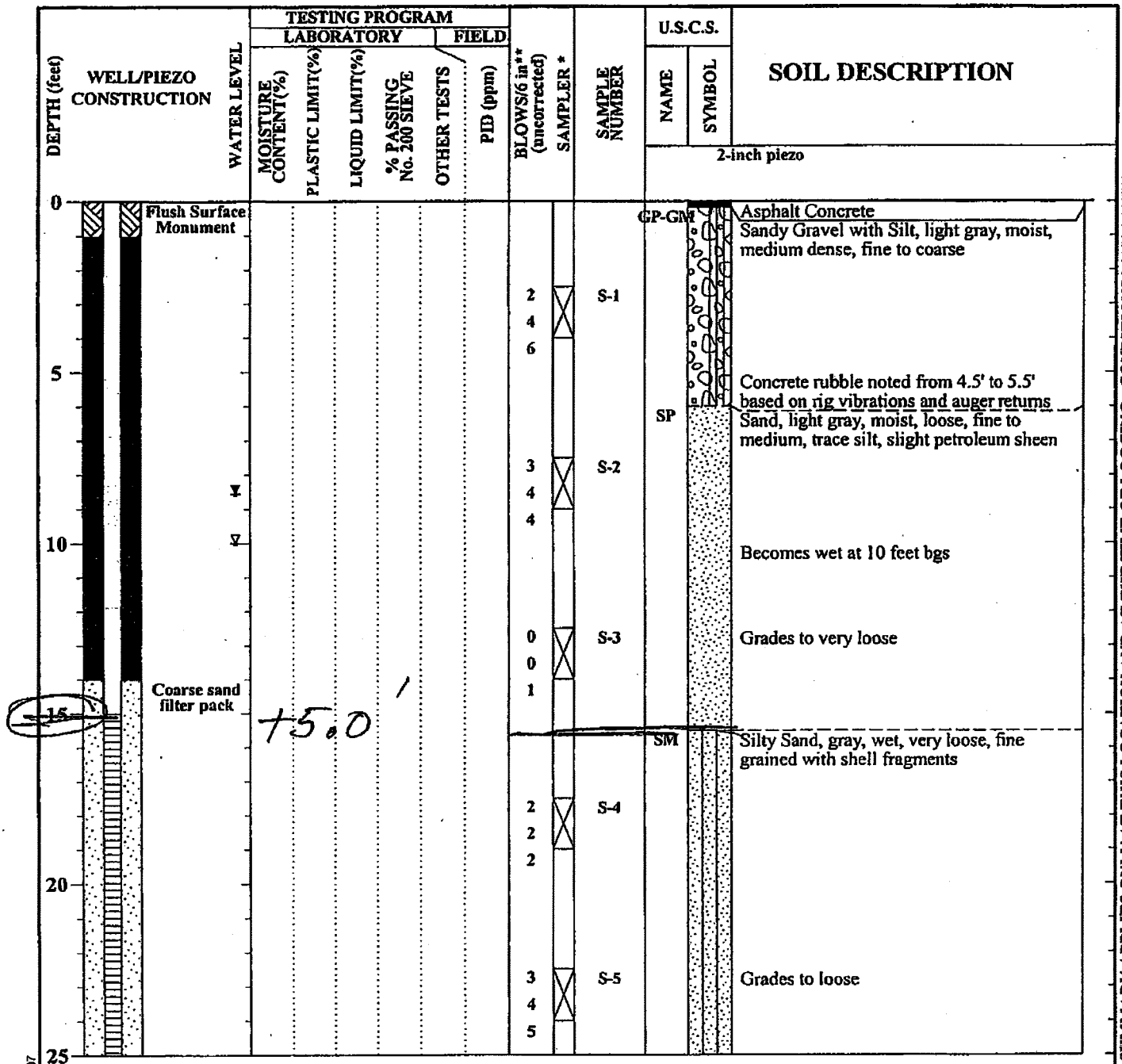

Boring completed at 25 feet bgs on 3/20/07. 2-inch piezometer placed in hole from 0 to 25 feet. Slotted pipe from 15 feet to 25 feet, solid pipe from 0 to 15 feet. Bentonite seal from 0 to 14 feet. Coarse sand from 14 to 25 feet. Flush surface monument.

DATE DRILLED: 3-19-07
LOGGED BY:
REVIEWED BY: Rolf Hyllseth

SURFACE ELEVATION (feet): 20.5
TOTAL DEPTH (feet): 25.0
DIAMETER OF BORING (in):

DRILLING METHOD: HSA
DRILLER: Holt
CASING SIZE:

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BY: _____

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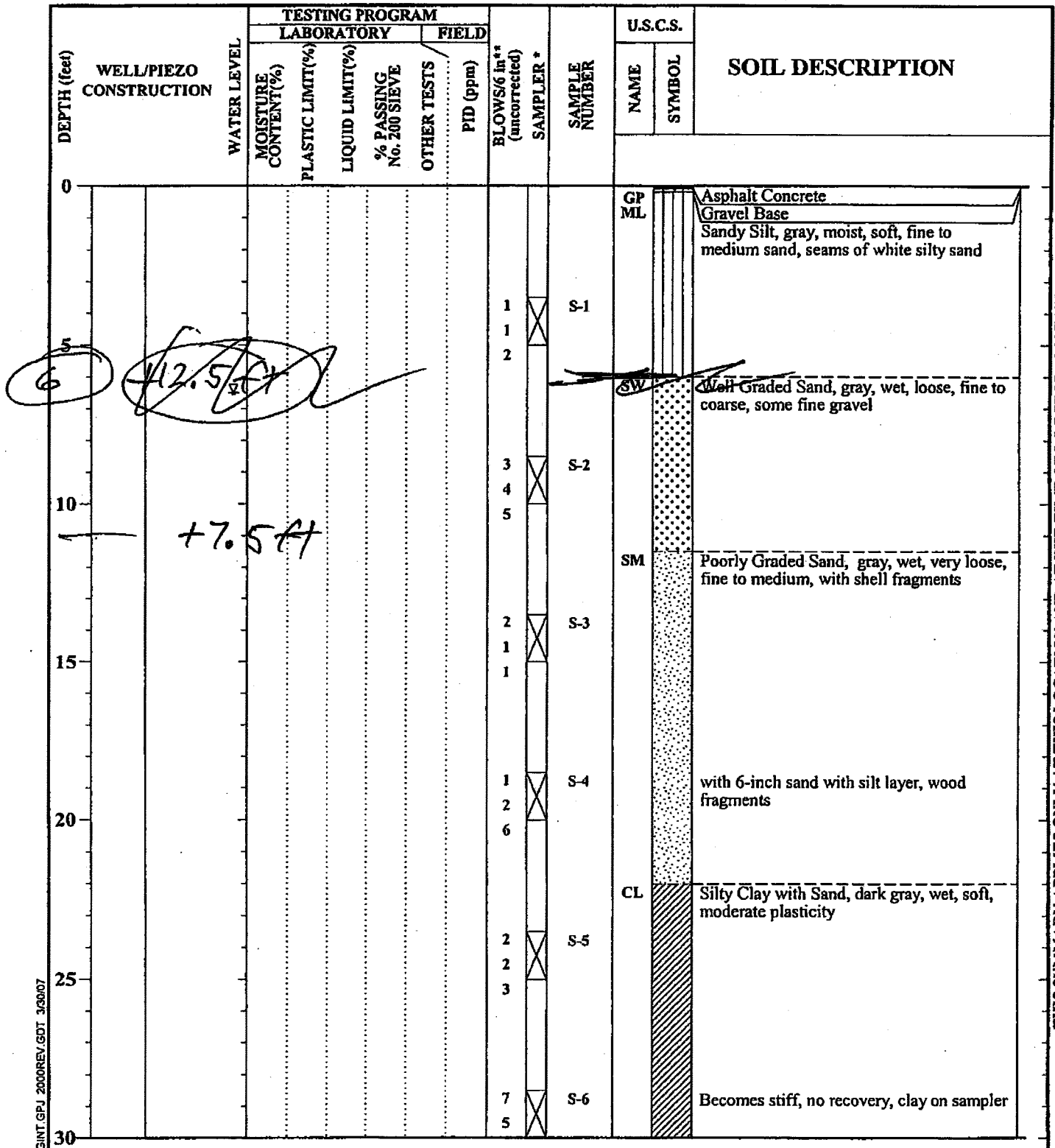

DATE DRILLED: 3-21-07 | SURFACE ELEVATION (feet): 18.5 | DRILLING METHOD: Holt

LOGGED BY: | TOTAL DEPTH (feet): 84.0 | DRILLER: Holt

REVIEWED BY: Rolf Hyllseth | DIAMETER OF BORING (in): | CASING SIZE:

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BY: _____ APPROV: _____

KLEINFELDER

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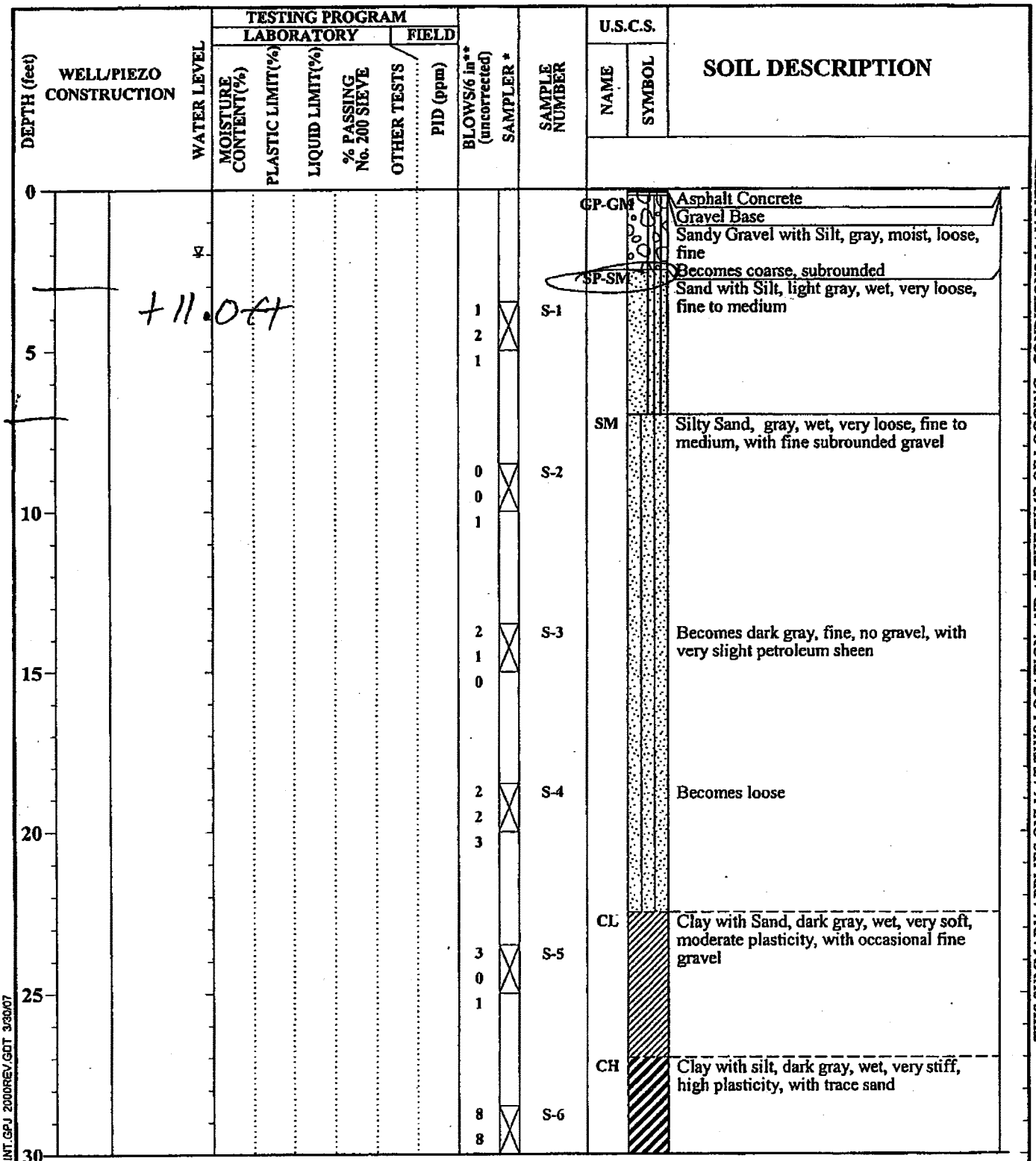

DATE DRILLED: 3-22-07
LOGGED BY:
REVIEWED BY: Rolf Hyllseth

SURFACE ELEVATION (feet): 14.0
TOTAL DEPTH (feet): 65.0
DIAMETER OF BORING (in):

DRILLING METHOD: Holt
DRILLER: Holt
CASING SIZE:

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APPROV: _____ BY: _____

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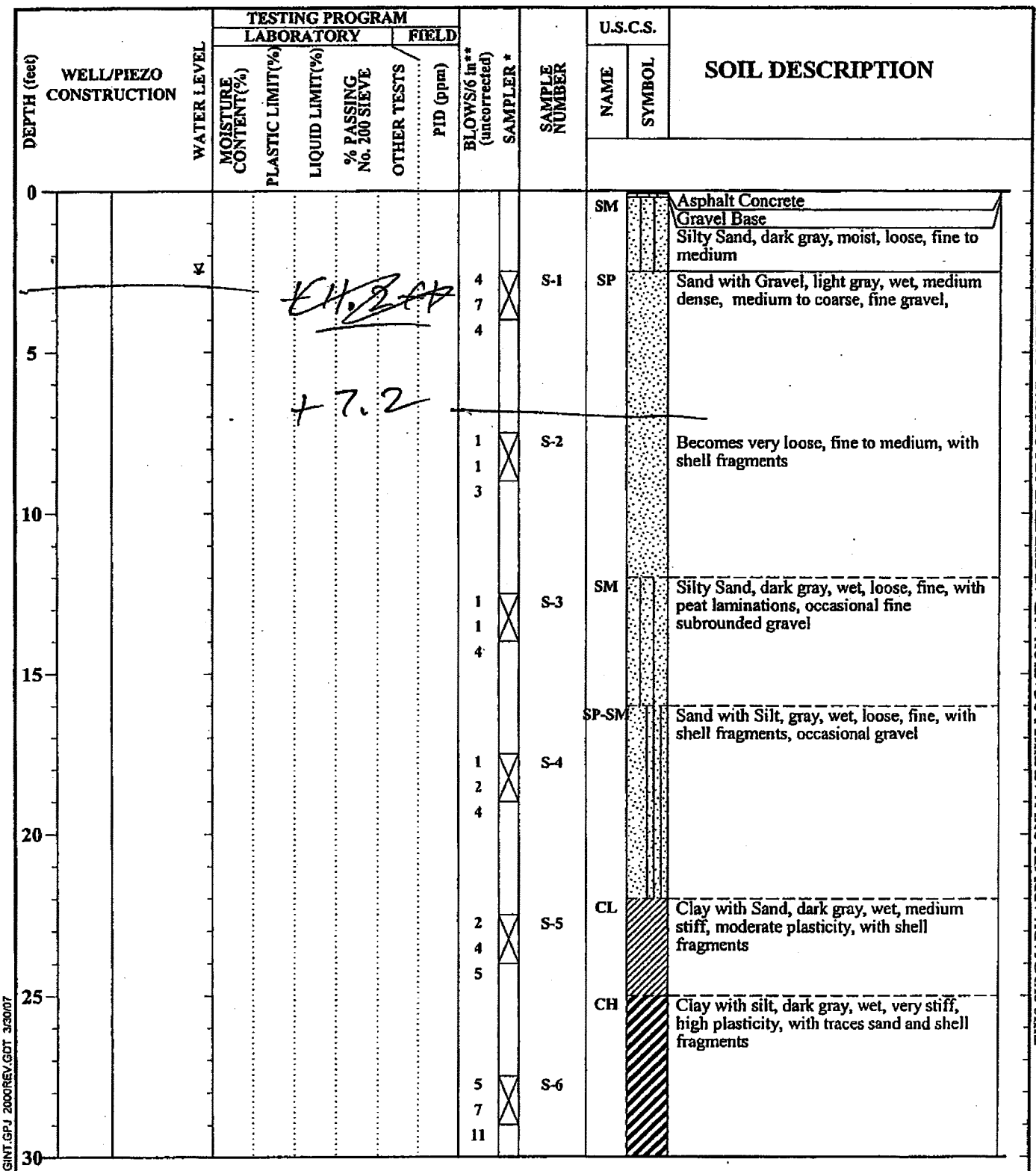

DATE DRILLED: 3-20-07 | SURFACE ELEVATION (feet): 14.2 | DRILLING METHOD: Holt

LOGGED BY: | TOTAL DEPTH (feet): 63.0 | DRILLER: Holt

REVIEWED BY: Rolf Hyllseth | DIAMETER OF BORING (in): | CASING SIZE:

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH TIME. DATA PRESENTED IS A SIMPLIFICATION.

APPROV: _____

BY: _____

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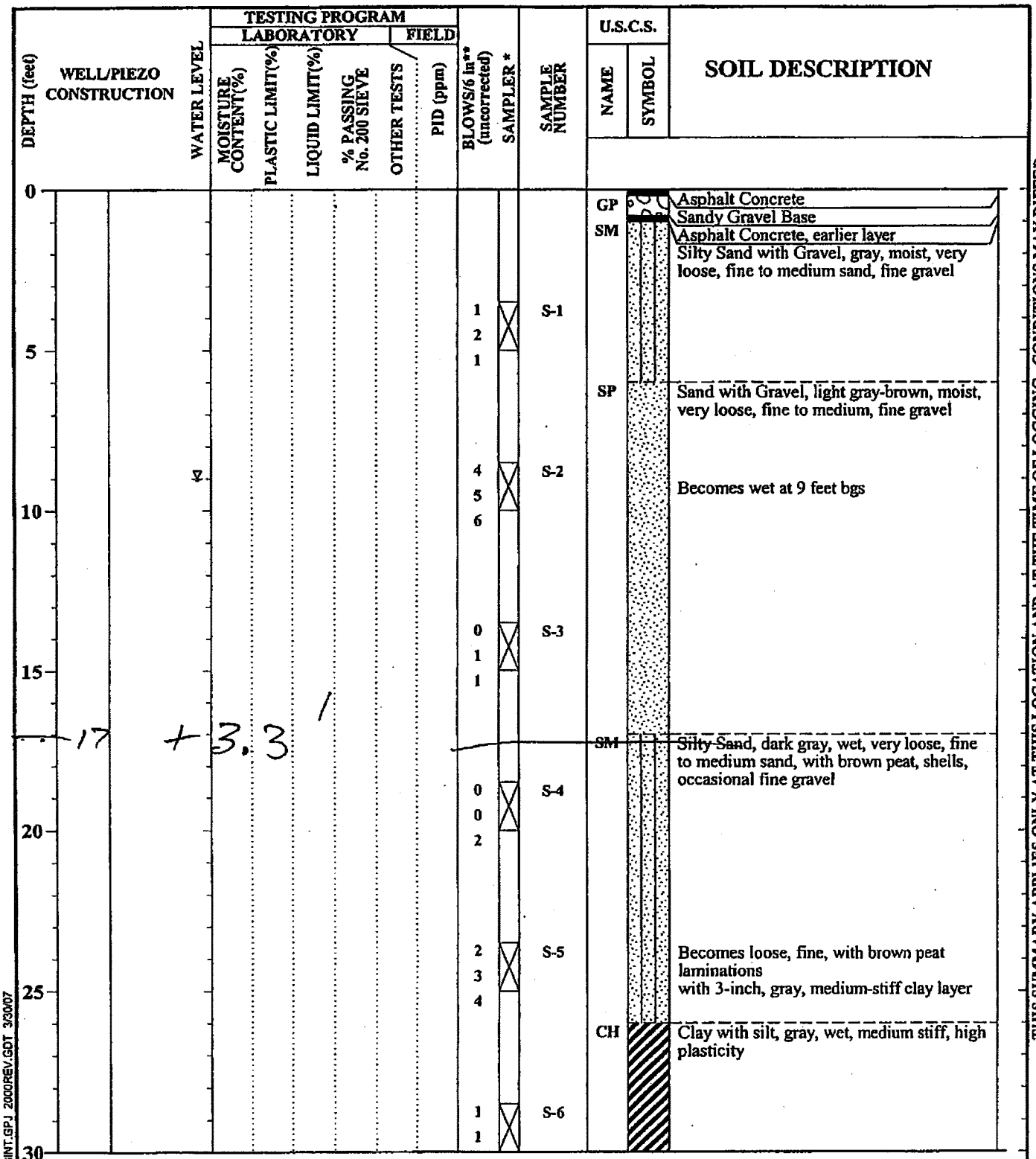

DATE DRILLED: 3-23-07 | SURFACE ELEVATION (feet): 20.3 | DRILLING METHOD: Holt

LOGGED BY: | TOTAL DEPTH (feet): 90.0 | DRILLER: Holt

REVIEWED BY: Rolf Hyllseth | DIAMETER OF BORING (in): | CASING SIZE:

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH TIME. DATA PRESENTED IS A SIMPLIFICATION.

BY: _____ APPROV: _____

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