From:	Song, Jing (ECY)
To:	"Max Wills"
Cc:	Henderson, Cecilia (ECY); Ron Danz; John Hildenbrand; Erica Whiting; Treat, Nick (ECY)
Subject:	NW3386 - Montlake Apartments Technical Assistance
Date:	Thursday, April 25, 2024 2:37:32 PM
Attachments:	Figures.pdf Appendix.pdf

Ron and Max,

Thank you for submitting the *Montlake Apartments Initial Remedial Investigation*, dated November 2, 2023 (*2023 RI*). Ecology completed a review of the Site characterization data and data gaps analysis provided in the *2023 RI*. Ecology also conducted a Site visit on April 11, 2024. Based on the review and Site visit, Ecology has the following comments:

1. **Vapor Intrusion (VI) Evaluation:**

   Ecology concurs that the concentrations of tetrachloroethene (PCE) in groundwater samples collected from all existing Site monitoring wells MW-1 through MW-5 (see attached **Figure 1**) are above the MTCA Method B screening level for vapor intrusion (VI). A Tier 1 VI evaluation is therefore needed for the existing Montlake Apartments building. The Tier 1 VI evaluation should be conducted following Ecology's March 2022 Guidance for Evaluating Vapor Intrusion in Washington State: Investigation and Remedial Action.

   - Sub-slab soil gas samples should be collected from the basements of both west and east portions of the building. The storage room of the west portion and the laundry room of the east portion of the building should be the priority for sub-slab soil gas sampling.
   - Due to the residential use for most part of the building, MTCA Method B VI screening levels for unrestricted land use should be used during the upcoming VI evaluation. These screening levels are available in Ecology's CLARC data table.

2. **Groundwater Characterization:**

Ecology concurs that the PCE-contaminated groundwater plume is not delineated to the north, south, west, and east. Currently five monitoring wells are present at the Site, screened from 15 to 25 feet below ground surface (bgs), at a shallow water-bearing zone (see attached **Appendix A**).

- Multiple contaminated sites are in the vicinity of the Site (**Figure 2**). Existing monitoring wells that were installed for these nearby contaminated sites can be used to characterize the groundwater plume.
  - Circle K 1461 site is located immediately north of the Site. The Circle K 1461 site is contaminated with petroleum hydrocarbons and is currently cleaned up under a consent decree. Multiple monitoring wells have been installed and screened at the shallow water-bearing zone for this site (**Figure 3, Appendix B**).

    Ecology does not have access to the monitoring wells located on the former Circle K property at this point. However, Ecology has the permission to sample the

monitoring wells located on City of Seattle (City) right-of-way (ROW). Please work with the consultant (Kennedy Jenks) and City on sampling these wells. The points of contact for well access are Ryan Hultgren (RyanHultgren@kennedyjenks.com) and Cayla Whiteside (CaylaWhiteside@kennedyjenks.com).

- Mason Apartments site is located south of the Site. The Mason Apartments site is contaminated with petroleum hydrocarbons and is currently enrolled in the Pollution Liability Insurance Agency (PLIA)'s Technical Assistance Program (TAP). Multiple monitoring wells have been installed and screened at the shallow water-bearing zone (**Figure 4, Appendix C**).

  The PLIA site manager concurred with sampling their wells for chlorinated volatile organic compounds (CVOCs). Ecology recommends starting with sampling monitoring wells located on City ROW (MW36, MW-39, MW40, MW41). Please work with the consultant (AECOM) and City on sampling these wells. The points of contact for well access are David Raubvogel (david.raubvogel@aecom.com) and Robert Michna (robert.michna@aecom.com).

  If the groundwater sampling data suggest a need to sample wells located on the Mason Apartments property, access to that property needs to be obtained before the wells can be sampled. Ecology is happy to provide assistance if needed.

- Montlake Cleaners site is located west of the Site, across 24th Avenue E. The Montlake Cleaners site is contaminated with CVOCs. This site was enrolled in Ecology's Voluntary Cleanup Program (VCP) but has been inactive since 2021. A soil vapor extraction (SVE) system started operation at this site in 2016. Three monitoring wells were installed for this site in City ROW (**Figure 5**). Among these, well MW-1 and MW-3 are screened at a deep aquifer at depths greater than 80 feet bgs. Well MW-2 is screen at the shallow water-bearing zone (**Appendix D**).

  Although these wells are further away from the Site, and two of the wells are screened at the deeper aquifer, these wells can still provide useful data on lateral and vertical extent of the CVOCs plume. Please reach out to the consultant (Landau) and City on getting access and sampling these wells. The point of contact to Ecology before the site was inactive was Jeremy Davis (jdavis@landauinc.com).

- Ecology recommends gauging and sampling all Site wells and nearby site wells (after getting access) in the same sampling events to better evaluate groundwater flow direction across the Site. The *2023 RI* proposed to complete quarterly groundwater sampling for at least a year. Ecology concurs with the plan.

- Ecology recommends inclusion of petroleum hydrocarbons or fuel-related volatile organic compounds (VOCs) in groundwater analysis for at least one round of sampling. The analytical results will be used to determine if petroleum hydrocarbons or fuel-related VOCs are needed for follow-up sampling events.

- Besides the monitoring wells installed for these nearby sites, additional monitoring wells are likely needed to further characterize the plume.

  - Additional monitoring wells south and west of the west portion of the building are likely needed to delineate the CVOC plume and determine the potential co-mingling of the plumes.

  - Deep monitoring well(s) may be needed to determine the vertical extent of the CVOC plume in the potential source zone.

- However, Ecology recommends sampling existing wells before determining the locations of the additional monitoring wells. After additional monitoring wells are installed, these wells should be included in the quarterly monitoring program, as indicated in the *2023 RI*.

3. **Soil Characterization:**

   PCE concentrations above the MTCA Method A soil cleanup levels were detected in soil samples collected between approximately 5 and 15 feet bgs in the courtyard of Montlake Apartments building. The vertical extent appears to be delineated. Soil sampling is needed when installing additional monitoring wells to further characterize the soil conditions. Soil samples should be analyzed for CVOCs.

Ecology appreciates your submission of the *2023 RI*. Ecology understands that you're preparing a work plan on additional Site characterization work, which will be submitted to Ecology for an opinion. Ecology recommends inclusion of the VI evaluation as the priority for the work plan. Ecology recommends getting access to the wells for the nearby sites and collecting at least one round of the groundwater data before determining the additional well/boring locations.

Please let us know if you have any questions and want to discuss further on the comments. Ecology is looking forward to working with you on this Site. Thank you!

Jing Song, LG, LHG

Voluntary Cleanup Program Site Manager | Toxics Cleanup Program | WA Department of Ecology, Northwest Region
15700 Dayton Ave N, Shoreline, WA 98133
Cell: (425) 229-2565 | **Email:** jing.song@ecy.wa.gov

Figure 1 Site Plan with Boring and Well Locations

0 10 20 40 Feet

1 inch = 20 feet

N

Aerial Imagery Source: King County iMap (https://gismaps.kingcounty.gov/iMap/)

Legend

Boring Location

Monitoring Well Location

SAFETY FIRST	CLIENT: Montlake Apartments, LLC	**Site and Boring Location Map**
ROBINSON NOBLE a terraphase company	PROJECT: Initial RI 2300 - 24th Avenue East, Seattle	
	PROJECT NUMBER: W068.001.001	**FIGURE 2**

Figure 2 Vicinity Map with Contaminated Sites

SAFETY FIRST	CLIENT: Montlake Apartments, LLC	**Focused Vicinity Map**
ROBINSON NOBLE a terraphase company	PROJECT: Initial RI 2300 - 24th Avenue East, Seattle	
	PROJECT NUMBER: W068.001.001	**FIGURE 1B**

Figure 3 Wells for Circle K 1461 Site

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Path: Q:\Projects\2016\1696010.00 WA DOE Circle K Site Assessment\GIS\Events\RI Figures\Figure11_GW Potentiometric_December2016.mxd ©2017 Kennedy/Jenks Consultants

Legend

- Monitoring Well
- Landau Monitoring Well
- Approximate direction of hydraulic gradient
- Approximate elevation contour (dashed where inferred)
- Sewer Line
- Water Line
- Parcel Boundary

N

0 20 40

Scale: Feet

Notes:

1. All locations are approximate.
2. Contours in feet above mean sea level.

Kennedy/Jenks Consultants

Former Circle K Site
Seattle, Washington

Groundwater Potentiometric Surface
8 December 2016

K/J 1696010*00

Figure 11

Figure 4 Wells for Mason Apartments Site

COMMERCIAL PROPERTY

SINGLE FAMILY RESIDENTIAL PROPERTY

MW39 54.15

MW40 51.71

East Lynn Street

MW35 55.62 0.59

MW36 53.11

MW41 52.63

MW34 55.82

MW37 53.71

MW38 56.49

FORMER PUMP ISLAND

MW30 56.14

MW18 59.03 0.26

FORMER LUBE ROOM

MW31 55.52

MW20 56.69

FORMER PUMP ISLAND

FORMER TEXACO STATION BUILDING

MW17 58.19 3.60

FORMER CANOPY

SINGLE FAMILY RESIDENCE

MW32 56.15

FORMER BATTERY SHOP

MW19 59.80

FORMER HOIST/GREASE SHED

MW16 56.79

MW33 57.01

24th Avenue East

MW9 59.61

MW10 58.23

MW8 58.83

Alley

COMMERCIAL PROPERTY

FORMER MOBIL STATION

LEGEND

- MONITORING WELL LOCATION
- MONITORING WELL LOCATION CONTAINING LNAPL
- 58.19 GROUNDWATER ELEVATION (FEET NAVD 88)
- 3.60 LNAPL THICKNESS (FEET)
- GROUNDWATER ELEVATION CONTOUR (FEET NAVD88) (DASHED WHERE INFERRED)
- FENCE LINE
- MASON APARTMENT BUILDING
- FORMER TEXACO STATION PROPERTY BOUNDARY
- FORMER TEXACO STATION FEATURES
- FORMER MOBIL STATION PROPERTY BOUNDARY
- ASPHALT
- CONCRETE/SIDEWALK
- GRASS

NOTES:

NAVD88 = NORTH AMERICAN VETICAL DATUM OF 1988

1. BASE FEATURES PROVIDED BY CARDNO

N

0 20 40

Feet

AECOM

Project No. 60608969

RELLC SEATTLE
MASON APARTMENTS FORMER TEXACO
2401 EAST LYNN STREET
SEATTLE, WA

GROUNDWATER ELEVATION CONTOURS FEBRUARY 8, 2023

FIGURE

7F

URS San Jose CA 6/29/2023 **USER** PopescuG **PATH** Z:\2022 CADD Files\02_Maps\02_Report_Maps\FIG3_GWE_CONTOURS_0623.mxd

Figure 5: Wells for Montlake Cleaners Site

Legend

- Monitoring Well
- Soil Boring
- Soil Vapor Sampling Port
- Previous Sample Location (SD&C 2012)
- Waste Plumbing as Located with Video Equipment
- Approximate Building Footprint
- Tax Parcels

Notes

1. Site features are approximate.
2. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

0 40 80

Scale in Feet

Data Sources: King County GIS; Esri World Imagery.

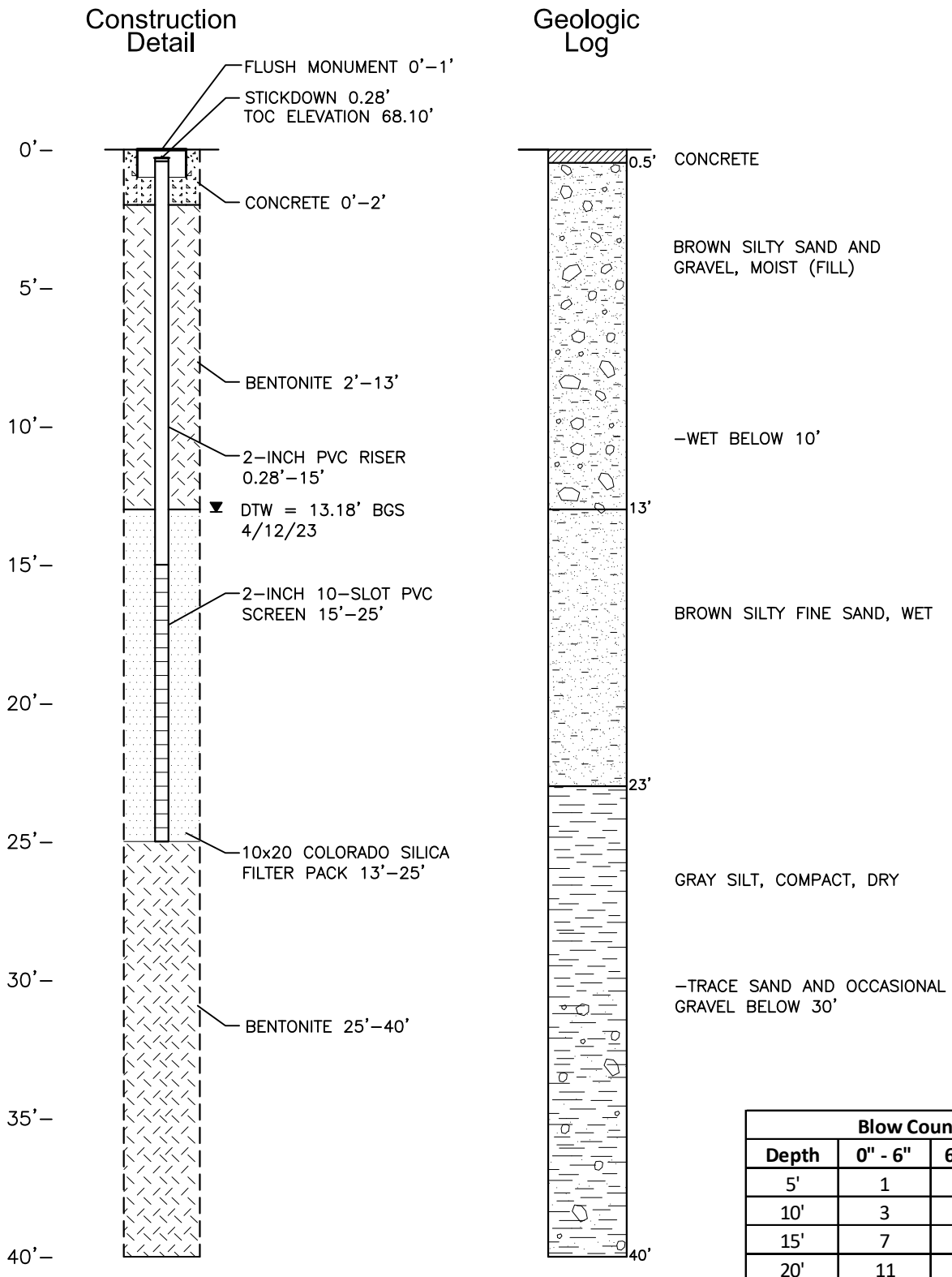
Y:\Projects\135200\10\0015\Figure2SitePlan.mxd 5/24/2013 NAD 1983 StatePlane Washington North FIPS 4601 Feet

LANDAU ASSOCIATES

Montlake Neighborhood Former Dry Cleaner Seattle, Washington	**Site Plan**	Figure 2

Appendix A

Boring Logs for Site Monitoring Wells



Blow Count Data			
Depth	**0" - 6"**	**6" - 12"**	**12" - 18"**
5'	1	1	2
10'	3	17	24
15'	7	14	20
20'	11	20	26
25'	27	50/5"	-
30'	21	32	47
35'	21	30	50/6"
40'	20	45	50/4"

SAFETY FIRST

ROBINSON NOBLE
a terraphase company

CLIENT: Montlake Apartments, LLC

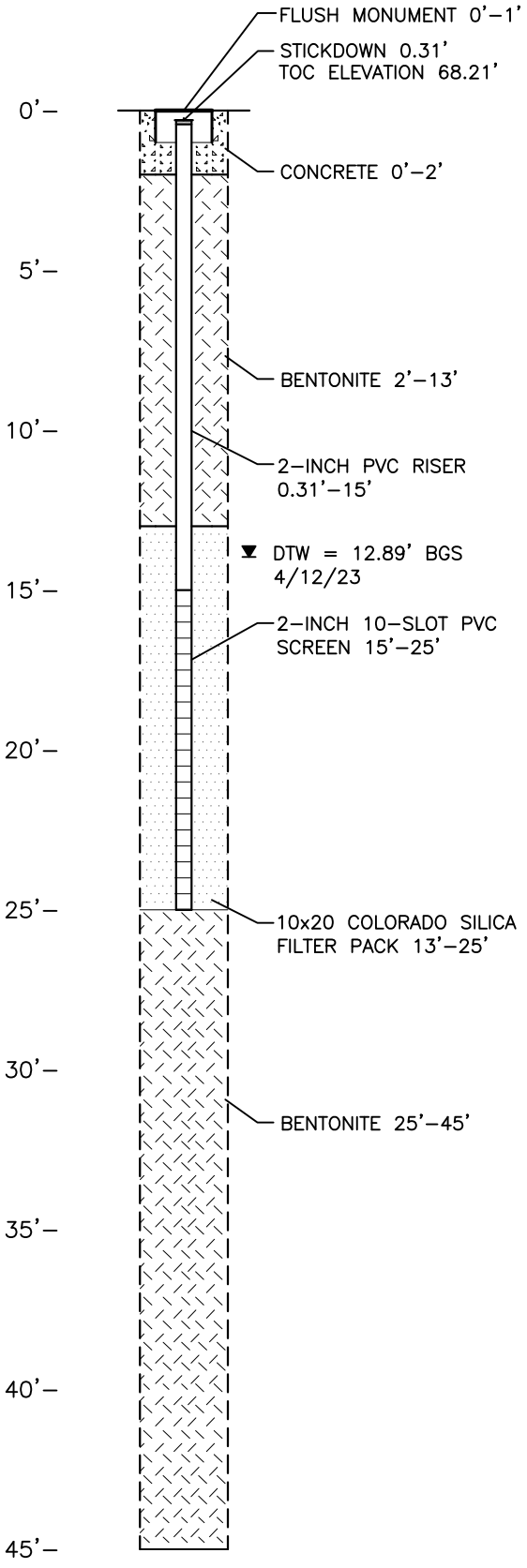
PROJECT: Initial RI
2300 - 24th Avenue East, Seattle

PROJECT: W068.001.001

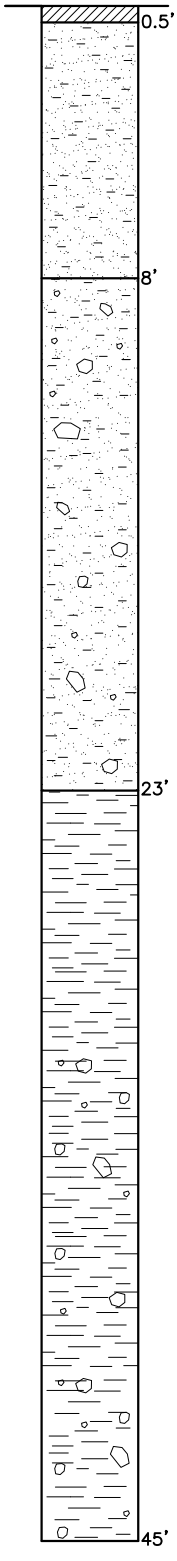
Monitoring Well 1
Construction and Geologic Log

FIGURE 4

Construction Detail



Geologic Log



CONCRETE

BROWN AND GRAY SILT
SAND, MOIST (FILL)

BROWN SILTY FINE SAND WITH
OCCASIONAL GRAVEL, MOIST

–WET BELOW 15'

VERY SLIGHT ODOR AND GRAY
(STAINING?) 15'–23'

GRAY SILT, DRY

–OCCASIONAL GRAVEL BELOW 30'

Blow Count Data			
Depth	**0" - 6"**	**6" - 12"**	**12" - 18"**
5'	1	2	5
10'	6	8	12
15'	12	13	17
20'	11	6	28
25'	21	50/6"	-
30'	26	30	36
35'	26	46	47
40'	-	-	-
45'	50/5"	-	-

SAFETY FIRST

ROBINSON NOBLE
a terraphase company

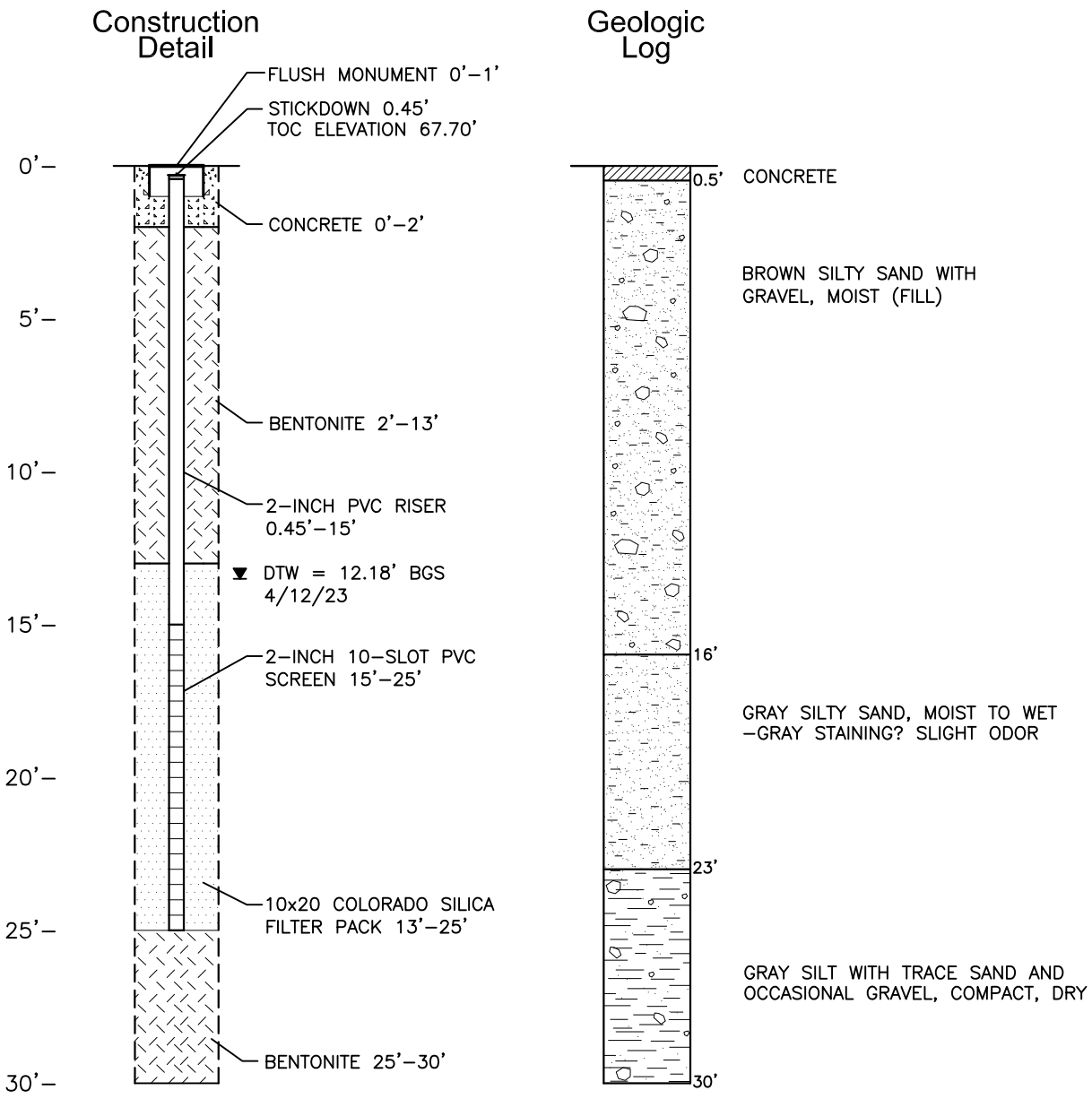
CLIENT: Montlake Apartments, LLC

PROJECT: Initial RI
2300 - 24th Avenue East, Seattle

PROJECT: W068.001.001

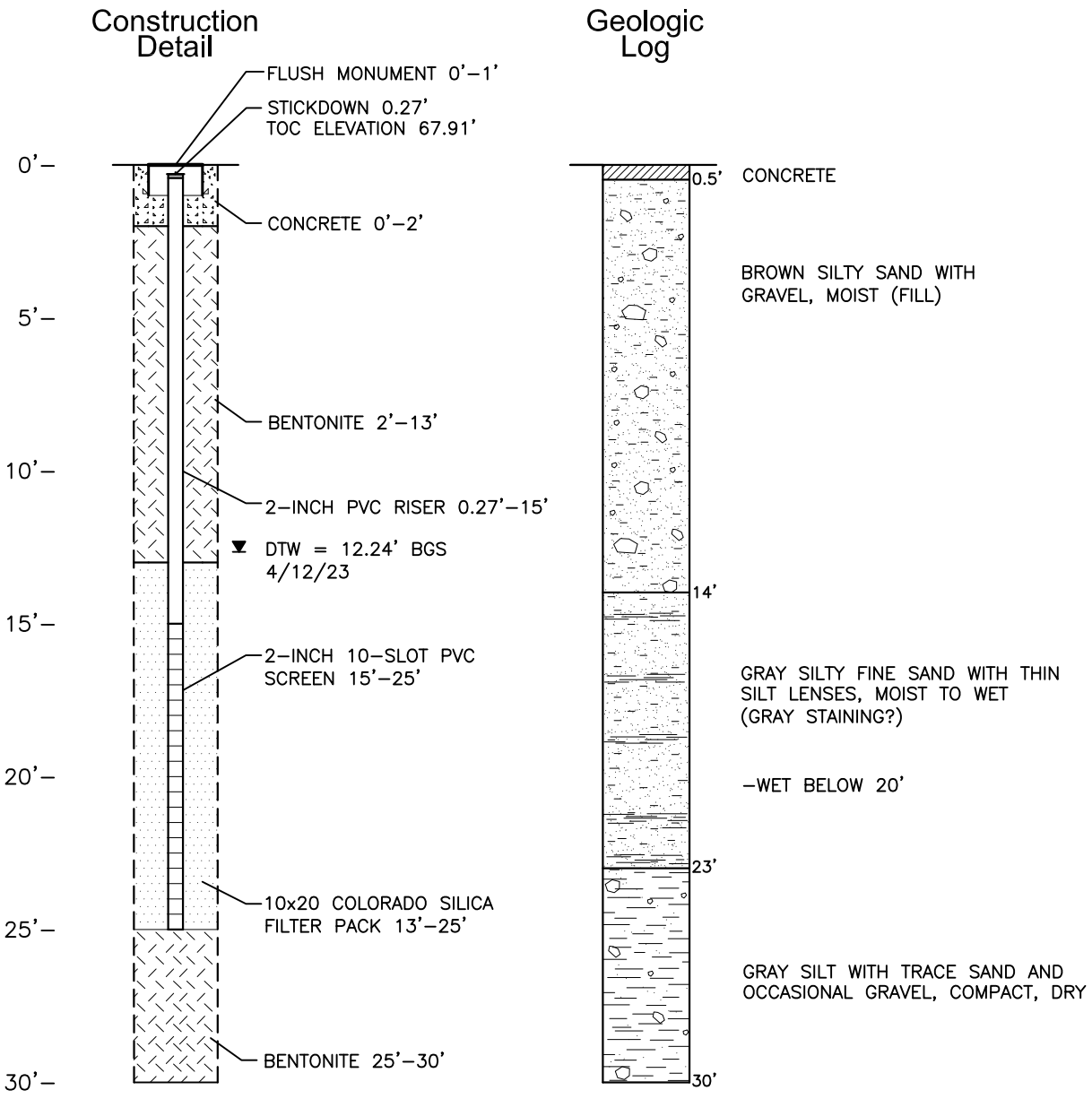
Monitoring Well 2
Construction and Geologic Log

FIGURE 5



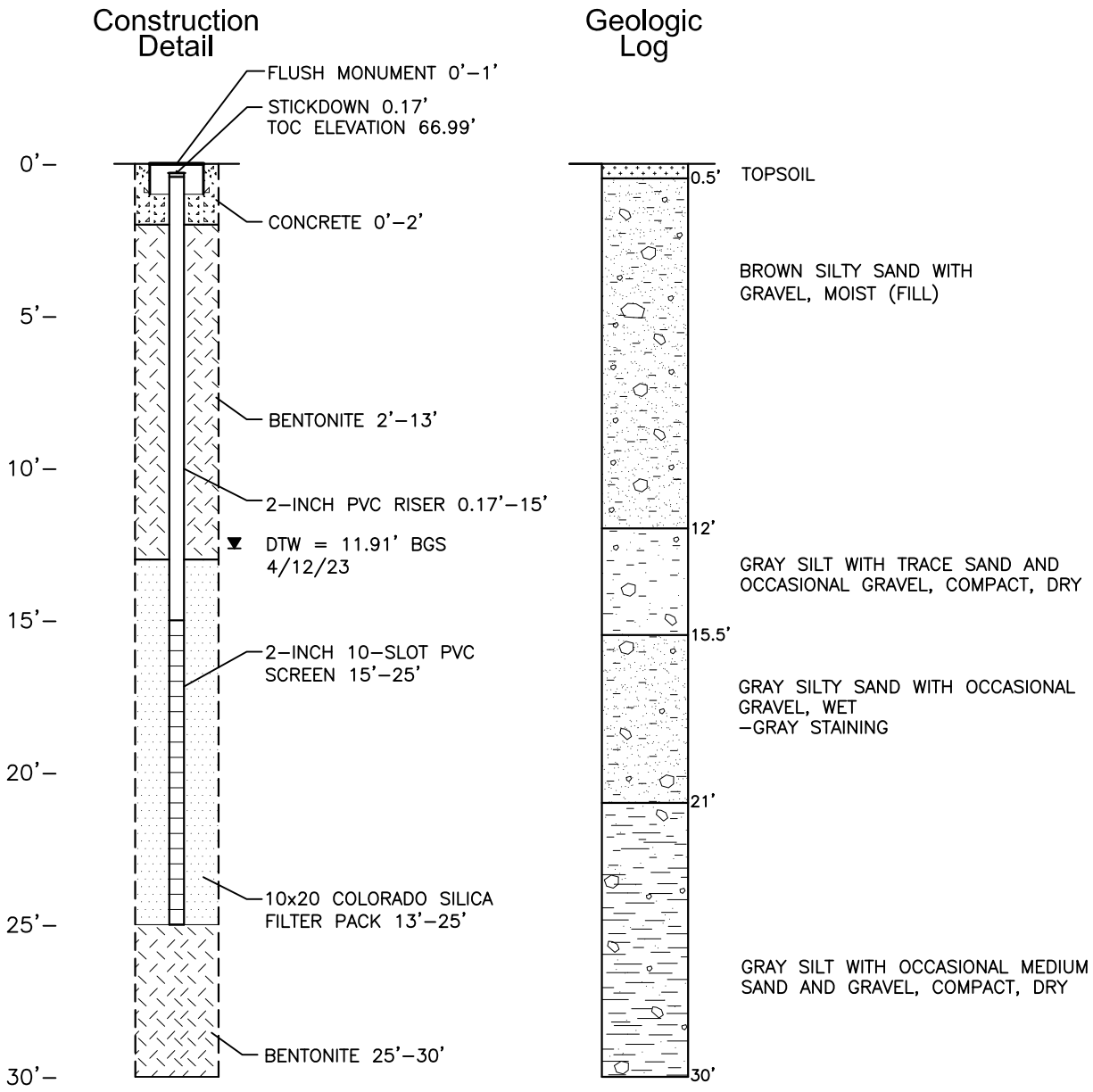
Blow Count Data			
Depth	**0" - 6"**	**6" - 12"**	**12" - 18"**
5'	5	5	10
10'	5	5	20
15'	9	9	15
20'	8	14	18
25'	50/6"	-	-
30'	25	37	50/6"

SAFETY FIRST	CLIENT: Montlake Apartments, LLC	**Monitoring Well 3** **Construction and Geologic Log**
ROBINSON NOBLE a terraphase company	PROJECT: Initial RI 2300 - 24th Avenue East, Seattle	
	PROJECT: W068.001.001	**FIGURE 6**



Blow Count Data			
Depth	**0" - 6"**	**6" - 12"**	**12" - 18"**
5'	2	3	4
10'	4	7	12
15'	17	19	20
20'	13	15	15
25'	25	35	45
30'	26	40	50/5"

SAFETY FIRST	CLIENT: Montlake Apartments, LLC	**Monitoring Well 4 Construction and Geologic Log**
ROBINSON NOBLE a terraphase company	PROJECT: Initial RI 2300 - 24th Avenue East, Seattle	
	PROJECT: W068.001.001	**FIGURE 7**



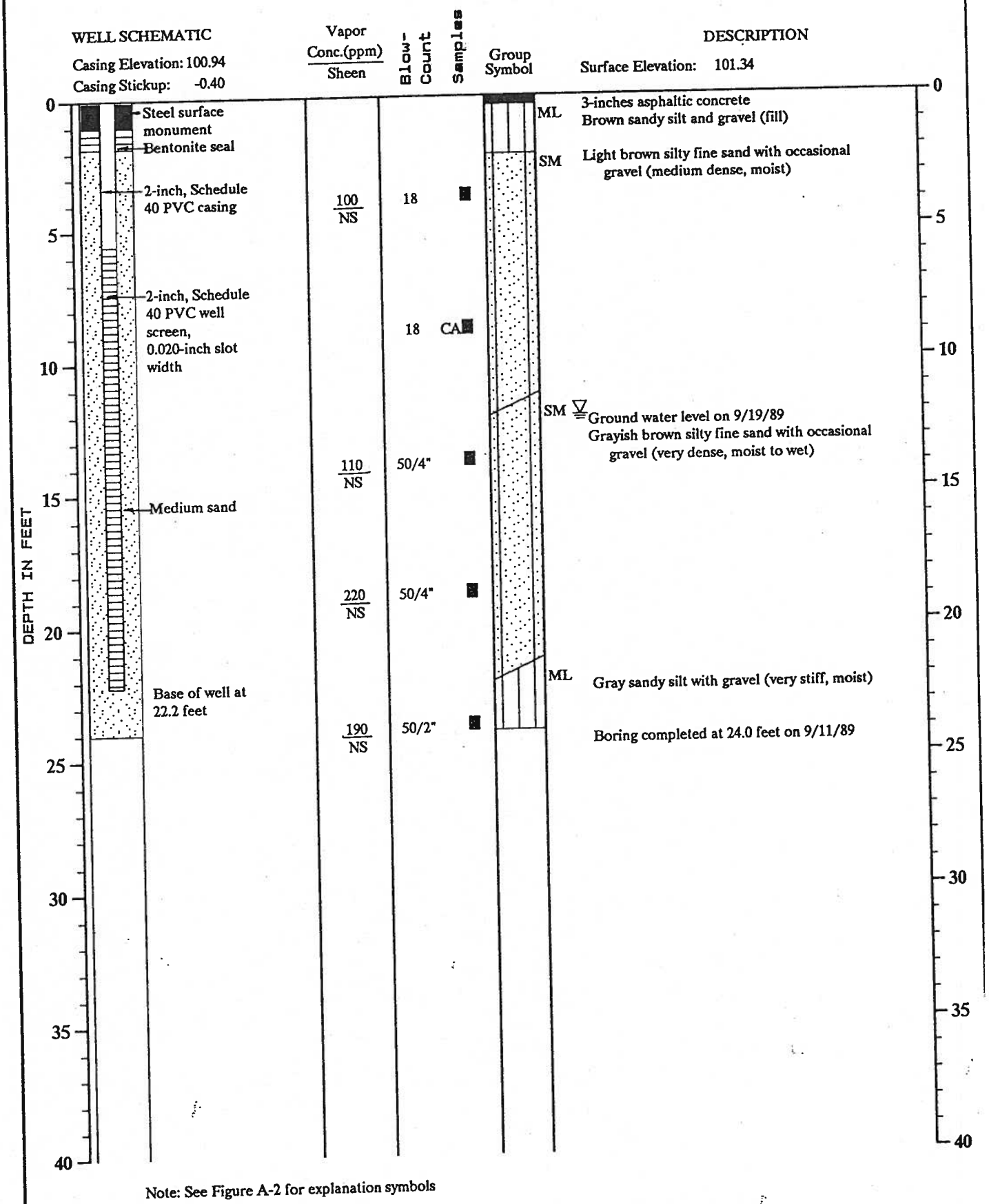
Blow Count Data			
Depth	**0" - 6"**	**6" - 12"**	**12" - 18"**
5'	10	10	10
10'	4	16	15
15'	13	23	41
20'	16	29	42
25'	32	50/4"	-
30'	17	28	37

SAFETY FIRST	CLIENT: Montlake Apartments, LLC	**Monitoring Well 5** **Construction and Geologic Log**
ROBINSON NOBLE a terraphase company	PROJECT: Initial RI 2300 - 24th Avenue East, Seattle	
	PROJECT: W068.001.001	**FIGURE 7**

Appendix B

Boring Logs for Selected Circle K 1461 Site Monitoring Wells

MONITOR WELL NO. MW-1



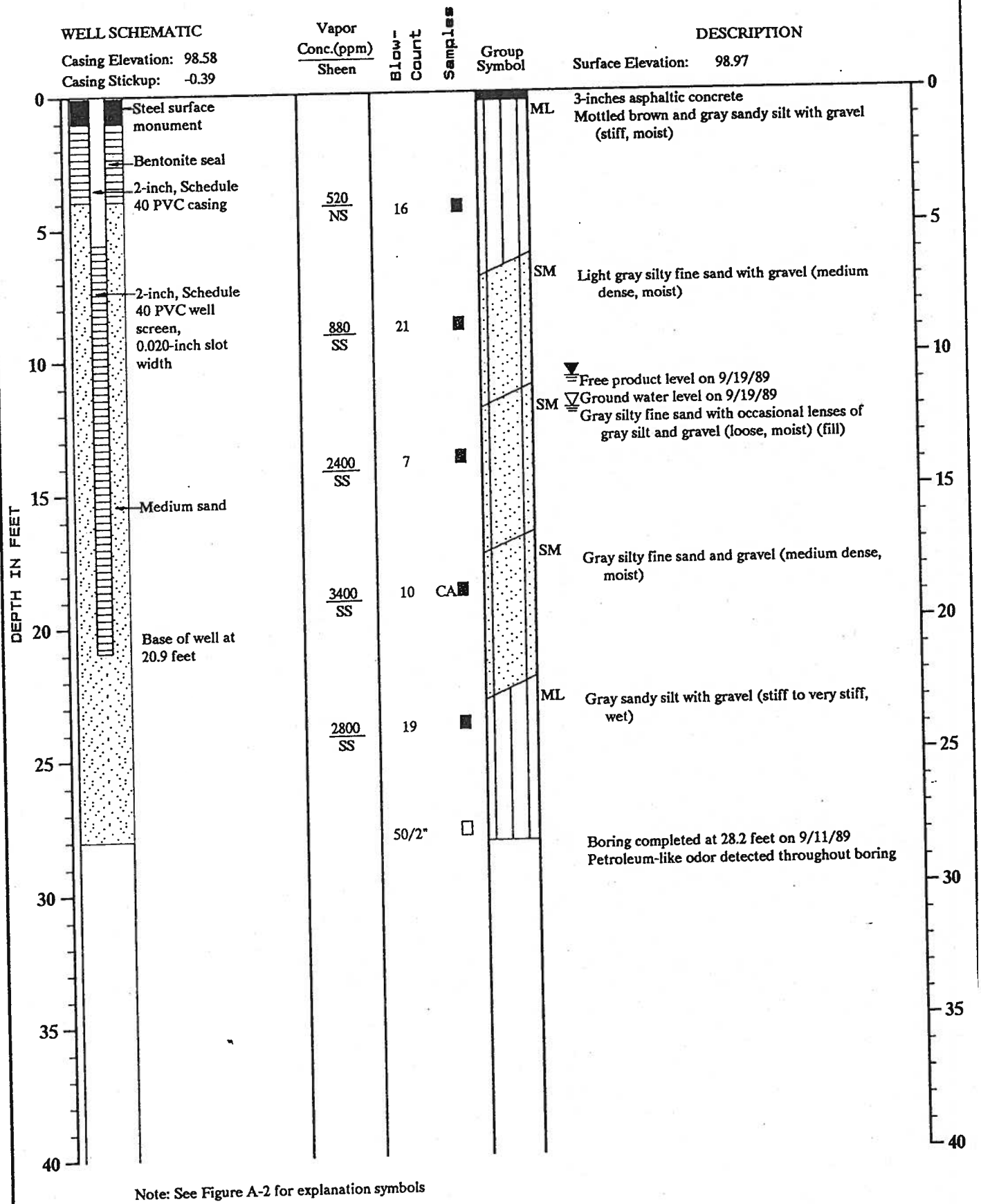
Note: See Figure A-2 for explanation symbols

GeoEngineers

Log of Monitor Well

Figure A-3

MONITOR WELL NO. MW-2



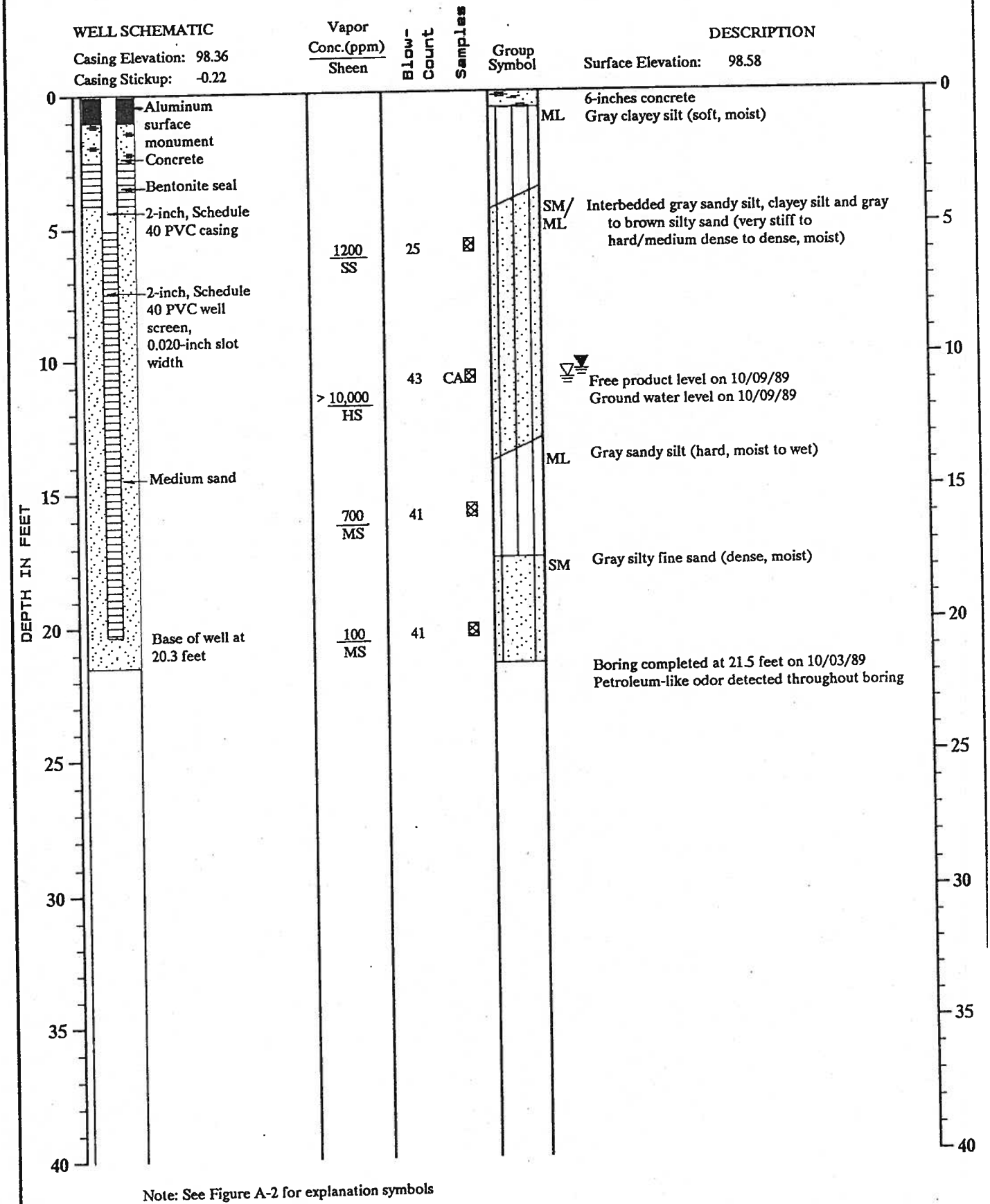
Note: See Figure A-2 for explanation symbols

Geo Engineers

Log of Monitor Well

Figure A-4

MONITOR WELL NO. MW-8



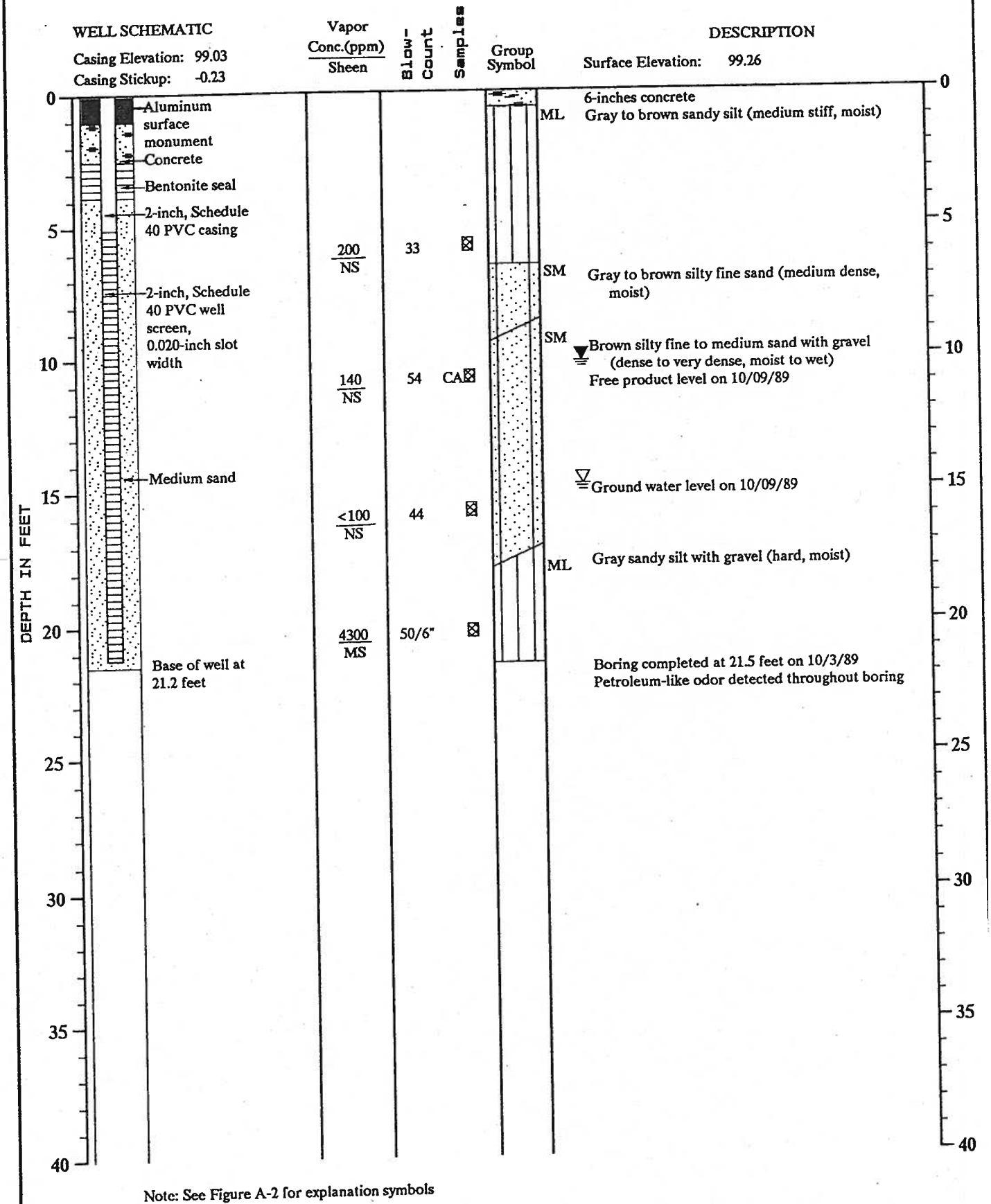
Note: See Figure A-2 for explanation symbols

Geo Engineers

Log of Monitor Well

Figure A-10

MONITOR WELL NO. MW-9



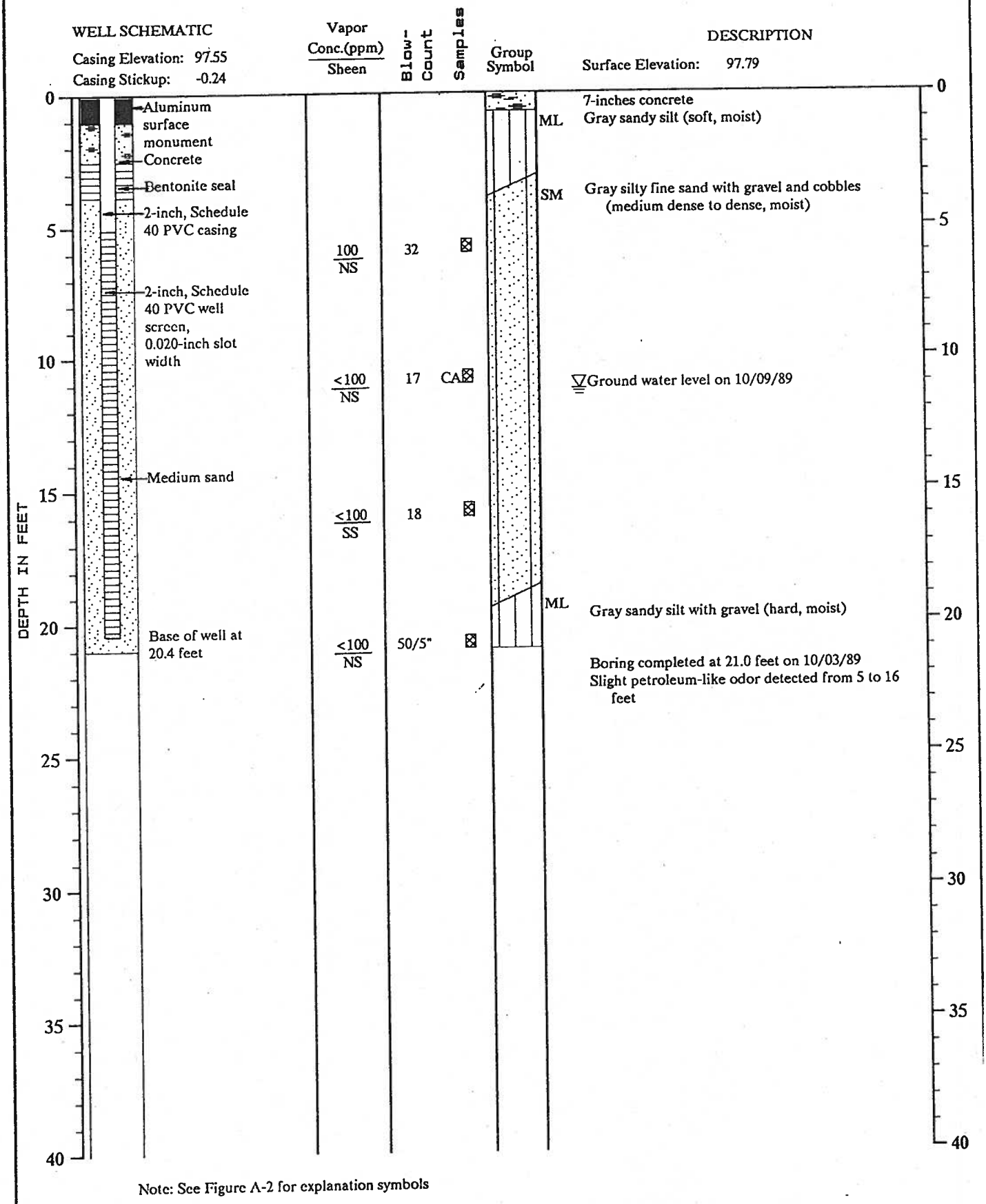
Note: See Figure A-2 for explanation symbols

Geo Engineers

Log of Monitor Well

Figure A-11

MONITOR WELL NO. MW-10



Note: See Figure A-2 for explanation symbols

Geo Engineers

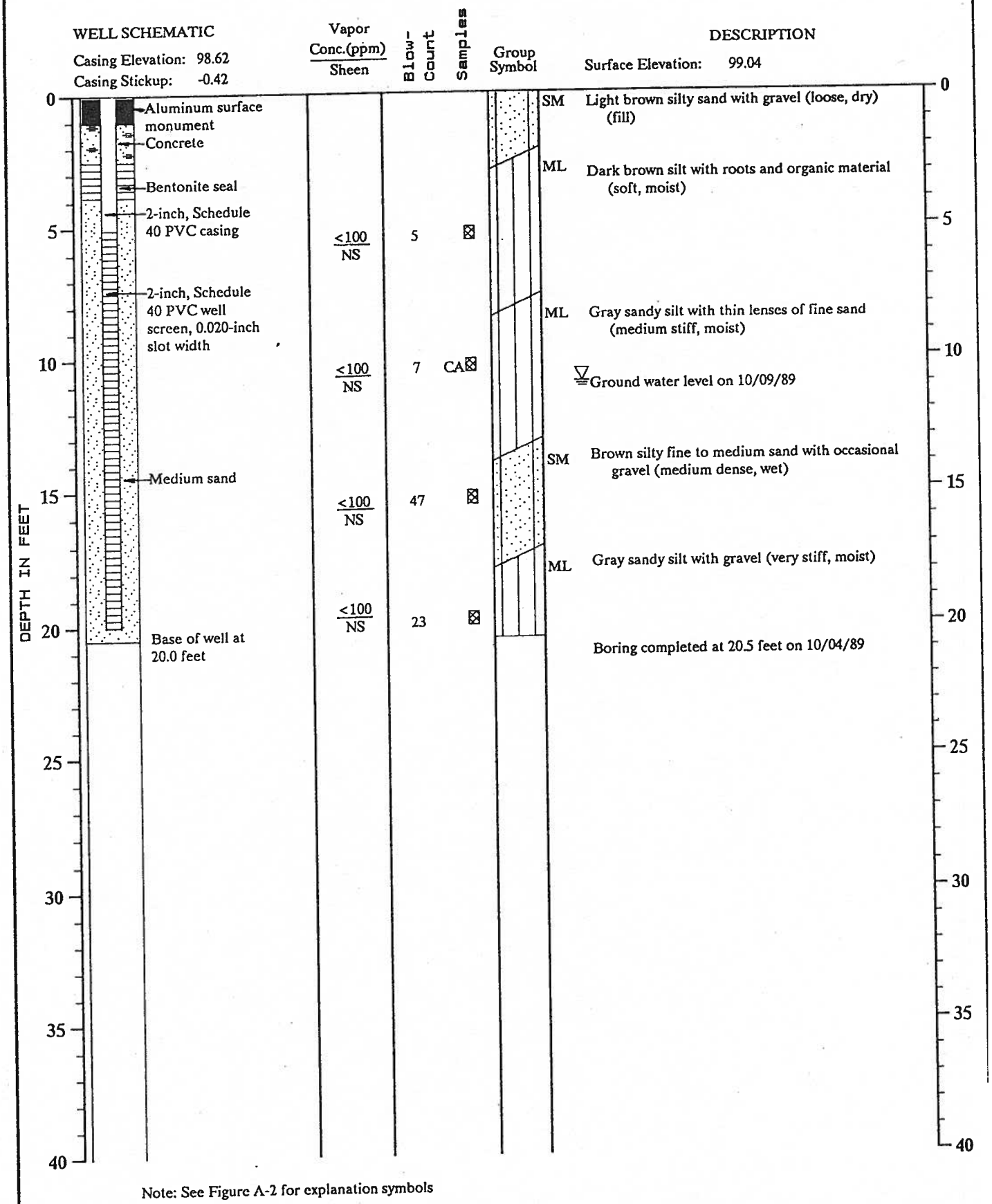
Log of Monitor Well

Figure A-12

TEP:OKP:CDO 2/8/90

-001-B04

MONITOR WELL NO. MW-11



Note: See Figure A-2 for explanation symbols

TEP:OKP:CDO 2/8/90

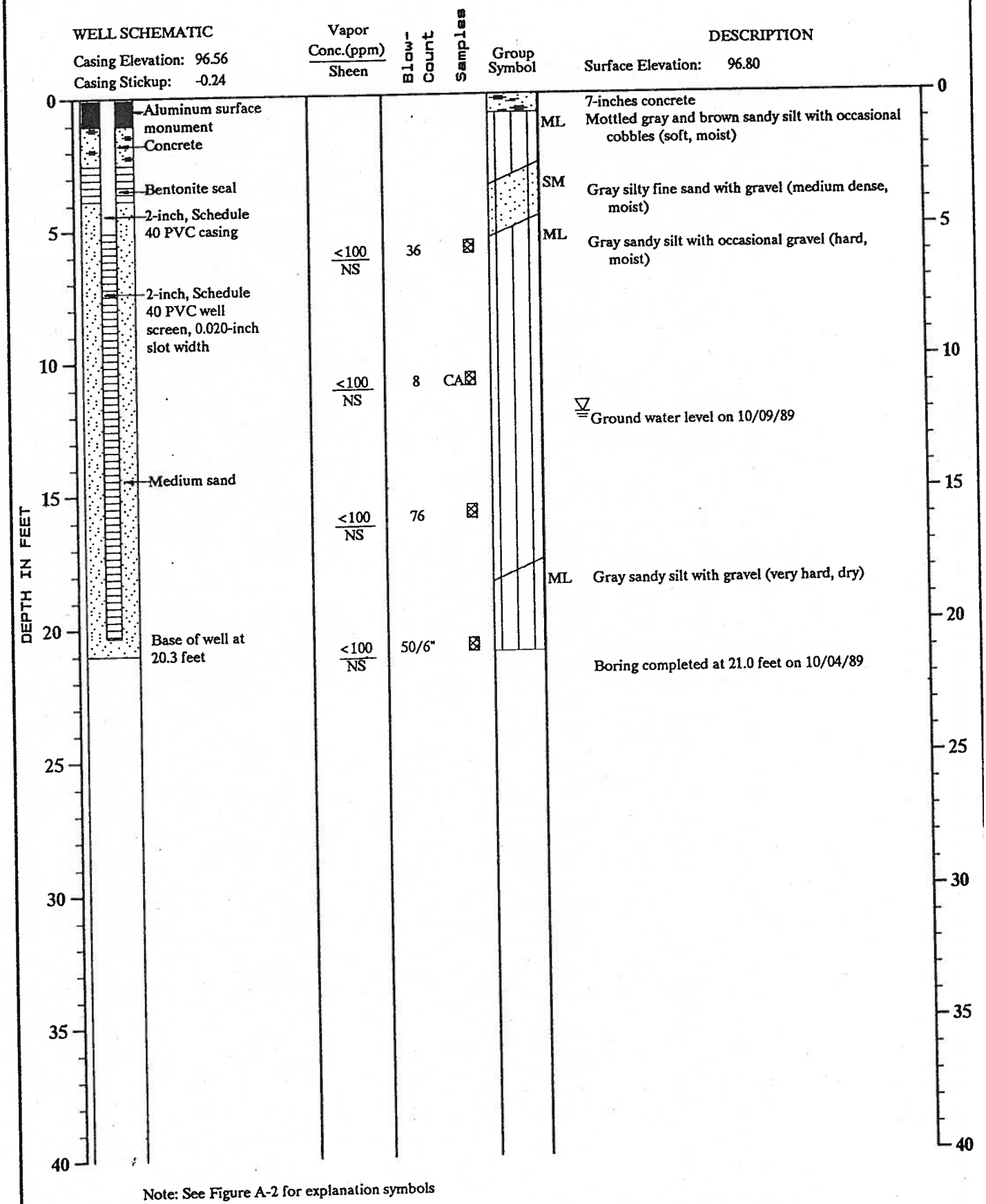
1-001-B04

Geo Engineers

Log of Monitor Well

Figure A-13

MONITOR WELL NO. MW-12



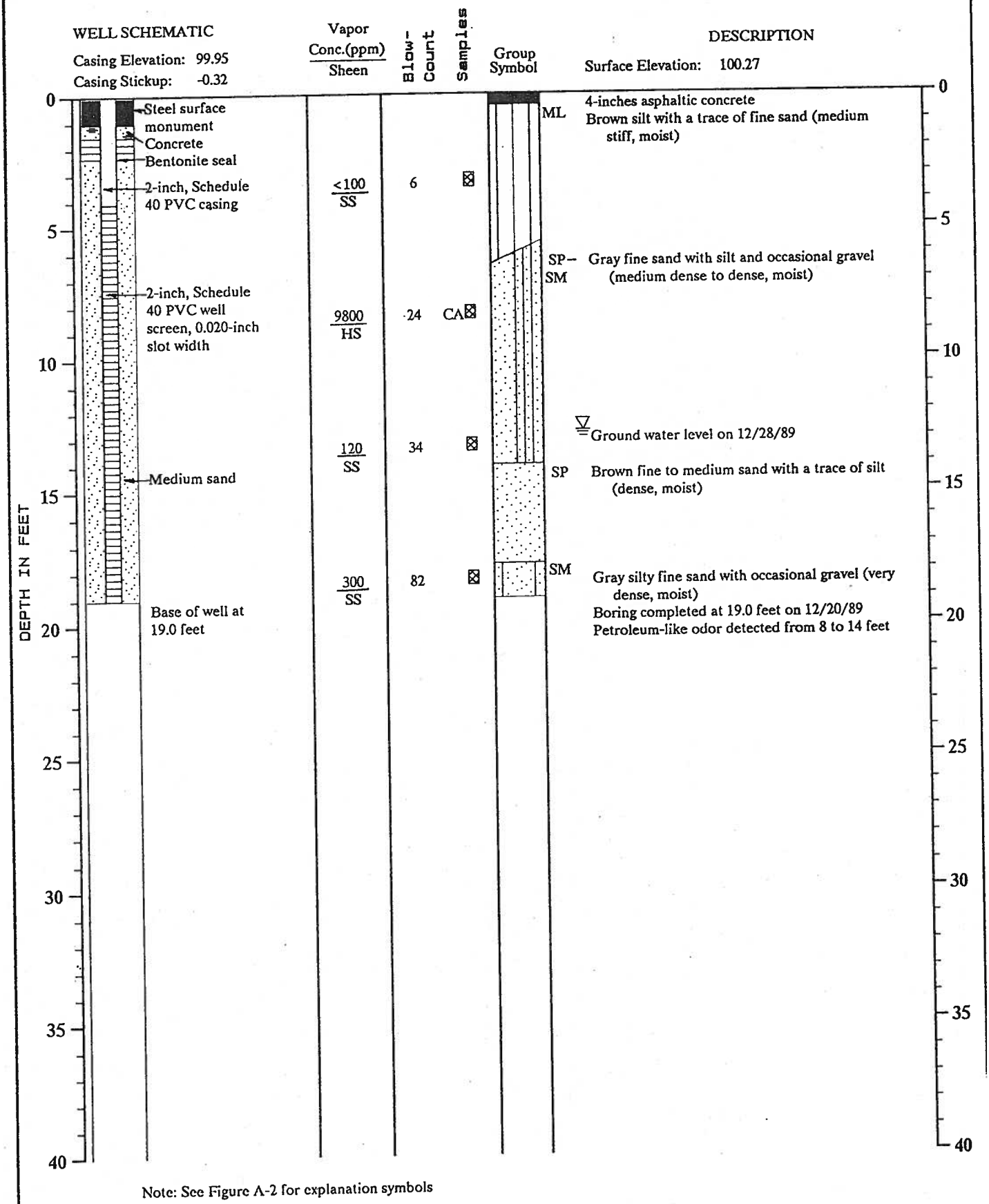
Note: See Figure A-2 for explanation symbols

Geo Engineers

Log of Monitor Well

Figure A-14

MONITOR WELL NO. MW-13



Note: See Figure A-2 for explanation symbols

Geo Engineers

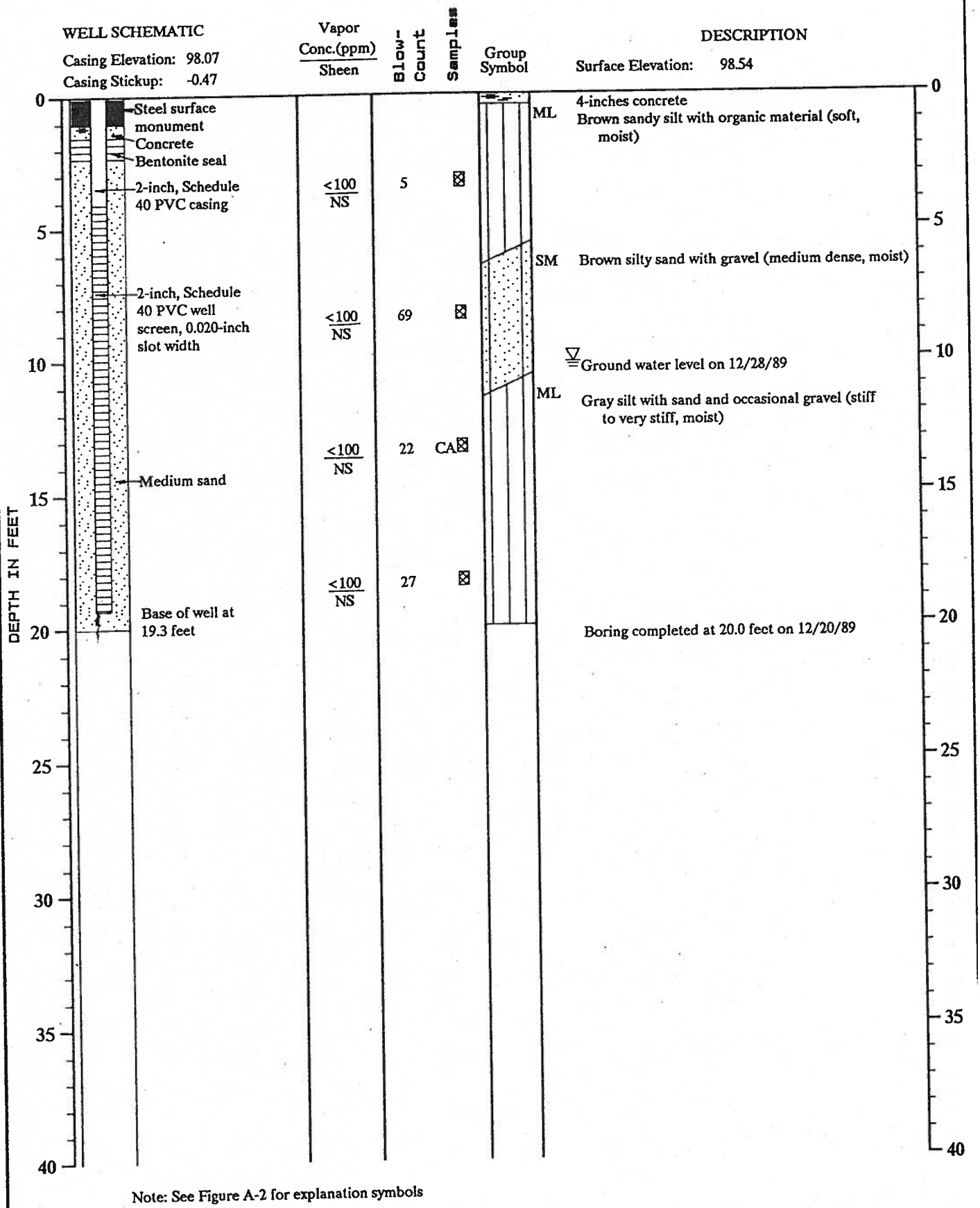
Log of Monitor Well

Figure A-15

TEP:OKP:CDO 2/8/90

-001-B04

MONITOR WELL NO. MW-14



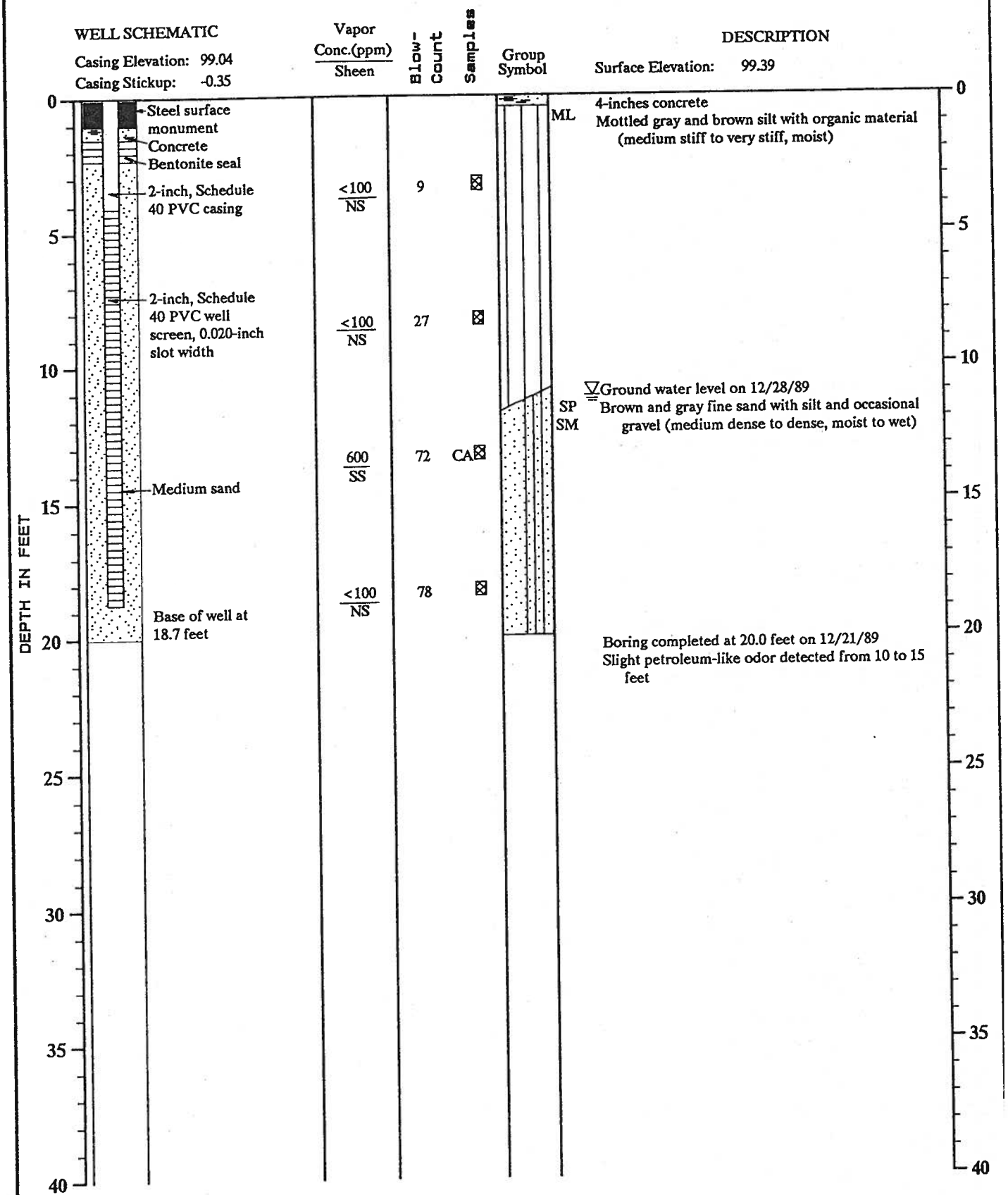
Note: See Figure A-2 for explanation symbols

Geo Engineers

Log of Monitor Well

Figure A-16

MONITOR WELL NO. MW-15



Note: See Figure A-2 for explanation symbols

Geo Engineers

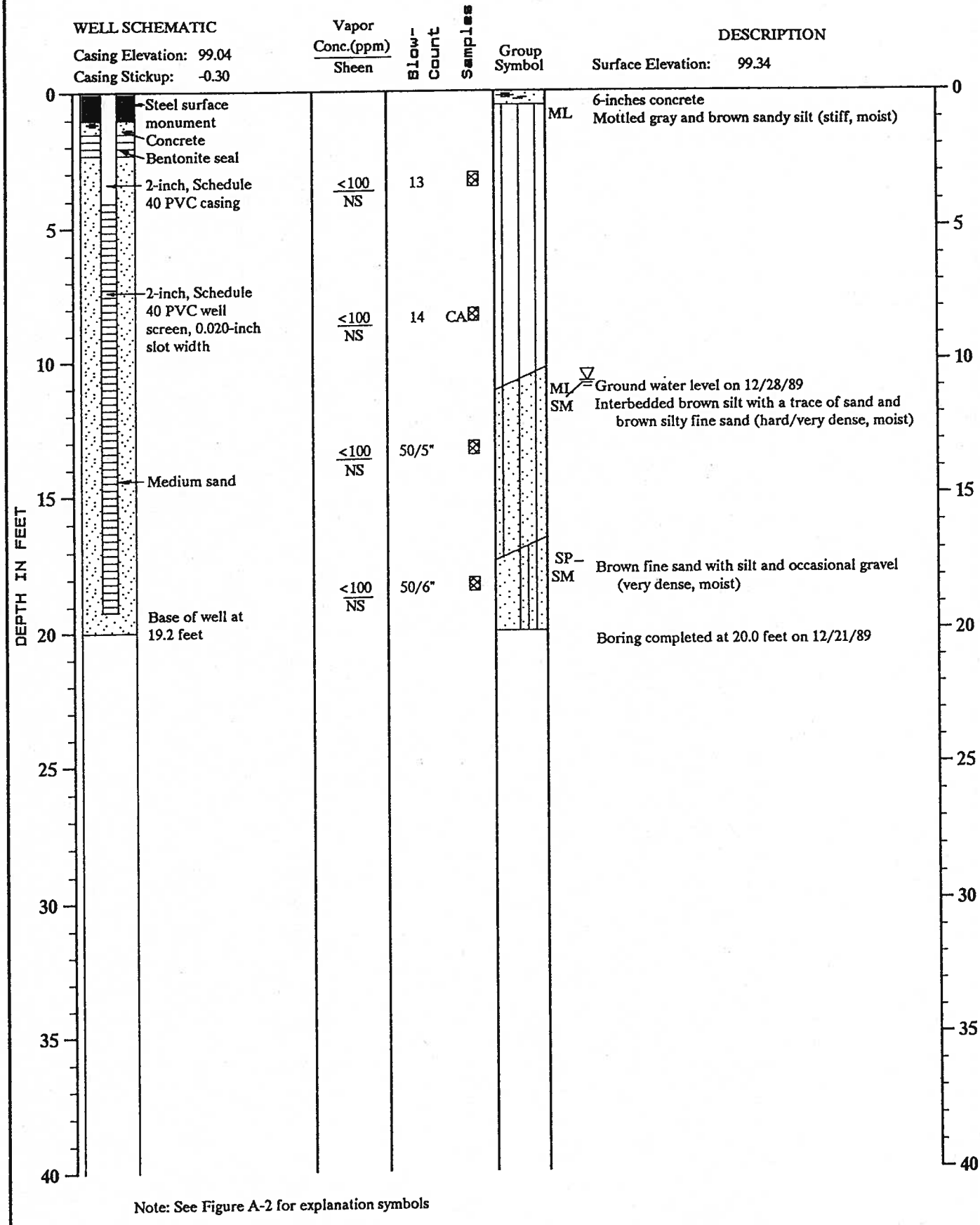
Log of Monitor Well

Figure A-17

TEP:OKP:CDO 1/10/90

-001-B04

MONITOR WELL NO. MW-16



Note: See Figure A-2 for explanation symbols

GeoEngineers

Log of Monitor Well

Figure A-18

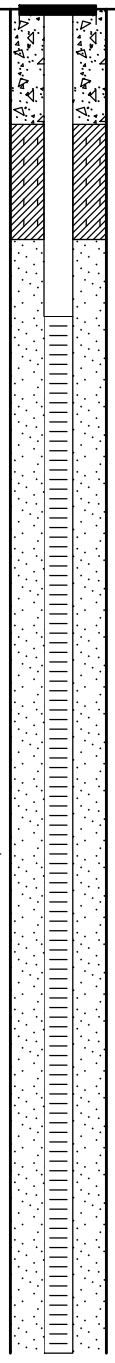
TEP:OKP:CDO 1/10/90

1-001-B04

Boring & Well Construction Log

Kennedy/Jenks Consultants

BORING LOCATION: SE corner 2350 24th Ave E parking lot		**Well Name**	MW-17
DRILLING COMPANY: Holt Services, Inc	DRILLER: Michael Running	**Project Name**	Ecology Circle K
DRILLING METHOD(S): Direct Push (Geoprobe 7822 DT)	DRILL BIT(S) SIZE: 2"	**Project Number**	1696010.00
ISOLATION CASING: N/A	FROM N/A TO N/A FT.	MEAURING PT. ELEVATION: bgs	TOTAL DEPTH: 20.0 ft. bgs
BLANK CASING: Schedule 40 PVC (2 in.)	FROM 0 TO 4 FT.	DATE STARTED: 8/1/16	DATE COMPLETED: 8/1/16
SLOTTED CASING: Pre-Pack	FROM 4 TO 19 FT.	INITIAL WATER DEPTH (FT): 11.0	
SIZE AND TYPE OF FILTER PACK: Colorado 10/20 Sand	FROM 3 TO 19 FT.	LOGGED BY: J. Schwarz	
SEAL: Medium Bentonite Chips	FROM 1.5 TO 3 FT.	SAMPLING METHODS	WELL COMPLETION: ■ SURFACE HOUSING ☐ STAND PIPE _____ FT.
GROUT: Quikrete Concrete	FROM 0 TO 1.5 FT.		



SAMPLES TYPE	SAMPLES RECOV. (FEET)	SAMPLES PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	PID/Sheen Test	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
			1–5				**Airknifed to 5 ft**
			5–6		0	SM	**Silty SAND** Brown (10 YR 5/3), lenses of coarser and finer sand, grading sandier with depth, soft, moist, no odor, no sheen
	4		6–8	MW-17-8	0 / 0 / NS / 0		**Poorly graded SAND with silt** Brown (10 YR 5/3), fine to very coarse sand, lenses of coarser and finer sand, soft, moist, no odor, no sheen
			8–11	MW-17-11	0 / 0 / NS / 0		Wet
	4		11–15		0 / 0 / NS / 0	SP/ SM	4 inches reddish brown sand
			15–17		0 / 0		

KJ PNW BORINGLOGS_2016.GPJ KJ PNW.GDT 6/8/17

F-40.1
(6-87) (3-88) (8-90)

Boring & Well Construction Log

Kennedy/Jenks Consultants

Project Name Ecology Circle K **Project Number** 1696010.00 **Well Name** MW-17

SAMPLES TYPE	SAMPLES RECOV. (FEET)	SAMPLES PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	WELL CONSTRUCTION	PID/Sheen Test	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
	5		18			0 / NS		SP/ SM	
			19	MW-17-19		0		ML	**Sandy SILT** Gray (10 YR 5/1), some gravel and cobbles, very stiff, moist but not wet, no odor, no sheen
			20			0			

NOTES

1. PID = MiniRAE 2000 photoionization detector calibrated with 100 parts per million isobutylene standard.
2. Ecology Well Tag ID BJX-251.

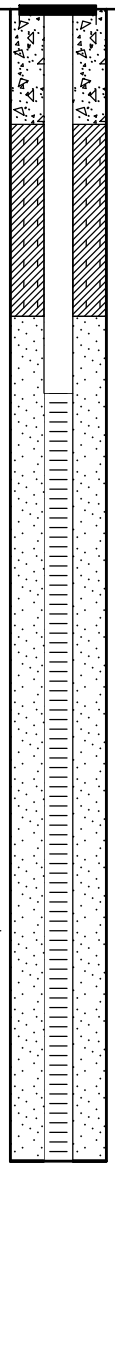
KJ PNW BORINGLOGS_2016.GPJ KJ PNW.GDT 6/8/17

F-40.1
(6-87) (3-88) (8-90)

Boring & Well Construction Log

Kennedy/Jenks Consultants

BORING LOCATION: SW corner 2350 24th Ave E parking lot		**Well Name**	MW-18
DRILLING COMPANY: Holt Services, Inc	DRILLER: Michael Running	**Project Name**	Ecology Circle K
DRILLING METHOD(S): Direct Push (Geoprobe 7822 DT)	DRILL BIT(S) SIZE: 2"	**Project Number**	1696010.00
ISOLATION CASING: N/A	FROM N/A TO N/A FT.	MEAURING PT. ELEVATION: bgs	TOTAL DEPTH: 20.0 ft. bgs
BLANK CASING: Schedule 40 PVC (2 in.)	FROM 0 TO 5 FT.	DATE STARTED: 8/1/16	DATE COMPLETED: 8/1/16
SLOTTED CASING: Pre-Pack	FROM 5 TO 15 FT.	INITIAL WATER DEPTH (FT): 12.0	
SIZE AND TYPE OF FILTER PACK: Colorado 10/20 Sand	FROM 4 TO 15 FT.	LOGGED BY: J. Schwarz	
SEAL: Medium Bentonite Chips	FROM 1.5 TO 4 FT.	SAMPLING METHODS	WELL COMPLETION: ■ SURFACE HOUSING ☐ STAND PIPE _____ FT.
GROUT: Quikrete Concrete	FROM 0 TO 1.5 FT.		



SAMPLES: TYPE	RECOV. (FEET)	PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	WELL CONSTRUCTION	PID/Sheen Test	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
									Airknifed to 4.5 ft
	3.5		7	MW-18-7		0 0 0 / NS		SP/ SM	**Poorly graded SAND with silt** Brown (10 YR 5/3) with lenses of gray, fine to coarse sand, some gravel and cobbles, coarser sand and fewer gravel and cobbles with depth, soft, moist, no odor, no sheen
	4		13	MW-18-13		0 0 0 / NS 0		SM	**Silty SAND** Brown (10 YR 5/3), same as above, but siltier with depth, grading towards silty sand, no odor, no sheen more silt with depth, wet
			17	MW-18-17		0 0		ML	**Sandy SILT with gravel** Gray (10 YR 5/1), some cobbles, very stiff, moist but not wet, no odor, no sheen

KJ PNW BORINGLOGS_2016.GPJ KJ PNW.GDT 6/8/17

F-40.1
(6-87) (3-88) (8-90)

Project Name Ecology Circle K **Project Number** 1696010.00 **Well Name** MW-18

SAMPLES TYPE	SAMPLES RECOV. (FEET)	SAMPLES PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	WELL CONSTRUCTION	PID/Sheen Test	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
	5		18			0 / NS			**Sandy SILT with gravel** Gray (10 YR 5/1), some cobbles, very stiff, moist but not wet, no odor, no sheen ***(Continued)***
			19			0		ML	
			20			0			

NOTES

1. PID = MiniRAE 2000 photoionization detector calibrated with 100 parts per million isobutylene standard.
2. Ecology Well Tag ID BJX-252.
3. 2 in soil boring to 20 ft bgs, but 3 in boring to install permanent monitoring well hit refusal at 15 ft bgs.

Boring & Well Construction Log

Kennedy/Jenks Consultants

BORING LOCATION: 2350 24th Ave E parking lot		**Well Name**	MW-19
DRILLING COMPANY: Holt Services, Inc	DRILLER: Abe Causeland	**Project Name**	Ecology Circle K
DRILLING METHOD(S): Hollow Stem Auger	DRILL BIT(S) SIZE: 2"	**Project Number**	1696010.00
ISOLATION CASING: N/A	FROM N/A TO N/A FT.	MEAURING PT. ELEVATION: bgs	TOTAL DEPTH: 20.0 ft. bgs
BLANK CASING: Schedule 40 PVC (2 in.)	FROM 0 TO 5 FT.	DATE STARTED: 9/23/16	DATE COMPLETED: 9/23/16
SLOTTED CASING: 20-slot Schedule 40 PVC	FROM 5 TO 20 FT.	INITIAL WATER DEPTH (FT): N/A	
SIZE AND TYPE OF FILTER PACK: 10/20 Colorado Silica Sand	FROM 4 TO 20 FT.	LOGGED BY: J. Schwarz	
SEAL: Hydrated Medium Bentonite Chips	FROM 1 TO 3.5 FT.	SAMPLING METHODS	WELL COMPLETION: ■ SURFACE HOUSING ☐ STAND PIPE _____ FT.
GROUT: Quikrete Concrete	FROM 0 TO 1 FT.		

SAMPLES TYPE	RECOV. (FEET)	PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	WELL CONSTRUCTION	PID	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
			1						**Airknifed to 6 feet**
			2						
			3						
			4						
			5						
SS	1.5	6 10 10	6			10.4			**Poorly graded SAND with silt** Gray (10YR 6/1), color grading to grayish brown (10YR 5/1), firm, moist, no odor, no sheen Firmer than above, higher silt content, some gravel
			7						
			8						
			9						
SS	1.5	10 12 12	10	MW-19-10		1877		SP/ SM	Gray (10YR 6/1), fine to coarse sand, wet, strong petroleum-like odor, sheen
			11						
			12						
			13						
			14						
SS	1.5	10 9 11	15			69.1			Same as above but more medium to coarse sand, less fine sand, wet, strong petroleum-like odor, sheen
			16						
			17						

KJ PNW BORINGLOGS_2016.GPJ KJ PNW.GDT 6/8/17

F-40.1
(6-87) (3-88) (8-90)

Boring & Well Construction Log

Kennedy/Jenks Consultants

Project Name Ecology Circle K **Project Number** 1696010.00 **Well Name** MW-19

SAMPLES TYPE	SAMPLES RECOV. (FEET)	SAMPLES PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	WELL CONSTRUCTION	PID	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
			18					SP/ SM	**Poorly graded SAND with silt** Gray (10YR 6/1), color grading to grayish brown (10YR 5/1), firm, moist, no odor, no sheen ***(Continued)***
SS	1.5	8 6 9	19	MW-19-19		50.1 7.9			Slight petroleum-like odor, no sheen
			20					ML	**SILT with sand** Gray (10YR 6/1), some gravel and cobbles, hard, moist but not wet, no odor, no sheen

NOTES

1. PID = MiniRAE 2000 photoionization detector calibrated with 100 parts per million isobutylene standard.
2. Ecology Well Tag ID BKY-105.

KJ PNW BORINGLOGS_2016.GPJ KJ PNW.GDT 6/8/17

F-40.1
(6-87) (3-88) (8-90)

Boring & Well Construction Log

Kennedy/Jenks Consultants

BORING LOCATION: W side 2350 24th Ave E parking lot		**Well Name**	MW-20
DRILLING COMPANY: Holt Services, Inc	DRILLER: Abe Causeland	**Project Name**	Ecology Circle K
DRILLING METHOD(S): Hollow Stem Auger	DRILL BIT(S) SIZE: 4"	**Project Number**	1696010.00
ISOLATION CASING: N/A	FROM N/A TO N/A FT.	MEAURING PT. ELEVATION: bgs	TOTAL DEPTH: 21.0 ft. bgs
BLANK CASING: Schedule 40 PVC (4 in.)	FROM 0 TO 5 FT.	DATE STARTED: 9/23/16	DATE COMPLETED: 9/23/16
SLOTTED CASING: 20-slot Schedule 40 PVC	FROM 5 TO 20 FT.	INITIAL WATER DEPTH (FT): N/A	
SIZE AND TYPE OF FILTER PACK: 10/20 Colorado Silica Sand	FROM 4 TO 20 FT.	LOGGED BY: J. Schwarz	
SEAL: Hydrated Medium Bentonite Chips	FROM 1.5 TO 4 FT.	SAMPLING METHODS	WELL COMPLETION: ■ SURFACE HOUSING ☐ STAND PIPE _____ FT.
GROUT: Quikrete Concrete	FROM 0 TO 1.5 FT.		

SAMPLES TYPE	RECOV. (FEET)	PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	WELL CONSTRUCTION	PID	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
			1						**Airknifed to 5 feet**
			2						
			3						
			4						
SS	1.5	9 7 7	5			1.0		ML	**Sandy SILT** Grayish brown (10YR 5/2), color mottled with gray, very fine to coarse sand, some gravel, firm to hard, moist, no odor, no sheen
			6						
			7						
			8						
			9						
SS	1.5	4 8 15	10	MW-20-10		2485		SM	**Silty SAND** Gray (10YR 5/1), some mottling, very fine to coarse sand, firm to hard, moist, petroleum-like odor, slight sheen
			11						
			12						
			13						
			14						
SS	1.5	8 5 8	15			113.6		SP/ SM	**Poorly graded SAND with silt** Gray (10YR 5/1), fine to very coarse sand, soft, wet, petroleum-like odor, no sheen
			16						
			17						

KJ PNW BORINGLOGS_2016.GPJ KJ PNW.GDT 6/8/17

F-40.1
(6-87) (3-88) (8-90)

Project Name Ecology Circle K **Project Number** 1696010.00 **Well Name** MW-20

SAMPLES TYPE	SAMPLES RECOV. (FEET)	SAMPLES PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	WELL CONSTRUCTION	PID	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
			18					SP/ SM	**Poorly graded SAND with silt** Gray (10YR 5/1), fine to very coarse sand, soft, wet, petroleum-like odor, no sheen ***(Continued)***
			19						
		25	20	MW-20-20		34.9		ML	**Sandy SILT** Gray (10YR 5/1), very fine to medium sand, some cobbles, firm to hard, moist to wet, slight petroleum-like odor, no sheen
SS	1	50	21						

NOTES

1. PID = MiniRAE 2000 photoionization detector calibrated with 100 parts per million isobutylene standard.
2. Ecology Well Tag ID BKY-106.

KJ PNW BORINGLOGS_2016.GPJ KJ PNW.GDT 6/8/17

Boring & Well Construction Log

Kennedy/Jenks Consultants

BORING LOCATION: W side 2350 24th Ave E parking lot		**Well Name**	MW-21
DRILLING COMPANY: Holt Services, Inc	DRILLER: Abe Causeland	**Project Name**	Ecology Circle K
DRILLING METHOD(S): Hollow Stem Auger	DRILL BIT(S) SIZE: 4"	**Project Number**	1696010.00
ISOLATION CASING: N/A	FROM N/A TO N/A FT.	MEAURING PT. ELEVATION: bgs	TOTAL DEPTH: 20.0 ft. bgs
BLANK CASING: Schedule 40 PVC (4 in.)	FROM 0 TO 5 FT.	DATE STARTED: 9/23/16	DATE COMPLETED: 9/23/16
SLOTTED CASING: 20-slot Schedule 40 PVC	FROM 5 TO 20 FT.	INITIAL WATER DEPTH (FT): N/A	
SIZE AND TYPE OF FILTER PACK: 10/20 Colorado Silica Sand	FROM 4 TO 20 FT.	LOGGED BY: J. Schwarz	
SEAL: Hydrated Medium Bentonite Chips	FROM 1.5 TO 4 FT.	SAMPLING METHODS	WELL COMPLETION: ■ SURFACE HOUSING ☐ STAND PIPE _____ FT.
GROUT: Quikrete Concrete	FROM 0 TO 1.5 FT.		

SAMPLES TYPE	RECOV. (FEET)	PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	WELL CONSTRUCTION	PID	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
			1–5						**Airknife to 5 feet**
SS	1.5	8 11 13	5–6			0.1			**Silty SAND** Gray (10YR 5/1), fine to very coarse sand, some gravel, soft to firm, moist, no odor, no sheen
			6–9					SM	
SS	1.5	19 11 10	10–11	MW-21-10		543			**Poorly graded SAND with silt** Gray (10YR 5/1), fine to coarse sand, some gravel, soft, moist, slight petroleum-like odor, no sheen
			12–14					SP/ SM	
SS	1.5	8 12 14	15–16			188.2			**Silty SAND** Gray (10YR 5/1), fine to coarse sand, soft, wet, slight petroleum-like odor, no sheen
			16–17					SM	

KJ PNW BORINGLOGS_2016.GPJ KJ PNW.GDT 6/8/17

F-40.1
(6-87) (3-88) (8-90)

Boring & Well Construction Log

Kennedy/Jenks Consultants

Project Name Ecology Circle K **Project Number** 1696010.00 **Well Name** MW-21

SAMPLES TYPE	SAMPLES RECOV. (FEET)	SAMPLES PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	WELL CONSTRUCTION	PID	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
			18					SM	**Silty SAND** Gray (10YR 5/1), fine to coarse sand, soft, wet, slight petroleum-like odor, no sheen ***(Continued)***
SS	1	27 50	19	MW-21-19.5		14.9			
			20					ML	**Sandy SILT** Gray (10YR 5/1), very fine to very coarse sand, hard, moist to wet, no odor, no sheen

NOTES

1. PID = MiniRAE 2000 photoionization detector calibrated with 100 parts per million isobutylene standard.
2. Ecology Well Tag ID BKY-107.

KJ PNW BORINGLOGS_2016.GPJ KJ PNW.GDT 6/8/17

F-40.1
(6-87) (3-88) (8-90)

Boring & Well Construction Log

Kennedy/Jenks Consultants

BORING LOCATION: North of MW-18		**Well Name**	RW-1
DRILLING COMPANY: Holt Services, Inc.	DRILLER: John Bennett	**Project Name**	Ecology Circle K
DRILLING METHOD(S): CME 85 Hollow Stem Auger	DRILL BIT(S) SIZE: 11"OD / 6.26"ID	**Project Number**	1696010.00
ISOLATION CASING: N/A	FROM N/A TO N/A FT.	MEAURING PT. ELEVATION: bgs	TOTAL DEPTH: 21.5 ft. bgs
BLANK CASING: 4" Schedule 40 PVC	FROM 0 TO 5.5 FT.	DATE STARTED: 2/7/17	DATE COMPLETED: 2/7/17
SLOTTED CASING: Schedule 40 PVC - 20-Slot	FROM 5.5 TO 20.5 FT.	INITIAL WATER DEPTH (FT): 11.0	
SIZE AND TYPE OF FILTER PACK: 10/20 Colorado Silica Sand	FROM 4.5 TO 20.5 FT.	LOGGED BY: J. Sawdey	
SEAL: 3/8" Hydrated Bentonite Chips	FROM 1 TO 4.5 FT.	SAMPLING METHODS: Split Spoon	WELL COMPLETION: ■ SURFACE HOUSING ☐ STAND PIPE _____ FT.
GROUT: Concrete	FROM 0 TO 1 FT.		

SAMPLES TYPE	SAMPLES RECOV. (FEET)	SAMPLES PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	WELL CONSTRUCTION	PID / ST	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
			5			0.0 / NS			2.5Y 5/4, Air/vac clearance to 6' bgs - silt with sand, traces of gravel, yellowish brown, no odor, no sheen
SS	0.5	6 9 10	10			0.0 / NS		ML	**SILT with sand** 7.5YR 4/3, Fine to medium sand (~30%), traces of rounded gravel, brown, occasional increase in gravel and sand content, dry, no odor, no sheen Wet
SS	1	12 18 16	15			0.0 / NS			Same as above, except no gravel and increased silt content
SS	1	11 28 47	20			0.0 / NS		SP ML	**Poorly graded SAND** Gley 1 5/10GY, Sharp color change from yellowish brown to gray, poorly graded fine to medium sand, wet, no odor, no sheen **Sandy SILT with gravel** Gley 1 5/10GY, Very dense silt, sand, and gravel, dry, no odor, no sheen

NOTES

1. ppm = parts per million
2. bgs = below ground surface
3. ST = sheen test; PID = photoionization detector (readings in ppm)
4. NS = no sheen, WS = weak sheen, MS = moderate sheen, SS = strong sheen
5. No petroleum hydrocarbon-like odor and/or sheen observed in boring
6. Added 14.5 bags Colorado Silica Sand to the annular

KJ PNW REMEDIATIONWELLS2017_1.GPJ KJ PNW.GDT 6/8/17

F-40.1
(6-87) (3-88) (8-90)

Boring & Well Construction Log

Kennedy/Jenks Consultants

BORING LOCATION: Adjecent to North Sidewalk		**Well Name**	RW-2
DRILLING COMPANY: Holt Services, Inc.	DRILLER: John Bennett	**Project Name**	Ecology Circle K
DRILLING METHOD(S): CME 85 Hollow Stem Auger	DRILL BIT(S) SIZE: 11"OD / 6.26"ID	**Project Number**	1696010.00
ISOLATION CASING: N/A	FROM N/A TO N/A FT.	MEAURING PT. ELEVATION: bgs	TOTAL DEPTH: 21.5 ft. bgs
BLANK CASING: 4" Schedule 40 PVC	FROM 0 TO 5 FT.	DATE STARTED: 2/9/17	DATE COMPLETED: 2/9/17
SLOTTED CASING: Schedule 40 PVC - 20-Slot	FROM 5 TO 20 FT.	INITIAL WATER DEPTH (FT): 9.5	
SIZE AND TYPE OF FILTER PACK: 10/20 Colorado Silica Sand	FROM 4 TO 20 FT.	LOGGED BY: J. Sawdey	
SEAL: 3/8" Hydrated Bentonite Chips and Pellets	FROM 1 TO 4 FT.	SAMPLING METHODS: Split Spoon	WELL COMPLETION: ■ SURFACE HOUSING ☐ STAND PIPE _____ FT.
GROUT: Concrete	FROM 0 TO 1 FT.		

SAMPLES TYPE	SAMPLES RECOV. (FEET)	SAMPLES PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	WELL CONSTRUCTION	PID / ST	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
						0.0 / NS			Air/Vac clearance to 6' 2" bgs Stiff silt with sand from 1' to 4' bgs, damp to dry, no odor, no sheen
			5						Silt becoming less stiff with increased sand content, damp to dry, no odor, no sheen
SS	0.5	1 5 10	10			275 / SS		SP/ SM	**Poorly graded SAND with silt** Fine to medium sand, traces of silt, stiff silt interbeds every 2" to 6" bgs, wet, strong petroleum hydrocarbon-like odor and sheen
SS	1	5 8 10	15			NO PID / SS		SP	**Poorly graded SAND with gravel** Medium to coarse sand, some fine gravel up to 1/2" in diameter (up to 20%), wet, strong petroleum hydrocarbon-like odor and sheen
SS	0	8 50	20			NO PID / NS			No recovery 20' to 21.5' - assumed refusal on very dense silt, sand, gravel

NOTES

1. ppm = parts per million
2. bgs = below ground surface
3. ST = sheen test; PID = photoionization detector (readings in ppm)
4. NS = no sheen, WS = weak sheen, MS = moderate sheen, SS = strong sheen
5. Petroleum hydrocarbon-like odor and/or sheen observed in boring
6. Added 14 bags Colorado Silica Sand to the annular

KJ PNW REMEDIATIONWELLS2017_1.GPJ KJ PNW.GDT 6/8/17

F-40.1
(6-87) (3-88) (8-90)

Boring & Well Construction Log

Kennedy/Jenks Consultants

BORING LOCATION: North End of Parking Lot		**Well Name**	RW-3
DRILLING COMPANY: Holt Services, Inc.	DRILLER: John Bennett	**Project Name**	Ecology Circle K
DRILLING METHOD(S): CME 85 Hollow Stem Auger	DRILL BIT(S) SIZE: 11"OD / 6.26"ID	**Project Number**	1696010.00
ISOLATION CASING: N/A	FROM N/A TO N/A FT.	MEAURING PT. ELEVATION: bgs	TOTAL DEPTH: 21.5 ft. bgs
BLANK CASING: 4" Schedule 40 PVC	FROM 0 TO 5 FT.	DATE STARTED: 2/9/17	DATE COMPLETED: 2/9/17
SLOTTED CASING: Schedule 40 PVC - 20-Slot	FROM 5 TO 20 FT.	INITIAL WATER DEPTH (FT): 10.0	
SIZE AND TYPE OF FILTER PACK: 10/20 Colorado Silica Sand	FROM 4 TO 20 FT.	LOGGED BY: J. Sawdey	
SEAL: 3/8" Hydrated Bentonite Chips and Pellets	FROM 1 TO 4 FT.	SAMPLING METHODS: Split Spoon	WELL COMPLETION: ■ SURFACE HOUSING ☐ STAND PIPE _____ FT.
GROUT: Concrete	FROM 0 TO 1 FT.		

SAMPLES TYPE	SAMPLES RECOV. (FEET)	SAMPLES PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	WELL CONSTRUCTION	PID / ST	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
			5			0.0 / NS		ML	**SILT with sand** 2.5Y 5/4, Air Vac clearance to 5.5' bgs: Fine to medium sand (up to 40%), traces of rounded gravel, low plasticity, dry, no odor, no sheen
SS	1	5 7 9	10			5,000+ / SS			**Poorly graded SAND with silt** Gley 1 5/10GY, Fine to medium sand, traces of silt, abundant silt interbeds, greenish gray, poorly graded sand is soft and wet, silt interbeds are firm/stiff and damp, wet, strong petroleum-like odor and sheen
SS	0.5	3 7 9	15			30.7 / WS		SP/ SM	Same as above, decresing odor and sheen
SS	1.5	10 10 12	20			12.1 / NS			Same as above, no petroleum hydrocarbon-like odor or sheen

NOTES

1. ppm = parts per million
2. bgs = below ground surface
3. ST = sheen test; PID = photoionization detector (readings in ppm)
4. NS = no sheen, WS = weak sheen, MS = moderate sheen, SS = strong sheen
5. Petroleum hydrocarbon-like odor and/or sheen observed in boring
6. Added 14 bags Colorado Silica Sand to the annular

KJ PNW REMEDIATIONWELLS2017_1.GPJ KJ PNW.GDT 6/8/17

Boring & Well Construction Log

Kennedy/Jenks Consultants

BORING LOCATION: West Side of Mont's Mart		**Well Name**	RW-4
DRILLING COMPANY: Holt Services, Inc.	DRILLER: John Bennett	**Project Name**	Ecology Circle K
DRILLING METHOD(S): CME 85 Hollow Stem Auger	DRILL BIT(S) SIZE: 11"OD / 6.26"ID	**Project Number**	1696010.00
ISOLATION CASING: N/A	FROM N/A TO N/A FT.	MEAURING PT. ELEVATION: bgs	TOTAL DEPTH: 21.5 ft. bgs
BLANK CASING: 4" Schedule 40 PVC	FROM 0 TO 5 FT.	DATE STARTED: 2/8/17	DATE COMPLETED: 2/8/17
SLOTTED CASING: Schedule 40 PVC - 20-Slot	FROM 5 TO 20 FT.	INITIAL WATER DEPTH (FT): 10.0	
SIZE AND TYPE OF FILTER PACK: 10/20 Colorado Silica Sand	FROM 4 TO 20 FT.	LOGGED BY: J. Sawdey	
SEAL: 3/8" Hydrated Bentonite Chips and Pellets	FROM 1 TO 4 FT.	SAMPLING METHODS: Split Spoon	WELL COMPLETION: ■ SURFACE HOUSING ☐ STAND PIPE _____ FT.
GROUT: Concrete	FROM 0 TO 1 FT.		

SAMPLES TYPE	SAMPLES RECOV. (FEET)	SAMPLES PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	WELL CONSTRUCTION	PID / ST	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
									Air Vac clearance to 5' 7" bgs
									Silt with angular gravel from 0' to 2' bgs (edge of excavation / fill), dry, no odor, no sheen
									Rounded gravels up to 6" in diameter with a sandy silt matrix from 2' to 3' bgs, dry, no odor, no sheen
			5			0.0 / NS			Silt with sand (native formation) from 3' to 5' 7", dry, no odor, no sheen
									Sandy SILT with gravel Fine to medium sand (~20%), some coarse sand, fine gravel (~20%), moderate plasticity, dry, no odor, no sheen
SS	0.5	20 50	10			397 / MS		ML	Gley 1 5/10Y, Color changes to greenish gray, wet, strong petroleum hydrocarbon-like odor and sheen
SS	1	6 21 21	15			5,000+ / SS (in sand) 393 / WS (in silt)		SW/ SM	**Well-graded SAND with silt and gravel** Gley 2 5/10BG, Fine to coarse sand, some fine gravel (up to 20%), some silt (up to 20%), occasional interbedded hard and dry silt, wet, strong petroleum hydrocarbon-like odor and sheen
SS	1	10 40 50	20			83 / WS 33 / NS		ML	**Sandy SILT with gravel** Gley 1 5/10GY, Very dense silt, sand, and gravel, dry, no odor, no sheen

NOTES

1. ppm = parts per million
2. bgs = below ground surface
3. ST = sheen test; PID = photoionization detector (readings in ppm)
4. NS = no sheen, WS = weak sheen, MS = moderate sheen, SS = strong sheen
5. Petroleum hydrocarbon-like odor and/or sheen observed in boring
6. Added 13.5 bags Colorado Silica Sand to the annular

KJ PNW REMEDIATIONWELLS2017_1.GPJ KJ PNW.GDT 6/8/17

F-40.1
(6-87) (3-88) (8-90)

Boring & Well Construction Log

Kennedy/Jenks Consultants

BORING LOCATION: Near KJB-10		**Well Name**	RW-5
DRILLING COMPANY: Holt Services, Inc.	DRILLER: John Bennett	**Project Name**	Ecology Circle K
DRILLING METHOD(S): CME 85 Hollow Stem Auger	DRILL BIT(S) SIZE: 11"OD / 6.26"ID	**Project Number**	1696010.00
ISOLATION CASING: N/A	FROM N/A TO N/A FT.	MEAURING PT. ELEVATION: bgs	TOTAL DEPTH: 21.5 ft. bgs
BLANK CASING: 4" Schedule 40 PVC	FROM 0 TO 5 FT.	DATE STARTED: 2/8/17	DATE COMPLETED: 2/8/17
SLOTTED CASING: Schedule 40 PVC - 20-Slot	FROM 5 TO 20 FT.	INITIAL WATER DEPTH (FT): 10.5	
SIZE AND TYPE OF FILTER PACK: 10/20 Colorado Silica Sand	FROM 4 TO 20 FT.	LOGGED BY: J. Sawdey	
SEAL: 3/8" Hydrated Bentonite Chips and Pellets	FROM 1 TO 4 FT.	SAMPLING METHODS: Split Spoon	WELL COMPLETION: ■ SURFACE HOUSING ☐ STAND PIPE _____ FT.
GROUT: Concrete	FROM 0 TO 1 FT.		

SAMPLES TYPE	SAMPLES RECOV. (FEET)	SAMPLES PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	WELL CONSTRUCTION	PID / ST	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
			5			0.0 / NS			Air/Vac clearance to 6'1" bgs. Silt with sand, traces of rounded gravel, dry, no odor, no sheen
SS	1	1 6 11	10			1,108 / MS		ML	**SILT with sand** Gley 1 5/10Y, Fine to medium sand, trace rounded fine gravel/coarse sand, greenish gray, soft, low plasticity, wet, strong petroleum hydrocarbon-like odor and moderate sheen
SS	1	4 7 9	15			3,732 / SS		SP	**Poorly graded SAND** Gley 1 5/5GY, Fine to medium sand, traces of silt, greenish gray, soft, wet, strong petroleum hydrocarbon-like odor and sheen
SS	1.5	27 38 50	20			12.3 / NS		ML	**Sandy SILT with gravel** Gley 1 5/10Y, Very dense silt, sand, and gravel, gray, dry, no odor, no sheen

NOTES

1. ppm = parts per million
2. bgs = below ground surface
3. ST = sheen test; PID = photoionization detector (readings in ppm)
4. NS = no sheen, WS = weak sheen, MS = moderate sheen, SS = strong sheen
5. Petroleum hydrocarbon-like odor and/or sheen observed in boring
6. Added 14 bags Colorado Silica Sand to the annular

KJ PNW REMEDIATIONWELLS2017_1.GPJ KJ PNW.GDT 6/8/17

F-40.1
(6-87) (3-88) (8-90)

Boring & Well Construction Log

Kennedy/Jenks Consultants

BORING LOCATION: McGraw Street Right-of-Way		**Well Name**	RW-6
DRILLING COMPANY: Holt Services, Inc.	DRILLER: John Bennett	**Project Name**	Ecology Circle K
DRILLING METHOD(S): CME 85 Hollow Stem Auger	DRILL BIT(S) SIZE: 11"OD / 6.26"ID	**Project Number**	1696010.00
ISOLATION CASING: N/A	FROM N/A TO N/A FT.	MEAURING PT. ELEVATION: bgs	TOTAL DEPTH: 21.5 ft. bgs
BLANK CASING: 4" Schedule 40 PVC	FROM 0 TO 5 FT.	DATE STARTED: 2/10/17	DATE COMPLETED: 2/10/17
SLOTTED CASING: Schedule 40 PVC - 20-Slot	FROM 5 TO 20 FT.	INITIAL WATER DEPTH (FT): 8.5	
SIZE AND TYPE OF FILTER PACK: 10/20 Colorado Silica Sand	FROM 4 TO 20 FT.	LOGGED BY: J. Sawdey	
SEAL: 3/8" Hydrated Bentonite Chips and Pellets	FROM 1 TO 4 FT.	SAMPLING METHODS: Split Spoon	WELL COMPLETION: ■ SURFACE HOUSING ☐ STAND PIPE _____ FT.
GROUT: Concrete	FROM 0 TO 1 FT.		

SAMPLES TYPE	SAMPLES RECOV. (FEET)	SAMPLES PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	WELL CONSTRUCTION	PID / ST	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
									Air/Vac clearance to 5' bgs
						0.0 / NS			Sand with silt, traces of gravel, dry, no odor, no sheen
			5						**Poorly graded SAND with silt**
SS	1	5 9 10	10			1,375 / SS		SP/ SM	Gley 1 5/10GY, fine to medium sand, up to 20% silt, traces of fine gravel, wet, strong petroleum hydrocarbon-like odor and sheen
SS	1.5	5 9 14	15			347 / NS		ML	**Sandy SILT with gravel** Gley 1 5/10GY, fine to coarse sand (up to 10%), fine gravel up to 1" in diameter, moderately stiff, low plasticity, wet, strong petroleum hydrocarbon-like odor, no sheen
SS	1.5	10 14 20	20			12.1 / NS			Gley 1 4/10Y, Same as above, except becoming more stiff,, weak petroleum hydrocarbon-like odor, no sheen

NOTES

1. ppm = parts per million
2. bgs = below ground surface
3. ST = sheen test; PID = photoionization detector (readings in ppm)
4. NS = no sheen, WS = weak sheen, MS = moderate sheen, SS = strong sheen
5. Petroleum hydrocarbon-like odor and/or sheen observed in boring
6. Added 14.5 bags Colorado Silica Sand to the annular

KJ PNW REMEDIATIONWELLS2017_1.GPJ KJ PNW.GDT 6/8/17

F-40.1
(6-87) (3-88) (8-90)

Boring & Well Construction Log

Kennedy/Jenks Consultants

BORING LOCATION: Adjacent (to the South) of MW-19		**Well Name**	RW-7
DRILLING COMPANY: Holt Services, Inc.	DRILLER: John Bennett	**Project Name**	Ecology Circle K
DRILLING METHOD(S): CME 85 Hollow Stem Auger	DRILL BIT(S) SIZE: 11"OD / 6.26"ID	**Project Number**	1696010.00
ISOLATION CASING: N/A	FROM N/A TO N/A FT.	MEAURING PT. ELEVATION: bgs	TOTAL DEPTH: 21.5 ft. bgs
BLANK CASING: 4" Schedule 40 PVC	FROM 0 TO 5 FT.	DATE STARTED: 2/7/17	DATE COMPLETED: 2/7/17
SLOTTED CASING: Schedule 40 PVC - 20-Slot	FROM 5 TO 20 FT.	INITIAL WATER DEPTH (FT): 11.0	
SIZE AND TYPE OF FILTER PACK: 10/20 Colorado Silica Sand	FROM 4 TO 20 FT.	LOGGED BY: J. Sawdey	
SEAL: 3/8" Hydrated Bentonite Chips	FROM 1 TO 4 FT.	SAMPLING METHODS: Split Spoon	WELL COMPLETION: ■ SURFACE HOUSING ☐ STAND PIPE _____ FT.
GROUT: Concrete	FROM 0 TO 1 FT.		

SAMPLES TYPE	RECOV. (FEET)	PENETR. RESIST. BLOWS/6"	DEPTH (FEET)	SAMPLE NUMBER	WELL CONSTRUCTION	PID / ST	LITHOLOGY	USCS LOG	SAMPLE DESCRIPTION AND DRILLING REMARKS
									Air/Vac clearance to 5' 6" bgs.
						0.0 / NS			5Y 5/2, Silt with fine to medium sand, light grayish brown, dry, no odor, no sheen
			5						
									SILT with sand Gley 1 4/10Y, Fine to medium sand (up to 30%), traces of fine gravel/coarse sand, pockets of increased sand and gravel content, dark greenish gray, very firm, low plasticity, damp to wet, strong petroleum hydrocarbon-like odor, weak sheen
SS	1	2 8 10	10			1,265 / WS		ML	
			15			396 / NS			**Poorly graded SAND** Gley 2 5/10BG, Fine to medium with some coarse sand, traces of silt, rounded to well rounded grains, soft, wet, strong petroleum hydrocarbon-like odor, no sheen
SS	0.5	1 6 11						SP	
			20			0.7 / NS			**Sandy SILT with gravel** 7.5YR 4/1, Color changes to brown gray, very dense silt, sand, and gravel, very hard, dry, no odor, no sheen
SS	1	6 6 5						ML	

NOTES

1. ppm = parts per million
2. bgs = below ground surface
3. ST = sheen test; PID = photoionization detector (readings in ppm)
4. NS = no sheen, WS = weak sheen, MS = moderate sheen, SS = strong sheen
5. Petroleum hydrocarbon-like odor and/or sheen observed in boring
6. Added 14 bags Colorado Silica Sand to the annular

KJ PNW REMEDIATIONWELLS2017_1.GPJ KJ PNW.GDT 6/8/17

Appendix C

Boring Logs for Selected Mason Apartments Site Monitoring Wells

Project: RELLC Seattle
Project Location: 2401 E Lynn Street, Seattle, WA
Project Number: 60608969

Log of Boring MW-36

Date(s) Drilled	**Air knife on 3-31-21 and drilling on 4/-7-21**	Logged By	**S. Holmes**	Checked By	**DRR**
Drilling Method	**HSA**	Drilling Contractor	**Cascade**	Total Depth of Borehole	**26.5 feet bgs**
Drill Rig Type	**CME 55**	Drill Bit Size/Type	**8.25 OD**	Ground Surface Elevation (feet MSL)	
Groundwater Level	**12.5**	Sampling Method	**Dames & Moore, 18 in.**	Hammer Data	
Borehole Backfill	**Monitoring Well**	Location			

Elevation, feet	Downhole Depth, feet	SAMPLES Type Number	Blows/ 6in.	Recovery (%)	PID/OVM (ppm)	Graphic Log	USCS	MATERIAL DESCRIPTION	Well Completion Schematic	REMARKS AND WELL DETAILS
	0				0.0		SP/GP	Air knife 0 to 5 ft bgs, grass surface Brown fine to medium SAND and fine to coarse subrounded GRAVEL with silt, trace rootlets (moist) (no odor, no staining)		Start: 3/31/2021 1105
					0.1		ML	Brown sandy SILT (soft) (moist) (no odor, no staining) Grading brown SILT (medium stiff) (moist) (no odor, no staining)		
	5	MW36-6	7 18 22	100	0.0			Grading brown SILT with trace sand and subangular fine gravel (soft) (wet) (no odor, no staining)		1150
		MW36-8	17 17 25	50	1.5			Grading rust-mottled (moist)		
		MW36-8DUP					SP	Gray fine SAND (loose to medium loose) (moist) (no odor, no staining)		1205 DUP at 1200
	10	MW36-10.5	25 50/6"	100	4.5			Grading gray fine SAND (moist) (faint hydrocarbon odor, no staining)		1210
		MW36-13	25 30 27	92	15.8			12.5 ft ▼ Grading gray fine to medium SAND with trace fine to coarse subrounded gravel (wet) (faint hydrocarbon odor, no staining)		1220
	15	MW36-15.5	25 50/6"	33	31.6		SM	Gray-brown silty SAND with trace fine subrounded gravel (moist) (faint odor, no staining)		1230
	20	MW36-20.5	25 30 17	67	7.1		ML	Gray clayey SILT (stiff) (moist) (no odor, no staining)		1330
	25									Finish: 4/7/2021 1430
	30							1. Boring completed to 26.5 feet bgs 2. Groundwater encountered at 12.5 feet bgs 3. Monitoring Well installed on April 7, 2021 Locking Flush monument Cement collar - surface to 2 feet bgs 2" Dia. PVC Riser from 0 to 10 feet bgs 2" Dia. PVC Well Screen (20 Slot) from 10 to 20 feet bgs		

Project: RELLC Seattle
Project Location: 2401 E Lynn Street, Seattle, WA
Project Number: 60608969

Log of Boring MW-36

Elevation, feet / Downhole Depth, feet	SAMPLES: Type Number	SAMPLES: Blows/ 6in.	SAMPLES: Recovery (%)	SAMPLES: PID/OVM (ppm)	Graphic Log	USCS	MATERIAL DESCRIPTION		REMARKS AND WELL DETAILS
30							Sand Pack (#2/12) from 9 to 20 feet bgs Bentonite seal (Pure Gold Medium) from 2 to 9 Bentonite Chips 21 to 26.5 Borehole diameter = 8.25 inches Ecology well tag ID		
35									
40									
45									
50									
55									
60									
65									

Project: RELLC Seattle
Project Location: 2401 E Lynn Street, Seattle, WA
Project Number: 60608969

Log of Boring MW-39

Sheet 1 of 1

Date(s) Drilled	**1/24-25/23**	Logged By	**D. Behrens**	Checked By	**DRR**
Drilling Method	**HSA**	Drilling Contractor	**Cascade**	Total Depth of Borehole	**22 feet bgs**
Drill Rig Type	**CME 55**	Drill Bit Size/Type	**8.25 OD**	Ground Surface Elevation (feet NAVD 88)	
Groundwater Level	**12**	Sampling Method	**Dames & Moore, 18 in.**	Hammer Data	
Borehole Backfill	**Monitoring Well**	Location			

Elevation, feet	Downhole Depth, feet	SAMPLES Type Number	Blows/ 6in.	Recovery (%)	PID/OVM (ppm)	Graphic Log	USCS	MATERIAL DESCRIPTION	Well Completion Schematic	REMARKS AND WELL DETAILS
	0							Air knife 0 to 5 ft bgs, concrete surface		Start: 1/24/2023 1040
							SP	Light olive brown fine to medium SAND (loose) (moist) (no odor, no staining)		
					0.0					
	5				0.0		ML	Dark gray SILT with clay, trace fine sand (medium dense) (low plasticity) (moist) (no odor, no staining)		
	10	MW39 10	10 18 20	95	0.0			Grading gray to dark gray clayey SILT with iron oxide mottling (stiff) (low plasticity) (moist) (no odor, no staining)		1005
								12 ft ▼		
		MW39 12.5	22 50/6"	100	0.0		SM	Gray silty fine to medium SAND, trace subrounded fine gravel (very dense) (wet) (no odor, no staining)		1020
	15		50/5"	100	0.0					
			50/6"		0.0			Grading with decreasing gravel		
			50/6"					Grading brown-gray medium to fine sandy SILT (very stiff) (non plastic) (wet) (no odor, no staining)		
	20	MW-39 21.5	13 18 22					Grading gray SILT (hard) (non plastic) (wet) (no odor, no staining)		1055
								1. Boring completed to 22 feet bgs 2. Groundwater encountered at 12 feet bgs 3. Monitoring Well installed on January 25, 2023 Locking Flush monument Cement collar - surface to 2 feet bgs 2" Dia. PVC Riser from 0 to 9 feet bgs 2" Dia. PVC Well Screen (20 Slot) from 9 to 19 feet bgs Sand Pack (#2/12) from 8 to 22 feet bgs Bentonite seal (Pure Gold Medium) from 2 to 8 feet bgs Borehole diameter = 8.25 inches Ecology well tag ID BPR029		Finish: 1/25/2023 1220
	25									
	30									

Project: RELLC Seattle
Project Location: 2401 E Lynn Street, Seattle, WA
Project Number: 60608969

Log of Boring MW-40

Sheet 1 of 1

Date(s) Drilled	**1/24/23**	Logged By	**D. Behrens**	Checked By	**DRR**
Drilling Method	**HSA**	Drilling Contractor	**Cascade**	Total Depth of Borehole	**20 feet bgs**
Drill Rig Type	**CME 55**	Drill Bit Size/Type	**8.25 OD**	Ground Surface Elevation (feet NAVD 88)	
Groundwater Level	**12**	Sampling Method	**Dames & Moore, 18 in.**	Hammer Data	
Borehole Backfill	**Monitoring Well**	Location			

Elevation, feet	Downhole Depth, feet	SAMPLES Type	SAMPLES Number	Blows/ 6in.	Recovery (%)	PID/OVM (ppm)	Graphic Log	USCS	MATERIAL DESCRIPTION	Well Completion Schematic	REMARKS AND WELL DETAILS
	0							SM	Hand auger 0 to 5 ft bgs, grass surface Dark brown fine sandy SILT with roots and wood debris (medium dense) (low plasticity) (moist) (no odor, no staining)		Start: 1/24/2023 0940
						0.0					
	5					0.0			Grading brown with trace fine to medium sand (medium dense) (low plasticity) (moist) (no odor, no staining)		
	10			25 50/6"	30	0.0		ML	Olive brown clayey SILT (medium dense) (low plasticity) (moist) (no odor, no staining) Grading brown gray silty medium to fine SAND (low plasticity) (moist) (no odor, no sheen) 12 ft ▼		
			MW40-13	50/6"	30	0.0		SP	Brown medium coarse SAND with fine gravel, trace silt (medium dense to dense) (wet) (no odor, no sheen)		1115
	15		MW40-15	20 50/6"	65	0.2			Grading brown gray fine SAND with trace silt (medium dense) (wet) (no odor, no stain) Grading fine to medium SAND		1200
				50/6"		0.0		SP/GP	Brown fine SAND grading with fine GRAVEL (wet) (no odor, no staining)		
			MW40-19	50/6"		0.0		ML/GM	Dark gray SILT with trace gravel (dense) (dry) grading little fine to medium SAND stringers (dry) (no odor)		1140
	20								1. Boring completed to 20 feet bgs 2. Groundwater encountered at 12 feet bgs 3. Monitoring Well installed on January 24, 2023 Locking Flush monument Cement collar - surface to 2 feet bgs 2" Dia. PVC Riser from 0 to 9 feet bgs 2" Dia. PVC Well Screen (20 Slot) from 9 to 19 feet bgs Sand Pack (#2/12) from 8 to 20 feet bgs Bentonite seal (Pure Gold Medium) from 2 to 8 feet bgs Borehole diameter = 8.25 inches Ecology well tag ID BPR028		Finish: 1/24/2023 1345
	25										
	30										

Project: RELLC Seattle
Project Location: 2401 E Lynn Street, Seattle, WA
Project Number: 60608969

Log of Boring MW-41

Sheet 1 of 1

Date(s) Drilled	**1/23/23**	Logged By	**D. Behrens**	Checked By	**DRR**
Drilling Method	**HSA**	Drilling Contractor	**Cascade**	Total Depth of Borehole	**19 feet bgs**
Drill Rig Type	**CME 55**	Drill Bit Size/Type	**8.25 OD**	Ground Surface Elevation (feet NAVD 88)	
Groundwater Level	**12**	Sampling Method	**Dames & Moore, 18 in.**	Hammer Data	
Borehole Backfill	**Monitoring Well**	Location			

Elevation, feet	Downhole Depth, feet	SAMPLES Type	SAMPLES Number	Blows/ 6in.	Recovery (%)	PID/OVM (ppm)	Graphic Log	USCS	MATERIAL DESCRIPTION	Well Completion Schematic	REMARKS AND WELL DETAILS
	0							ML	Air knife 0 to 5 ft bgs, grass surface Brown SILT with trace clay, medium to fine sand (medium dense) (low plasticity) (moist) (no odor, no staining)		Start: 1/23/2023 0930
	5					0.0			Grading some red mottling		
	10			30 50/6"	30	0.0		SM	Brown silty fine to coarse SAND with some fine gravel (medium dense) (moist) (no odor, no staining)		
									12 ft ▼		
			MW41-13	30 50/6"	100	0.0			Grading brown silty fine SAND, some sily/clayey interbeds, some fine gravel (medium dense) (wet) (no odor, no staining)		1150
	15		MW41-15	50/6"	30	0.0			Grading gray brown fine sandy SILT decreasing with depth, increasing clay, increasing fine gravel (low plasticity) (moist to dry) (no odor, no staining)		1215
			MW41-18	50/4"	100	0.0		ML/CL	Brownish gray silty CLAY, trace coarse sand, (medium high plasticity) (moist) (no odor, no staining)		1230
	20								1. Boring completed to 19 feet bgs 2. Groundwater encountered at 12 feet bgs 3. Monitoring Well installed on January 23, 2023 Locking Flush monument Cement collar - surface to 2 feet bgs 2" Dia. PVC Riser from 0 to 8 feet bgs 2" Dia. PVC Well Screen (20 Slot) from 8 to 18 feet bgs Sand Pack (#2/12) from 6 to 19 feet bgs Bentonite seal (Pure Gold Medium) from 2 to 6 feet bgs Borehole diameter = 8.25 inches Ecology well tag ID BPR027		Finish: 1/23/2023 1345
	25										
	30										

Appendix D

Boring Logs for Montlake Cleaners Site Monitoring Wells

MW-1

Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: Hollow-Stem Auger Ground Elevation (ft): 75.61
0						AC	Concrete
						SM	Brown, silty, medium to coarse SAND with gravel (no odor, no sheen) (loose, moist)
		a2	50/ 6"	0.5		SM/ ML	Gray, silty, fine SAND to sandy SILT to SILT with coarse sand, gravel, and cobbles (no odor, no sheen) (moist, hard)
		a2	50/ 6"	0.9			
10							
20							
30		a2	49	1.2			
40		a2	30	0.5			
50							

SAMPLE DATA | **SOIL PROFILE** | **GROUNDWATER**

Monitoring Well Detail

Water Level

9 in

Flush-mounted monument with locking cap

Concrete Seal

2-inch diameter, Schedule 40, PVC well casing

Bentonite chips

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1352001. 5/23/13 \\EDMDATA01\GINT\PROJECTS\1352001.GPJ WELL LOG

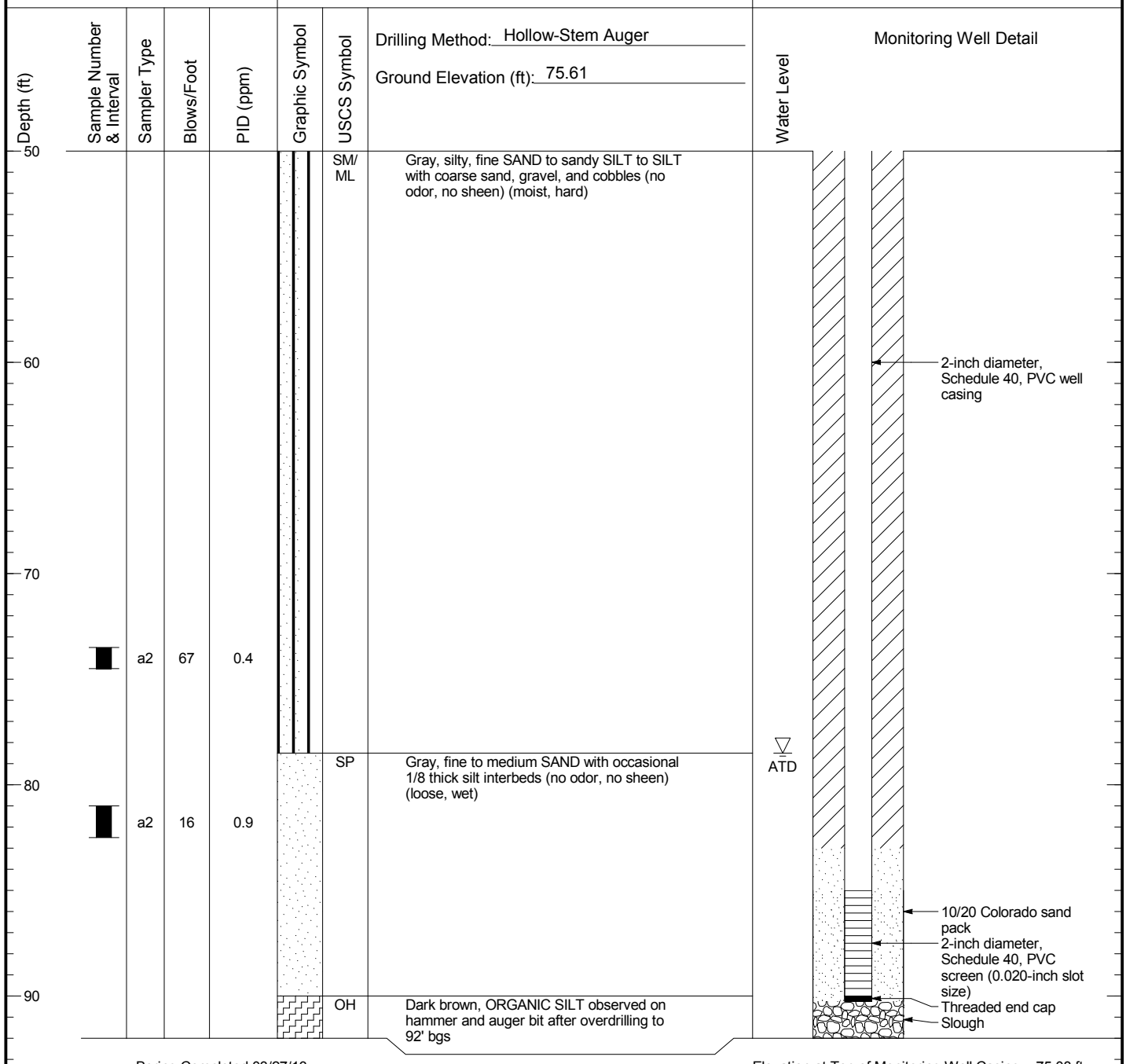
LANDAU ASSOCIATES

Montlake Neighborhood
Former Dry Cleaner
Seattle, Washington

Log of Monitoring Well MW-1

Figure
A-8
(1 of 2)

MW-1



Boring Completed 03/27/13
Total Depth of Boring = 92.0 ft.

Elevation at Top of Monitoring Well Casing = 75.08 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1352001. 5/23/13 \\EDMDATA01\GINT\PROJECTS\1352001.GPJ WELL LOG

LANDAU ASSOCIATES

Montlake Neighborhood
Former Dry Cleaner
Seattle, Washington

Log of Monitoring Well MW-1

Figure
A-8
(2 of 2)

MW-2

SAMPLE DATA | **SOIL PROFILE** | **GROUNDWATER**

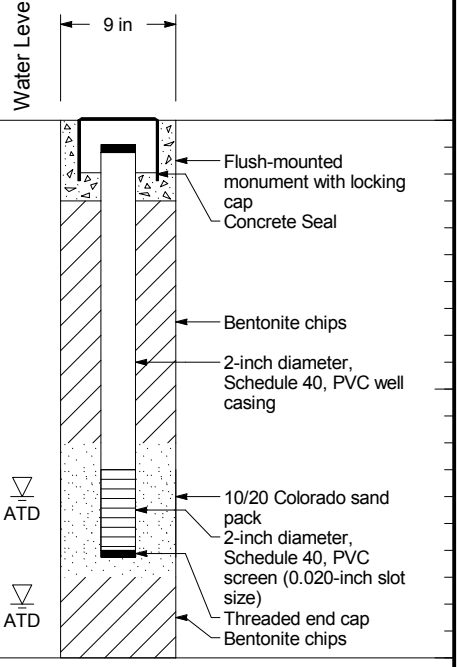
Drilling Method: Hollow-Stem Auger

Ground Elevation (ft): 70.19

Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Soil Profile
0						AC	Concrete
		a2	3	0.1		SM	Brown, silty, fine to coarse SAND with gravel (no odor, no sheen) (loose, moist)
		a2	6	0.3			
		a2	8	0.7			
		a2	30	0.2		ML	Brown and gray SILT with sand (no odor, no sheen) (very stiff, moist)
						SM	Brown and gray, silty, fine to coarse SAND (no odor, no sheen) (medium dense, moist)
10		a2	26	0.6		SP-SM	Brown and gray, fine to coarse SAND with silt (no odor, no sheen) (medium dense, moist)
		a2	36	0.1		ML	Gray SILT (no odor, no sheen) (very stiff, moist)
							No samples collected between 16.5-20.0 ft bgs
20							Water initially observed after drilling to 20 ft bgs; after approximately 1/2 hr, the boring walls caved in and the water level rose to approximately 14 ft bgs
30							
40							
50							

Boring Completed 03/29/13
Total Depth of Boring = 20.0 ft.

Monitoring Well Detail



Elevation at Top of Monitoring Well Casing = 69.75 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1352001. 5/24/13 \\EDMDATA01\GINT\PROJECTS\1352001.GPJ WELL LOG

LANDAU ASSOCIATES

Montlake Neighborhood
Former Dry Cleaner
Seattle, Washington

Log of Monitoring Well MW-2

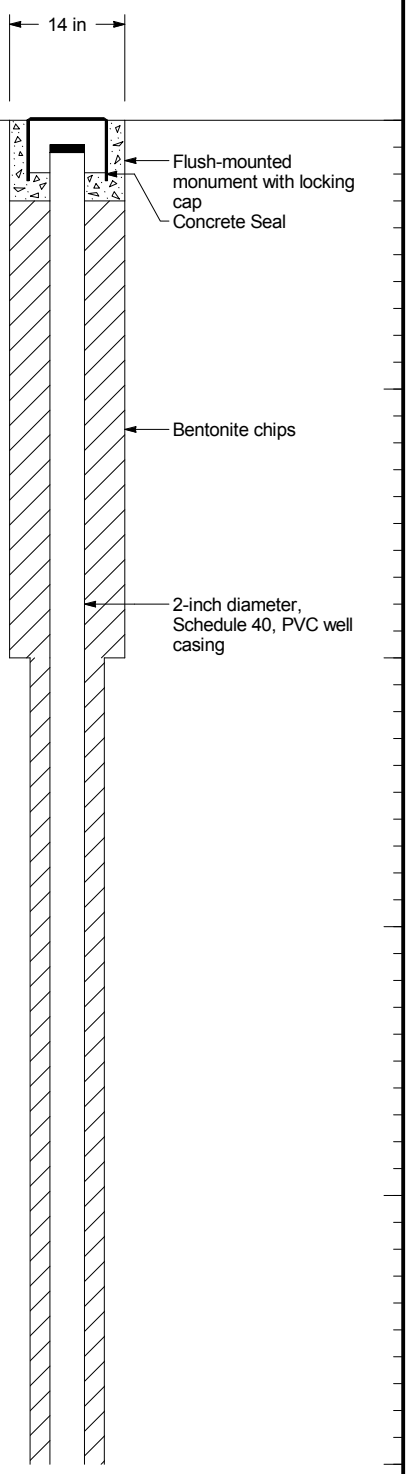
Figure
A-9

MW-3

Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Soil Profile
							Drilling Method: Hollow-Stem Auger Ground Elevation (ft): 64.08
0							No samples collected between 0-12 ft bgs
10		a2	53	28.8		SP-SM	Gray, fine to medium SAND with silt and gravel (gasoline-like odor, no sheen) (medium dense, wet)
		a2	55	12.4			
		a2	30	0.8			grading to silty, fine SAND to SILT with fine sand and gravel
		a2	51	0.4		ML	
20		a2	100	0.3			Gray SILT with fine sand and gravel (no odor, no sheen) (very stiff to hard, moist)
		a2	70	0.4			
30		a2	50/6"	0.7			
		a2	50/6"	0.0			
40		a2	50/6"	0.0			
		a2	50/6"	0.0			
50							

Water Level: ATD

Monitoring Well Detail



Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1352001. 5/23/13 \\EDMDATA01\GINT\PROJECTS\1352001.GPJ WELL LOG

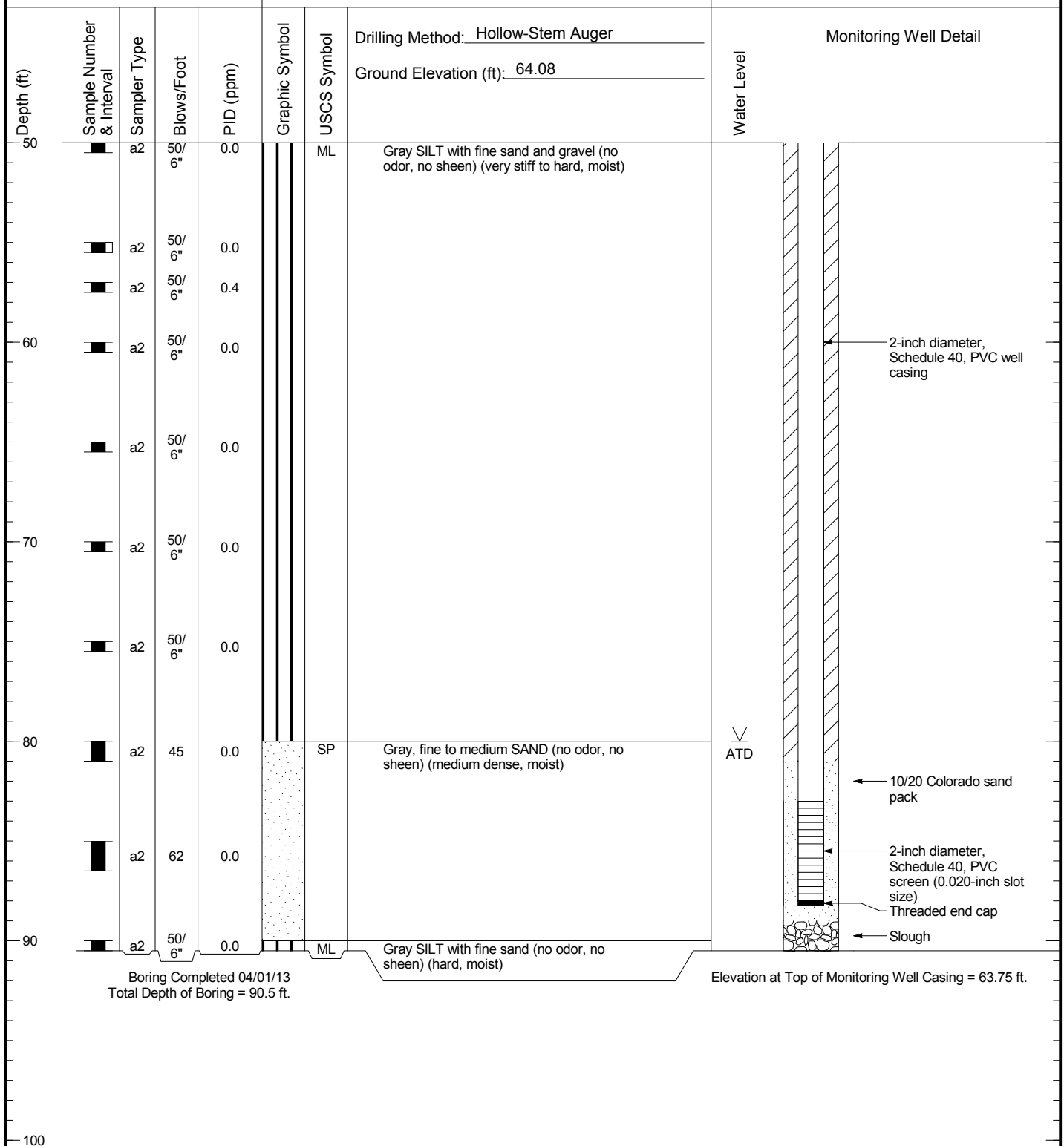
LANDAU ASSOCIATES

Montlake Neighborhood
Former Dry Cleaner
Seattle, Washington

Log of Monitoring Well MW-3

Figure
A-10
(1 of 2)

MW-3



Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1352001. 5/23/13 \\EDMDATA01\GINT\PROJECTS\1352001.GPJ WELL LOG

LANDAU ASSOCIATES

Montlake Neighborhood
Former Dry Cleaner
Seattle, Washington

Log of Monitoring Well MW-3

Figure
A-10
(2 of 2)