



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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February 13, 2020

Timothy Bishop
Chevron Environmental Management Company
6001 Bollinger Canyon Road
San Ramon, CA 94583

Re: Comments to Draft Off-Property Survey and Groundwater Monitoring Work Plan

- **Site Name:** Texaco 211577 Monterey
- **Site Address:** 631 Queen Anne Avenue N, Seattle, WA 98109
- **Facility Site No.:** 77774779
- **Cleanup site ID:** 6663

Dear Timothy Bishop:

On January 27, 2020, the Washington State Department of Ecology (Ecology) received a *Draft Off-Property Survey and Groundwater Monitoring Work Plan (Work Plan)*. The Work Plan was prepared by Arcadis U.S., Inc., (Arcadis), on behalf of Chevron Environmental Management Company (CEMC), for the Texaco 211577 Monterey facility (Site). The Site is generally located at 631 Queen Anne Avenue North in Seattle (Property), and consists of the Property and multiple nearby properties and right-of-ways.

An Agreed Order (AO) No. 16537, effective August 21, 2019, requires CEMC and Roystone on Queen Anne, LLC to provide remedial action at the Site. CEMC submitted a *Remedial Investigation Work Plan Extension Request* on December 2, 2019, to request an extension to complete the Remedial Investigation Work Plan (RIWP). Ecology issued a *Response to Remedial Investigation Work Plan Extension Request (Response Letter)* to CEMC on December 27, 2019. The *Response Letter* approves an extension for submitting the RIWP, and requests CEMC submit a work plan for off-Property monitoring well/soil vapor probe survey and ground water sampling by 30 days following the receipt of the *Response Letter*. Ecology appreciates CEMC's timely submittal of the *Work Plan*.

After reviewing the *Work Plan*, Ecology has the following comments:

1. The *Work Plan* indicates that CEMC has been working to obtain access to the properties that have monitoring wells and soil vapor probes installed, and has obtained four access agreements (Bungalows Apartments – formerly known as Lindberg Apartments, Monterey Apartments, U-Park parking lot, and Bank of America). CEMC is also



planning to obtain a right-of-way (ROW) permit from the City of Seattle for sampling monitoring wells that are located on or near the city ROW. Ecology appreciates CEMC's effort of obtaining the access agreements and ROW permit.

However, a number of access agreements and the ROW permit are still not in place. It is critical to obtain access to all existing monitoring wells and soil vapor probes prior to the field work, so that the baseline ground water conditions can be established. Ecology requests CEMC expedite the process of gaining access to these properties and ROW. If Ecology can be of assistance, please let us know.

The monitoring well/soil vapor probe survey and sampling work should start no later than 30 days after Ecology approves the *Work Plan*.

If significant delays occur associated with obtaining access agreements and ROW permit, CEMC should submit a written request for extension, and demonstrate to the satisfaction of Ecology that the request for such extension has been submitted in a timely fashion and that good cause exists for granting the extension (AO, section VIII, Part I). CEMC should still move forward with the survey and sampling on the monitoring wells/soil vapor probes that access has been granted.

2. Ecology has reviewed CEMC's *Final Remedial Investigation and Site Summary Report (RI Report)*, dated August 20, 2007. Monitoring well MW-29, located on West Mercer Street ROW, is not included on Figure 2 of the current *Work Plan*. According to the 2007 *RI Report*, CEMC took custody of monitoring wells MW-27 through MW-29, and added the three monitoring wells in the ground water monitoring program at that time. The three monitoring wells were originally installed in 1994 by Law Crandall for the Queen Anne Square Association. A figure from the 2007 *RI Report* showing the monitoring well locations (including well MW-29), is included in **Enclosure A** of this letter.

Please include monitoring well MW-29 in the planned monitoring well survey and sampling network, and revise Figure 2 of the *Work Plan* accordingly.

3. Ecology has reviewed historic reports, and located the following well construction information that should be included in Appendix B of the *Work Plan*.
 - The 2007 *RI Report* provided a table, which listed the construction details for existing monitoring wells and soil vapor probes. This table is included in **Enclosure B** of this letter.

- The *Conceptual Site Model, Risk Assessment and Supplemental Investigation Proposal*, dated August 21, 2002, provided historical boring logs for monitoring wells that were installed in October 1986. These boring logs did not specify the well identifications (ID). Ecology cross-checked the boring logs with the well construction details listed in the table above, and determined the well ID of each boring log. Please note the well IDs were determined based on the information known to Ecology, and may be adjusted if additional information is made available. These boring logs are included in **Enclosure C** of this letter.

Please update the *Work Plan* with this additional well construction information.

4. Historically, multiple volatile organic compounds (VOCs) were detected in Site ground water samples at concentrations above the MTCA Method A or Method B cleanup levels, including tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (1,2-cis-DCE), 1,3,5-trimethylbenzene, 1,2,4-trimethylbenzene, and naphthalene.

Ecology requests updating Section 3 of the *Work Plan*, to include VOCs into the required analysis for ground water samples, even if some of the VOCs may have originated from an off-Site source.

5. Section 4.3.1 of the *Work Plan* states “*All paper field documentation will be scanned and saved to the Arcadis electronic project folder*”. Ecology requests CEMC submit an electronic copy of the field documentation to Ecology, either in a quarterly status report, or in a separate cover.
6. A Health and Safety Plan (HASP) is included in Appendix C of the *Work Plan*. The HASP states that “*All or portions of the project work will be conducted in both a public right of way (ROW) and parking lot/private roadway and a Traffic Safety Plan (TSP) addressing ROW and Non-ROW traffic safety controls is attached to this HASP.*” A TSP for Non-ROW work is included in the HASP, but Ecology did not locate a TSP for ROW work. Please update HASP to include a TSP for ROW work.

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Thank you for submitting the *Work Plan*. Please address Ecology's comment and submit a revised *Work Plan* for Ecology's review within 30 days of receipt of this letter. If you have any questions about this letter, please contact me at (425) 649-7109 or jing.song@ecy.wa.gov.

Sincerely,



Jing Song
Site Manager
Toxics Cleanup Program, NWRO

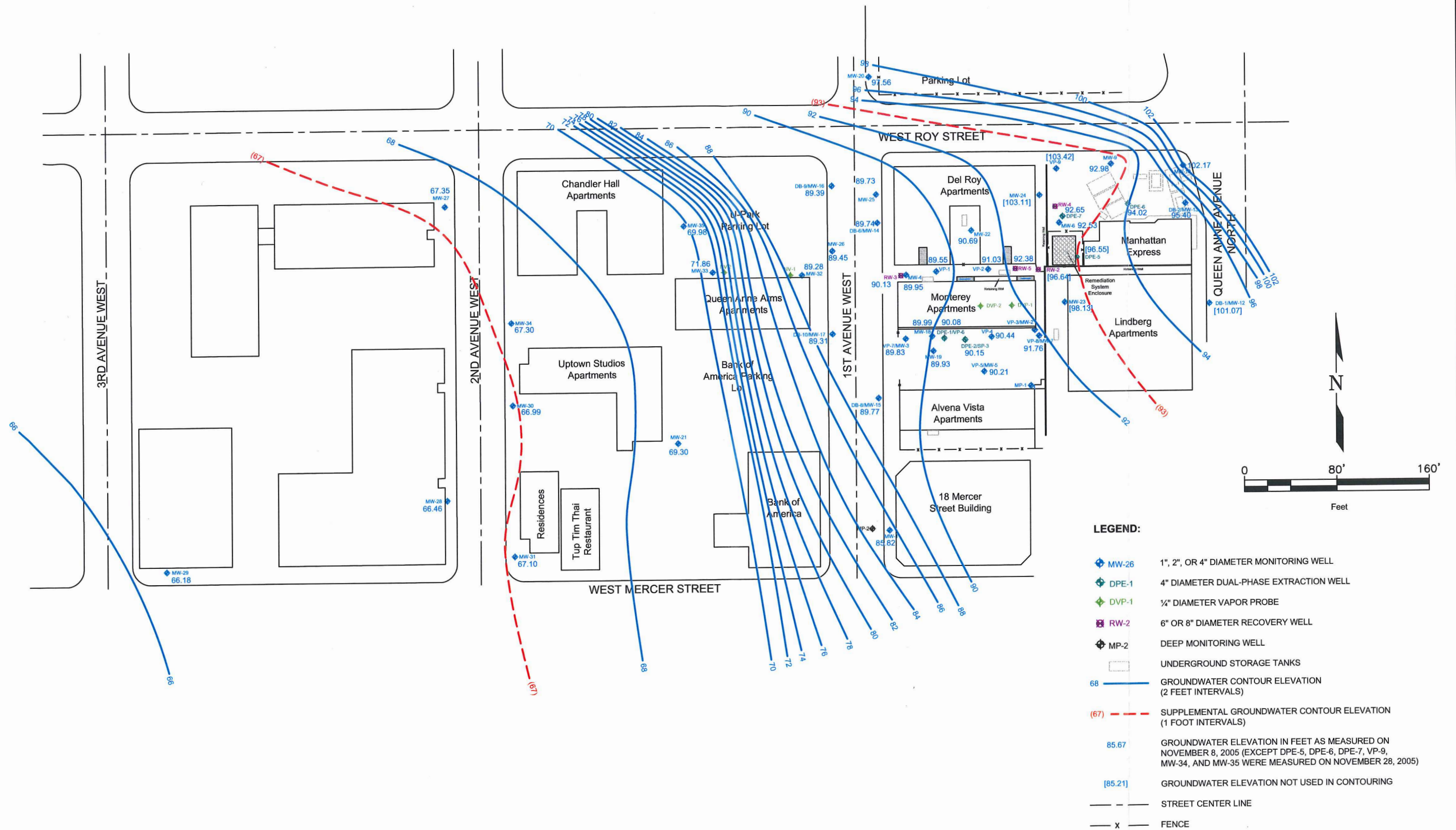
Enclosures (3): A – Existing Monitoring Well Locations (A figure from 2007 *RI Report*)
 B – Well Completion Details (A table from 2007 *RI Report*)
 C – Historical boring logs (MW-3 through MW-7, MW-9, and MW-10)

cc: Christopher Dotson, Arcadis
 Cheryl Cameron, CEMC
 Robert Goodman, Rogers Joseph O'Donnell
 Louise Bardy, Ecology
 Andy Fitz, Washington State Office of the Attorney General, Ecology Division

Enclosure A

Existing Monitoring Well Locations (A figure from 2007 *RI Report*)

Existing Monitoring Well Locations



- LEGEND:**
- ◆ MW-26 1", 2", OR 4" DIAMETER MONITORING WELL
 - ◆ DPE-1 4" DIAMETER DUAL-PHASE EXTRACTION WELL
 - ◆ DVP-1 1/4" DIAMETER VAPOR PROBE
 - ◆ RW-2 6" OR 8" DIAMETER RECOVERY WELL
 - ◆ MP-2 DEEP MONITORING WELL
 - UNDERGROUND STORAGE TANKS
 - 68 ——— GROUNDWATER CONTOUR ELEVATION (2 FEET INTERVALS)
 - (67) - - - SUPPLEMENTAL GROUNDWATER CONTOUR ELEVATION (1 FOOT INTERVALS)
 - 85.67 GROUNDWATER ELEVATION IN FEET AS MEASURED ON NOVEMBER 8, 2005 (EXCEPT DPE-5, DPE-6, DPE-7, VP-9, MW-34, AND MW-35 WERE MEASURED ON NOVEMBER 28, 2005)
 - [85.21] GROUNDWATER ELEVATION NOT USED IN CONTOURING
 - - - STREET CENTER LINE
 - x - FENCE

NOTE: GROUNDWATER ELEVATIONS ARE REFERENCED TO AN ARBITRARY SITE DATUM

	FORMER TEXACO SERVICE STATION CHEVRON SITE No. 211577 631 QUEEN ANNE AVENUE NORTH SEATTLE, WASHINGTON	FIGURE 3-10 GROUNDWATER ELEVATION CONTOUR MAP NOVEMBER 2005
	FILE NAME: 211577_RI Basemap figures.dwg	DATE: 08/10/2007



Enclosure C

Historical Boring Logs (MW-3 through MW-7, MW-9, and MW-10)

Table 2-2
Well Completion Details
Former Texaco Service Station / Chevron Site No. 211577
631 Queen Anne Avenue North
Seattle, Washington

Well Identification	Date Installed	Elevation of Top of Well Casing (relative feet)	Casing Diameter (inches)	Screened Interval (feet bgs)	Sand Pack Interval (feet bgs)	Purpose	Active/ Abandoned	Location
VP-1	05/17/93	103.03	2	4.5-14.5	4-15	SVE/GWM	Abandoned	South of Del Roy Apartments
VP-2 ¹	05/17/93	105.11	2	5-15	4-15	SVE/GWM	Active	South of Del Roy Apartments
VP-3/MW-2	10/27/86	104.75	2	Unknown	Unknown	SVE/GWM	Abandoned	Monterey Apartments parking lot
VP-4	05/18/93	103.35	2	5-15	4-15	SVE/GWM	Active	Monterey Apartments parking lot
VP-5/MW-5	10/27/86	102.63	2	9-19	6-19.5	SVE/GWM	Active	Monterey Apartments parking lot
VP-6 ²	05/18/93	101.90	2	5-15	4-15	SVE/GWM	Abandoned	Monterey Apartments parking lot
VP-7/MW-3	10/27/86	100.40	2	4-19	2.5-19.5	SVE/GWM	Active	Monterey Apartments parking lot
VP-8/MW-7	10/29/86	104.88	2	9-19	7-19.5	SVE/GWM	Active	Monterey Apartments parking lot
VP-9	05/17/93	112.35	2	4.5-14.5	4-15	SVE/GWM	Active	Manhattan Express parking lot
MW-4	10/27/86	102.07	2	9-19	6-19.5	GWM	Active	South of Del Roy Apartments
MW-6	10/27/86	113.32	2	15-29	11-29.5	GWM	Active	Manhattan Express
MW-9	10/31/86	114.27	2	14-29	13-29.5	GWM	Active	Manhattan Express
MW-10	10/31/86	115.28	2	10-30	9-30	GWM	Active	Manhattan Express
MW-11	unknown	97.32	2	Unknown	Unknown	GWM	Active	1st Avenue West
MW-12	09/26/02	113.36	2	7-17	5-17	GWM	Active	Queen Anne Avenue North
MW-13	09/18/02	114.80	2	10-20	7-21.5	GWM	Active	Manhattan Express
MW-14	09/25/02	101.56	2	10-25	7-26.5	GWM	Active	1st Avenue West
MW-15	09/25/02	99.03	2	10-25	7-35	GWM	Active	1st Avenue West
MW-16	09/24/02	101.75	2	10-25	7-31	GWM	Active	1st Avenue West
MW-17	09/23/02	99.29	2	10-25	7-34	GWM	Active	1st Avenue West
MW-18	03/16/04	101.52	2	5-25	4-25	GWM	Active	Monterey Apartments parking lot
MW-19	03/16/04	101.18	2	5-25	4-25	GWM	Active	Monterey Apartments parking lot
MW-20	08/06/04	105.64	2	5-20	3-20	GWM	Active	North of West Roy Steet
MW-21	08/09/04	94.76	2	15-35	13-35	GWM	Active	Bank of America parking lot
MW-22 ²	10/04/04	104.83	0.75	9.75-19.75	9.5-20	GWM	Abandoned	Del Roy Apartments courtyard
MW-23	10/04/04	107.82	0.75	5.5-13.5	5.25-20	GWM	Active	Lindberg Apartments yard
MW-24	10/05/04	107.95	0.75	4.2-14.2	4-20.5	GWM	Active	Del Roy Apartments alley
MW-25	10/25/04	101.96	4	8-23	6-26.5	GWM	Active	1st Avenue West
MW-26	10/27/04	100.47	4	7.75-22.75	6-26.5	GWM	Active	1st Avenue West
MW-27	11/22/94	97.26	2	14-35	13-35	GWM	Active	2nd Avenue West
MW-28	11/22/94	87.78	2	9.25-25	8.6-25	GWM	Active	2nd Avenue West
MW-29	11/22/94	80.88	2	9.25-25	8.6-25	GWM	Active	West Mercer Street
MW-30	02/07/05	91.81	2	19.7-34.7	18-20	GWM	Active	2nd Avenue West
MW-31	02/07/05	87.22	2	15-30	13-32	GWM	Active	2nd Avenue West
MW-32	07/05/05	101.09	2	8.6-28.6	6.5-28.6	GWM	Active	U-Park Parking Lot
MW-33	07/05/05	100.36	2	24.6-34.6	21-34.5	GWM	Active	U-Park Parking Lot
MW-34	11/21/05	94.35	2	22-37	20-37	GWM	Active	2nd Avenue West

Table 2-2
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Well Identification	Date Installed	Elevation of Top of Well Casing (relative feet)	Casing Diameter (inches)	Screened Interval (feet bgs)	Sand Pack Interval (feet bgs)	Purpose	Active/ Abandoned	Location
MW-35	11/21/05	100.52	2	22-37	20-40	GWM	Active	U-Park Parking Lot
DPE-1/VP-6	03/15/04	101.55	4	10-25	9-25	DPE/GWM	Active	Monterey Apartments parking lot
DPE-2	03/12/04	102.43	4	10-25	9-25	DPE/GWM	Active	Monterey Apartments parking lot
DPE-3	09/15/06	103.93	4	10-18	8.5-22	DPE/GWM	Active	Monterey Apartments parking lot
DPE-4	09/14/06	102.26	4	10.5-20.5	8.5-23.5	DPE/GWM	Active	South of Del Roy Apartments
DPE-5	10/26/05	113.81	4	14-24	13-27	DPE/GWM	Active	Remediation enclosure
DPE-6	10/17/05	113.32	4	15.5-30.5	14.5-33.5	DPE/GWM	Active	Manhattan Express parking lot
DPE-7	10/17/05	113.15	4	11-29	10-33.5	DPE/GWM	Active	Manhattan Express parking lot
DPE-8/MW-22	09/18/06	104.35	4	10-20	8-24	DPE/GWM	Active	Del Roy Apartments courtyard
DPE-9	09/18/06	103.38	4	10.5-15.5	8.5-21.5	DPE/GWM	Active	South of Del Roy Apartments
RW-2	11/01/86	106.63	8	Unknown	Unknown	GWM	Active	Del Roy Apartments alley
RW-3	05/21/93	100.70	8	10-20	6.8-20.6	GWM	Active	South of Del Roy Apartments
RW-4	05/25/93	110.82	8	17-32	14-32	GWM	Active	Manhattan Express parking lot
RW-5	05/24/93	104.22	8	6-16	4-17.5	GWM	Active	South of Del Roy Apartments
MP-1	unknown	104.95	2	Unknown, shallow	Unknown	GWM	Not Used	Monterey Apartments parking lot
MP-2	unknown	97.04	2	Unknown, deep	Unknown	GWM	Not Used	1st Avenue West; deep aquifer
DVP-1	09/12/02	--	0.25	0.25-1.25	0.25-2	SVS	Active	Monterey Apartments basement
DVP-2	09/12/02	--	0.25	0.25-1.25	0.25-2	SVS	Active	Monterey Apartments basement
NV-1	07/06/05	134.33	0.25	5.0-5.5	4.5-6.0	SVS	Active	U-Park Parking Lot
				8.0-8.5	7.5-9.0	SVS	Active	U-Park Parking Lot
NV-2	07/06/05	133.60	0.25	5.0-5.5	4.0-5.5	SVS	Active	U-Park Parking Lot
				10.0-10.5	9.0-11.0	SVS	Active	U-Park Parking Lot
				15-15.5	14.0-16.0	SVS	Active	U-Park Parking Lot

¹ Well VP-2 was modified by SAIC on March 15, 2004.

² VP-6 drilled out and replaced by DPE-1 on March 15, 2004 by SAIC. MW-22 drilled out and replaced by DPE-8 on September 18, 2006 by SAIC.

Top of well casing is measured relative to an arbitrary site elevation.

bgs = below ground surface

SVE = soil vapor extraction

GWM = groundwater monitoring

DPE = dual-phase extraction

SVS = soil vapor sampling

SAIC re-surveyed the top of casing of wells VP-7/MW-3, MW-4, MW-11, MW-14, MW-15, MW-16, MW-17, DPE-1/VP-6, DPE-2, MW-20, MW-21, MW-25, MW-26, MW-29, MW-31, MW-32, and MW-33 on July 27, 2005.

SAIC re-surveyed the top of casing of wells MW-27, MW-28, and MW-30 on November 30, 2005.

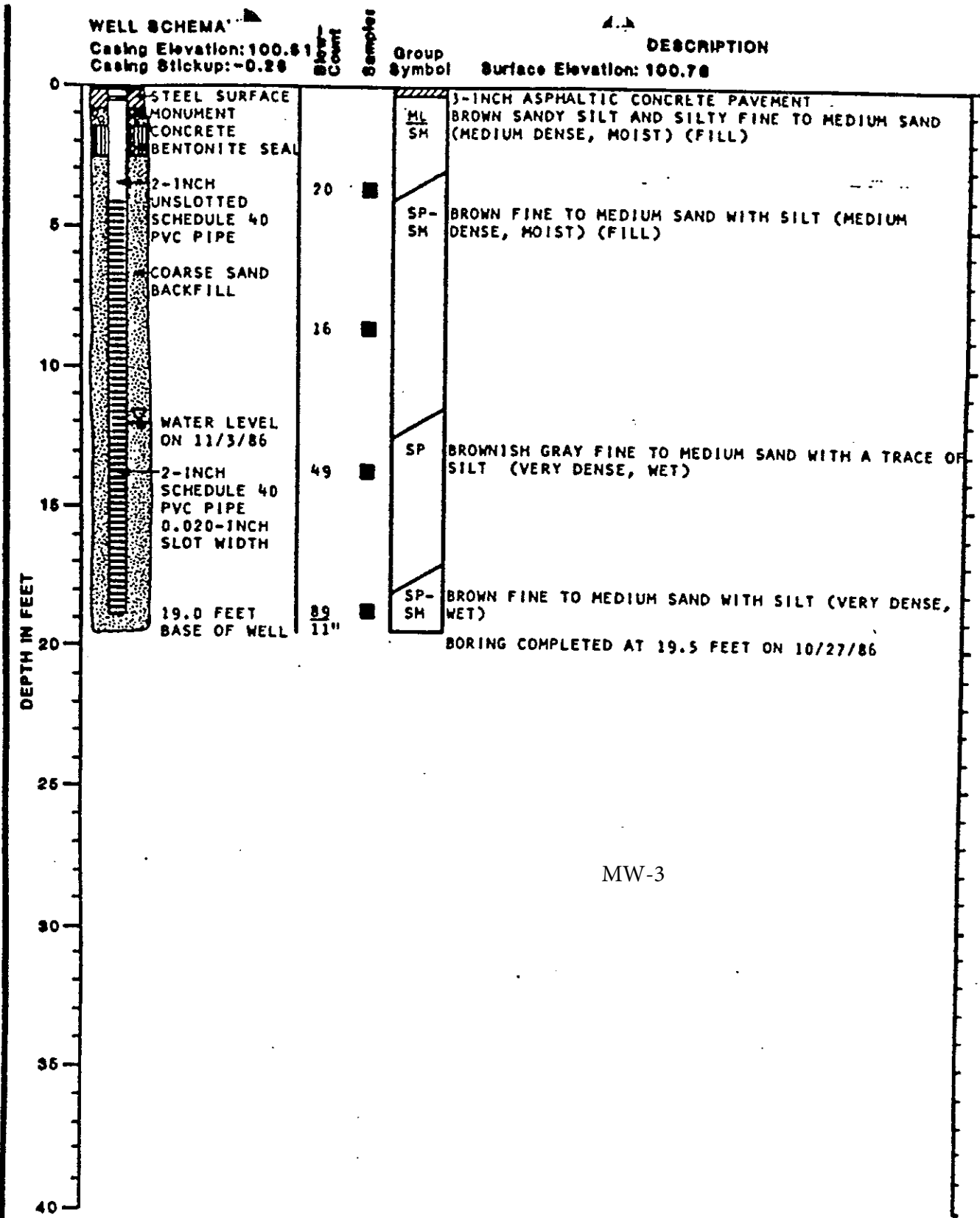
DPE wells DPE-2 and DPE-9 were installed as dual-phase extraction wells, but used as soil vapor extraction wells until July 2007. In July 2007, SAIC began dual-phase extraction at these wells.

Vapor probes NV-1 and NV-2 are multi-nested vapor probes installed at discrete intervals and piped to the surface with 0.25-inch diameter nylon tubing.

Enclosure B

Well Completion Details **(A table from 2007 *RI Report*)**

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Note: See Figure 3 for Explanation of Symbols

MW-3



LOG OF MONITOR WELL
 FIGURE 4

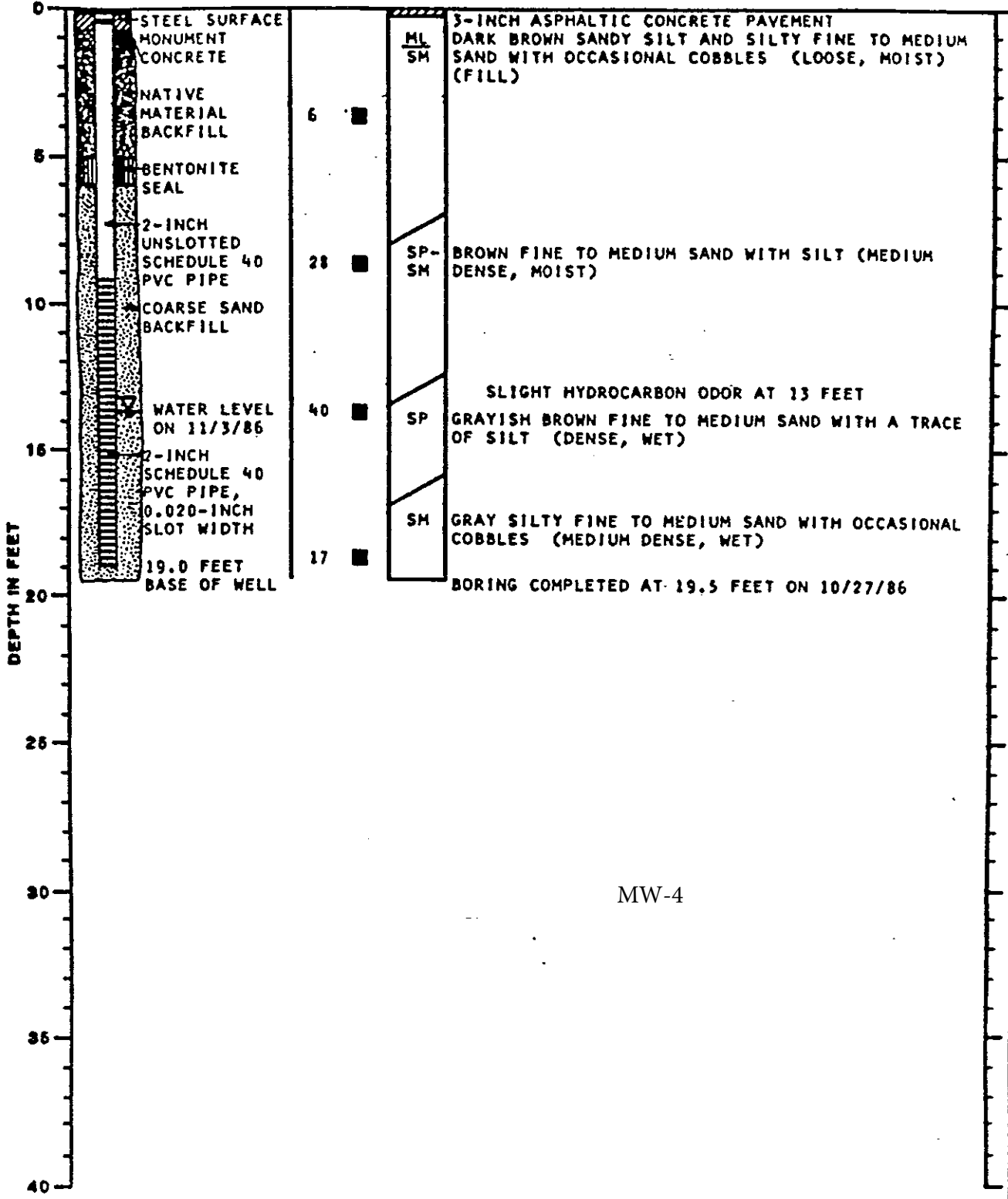
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WELL SCHEMATIC

Casing Elevation: 102.08
Casing Slickup: -0.80

DESCRIPTION

Surface Elevation: 102.88



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MW-4



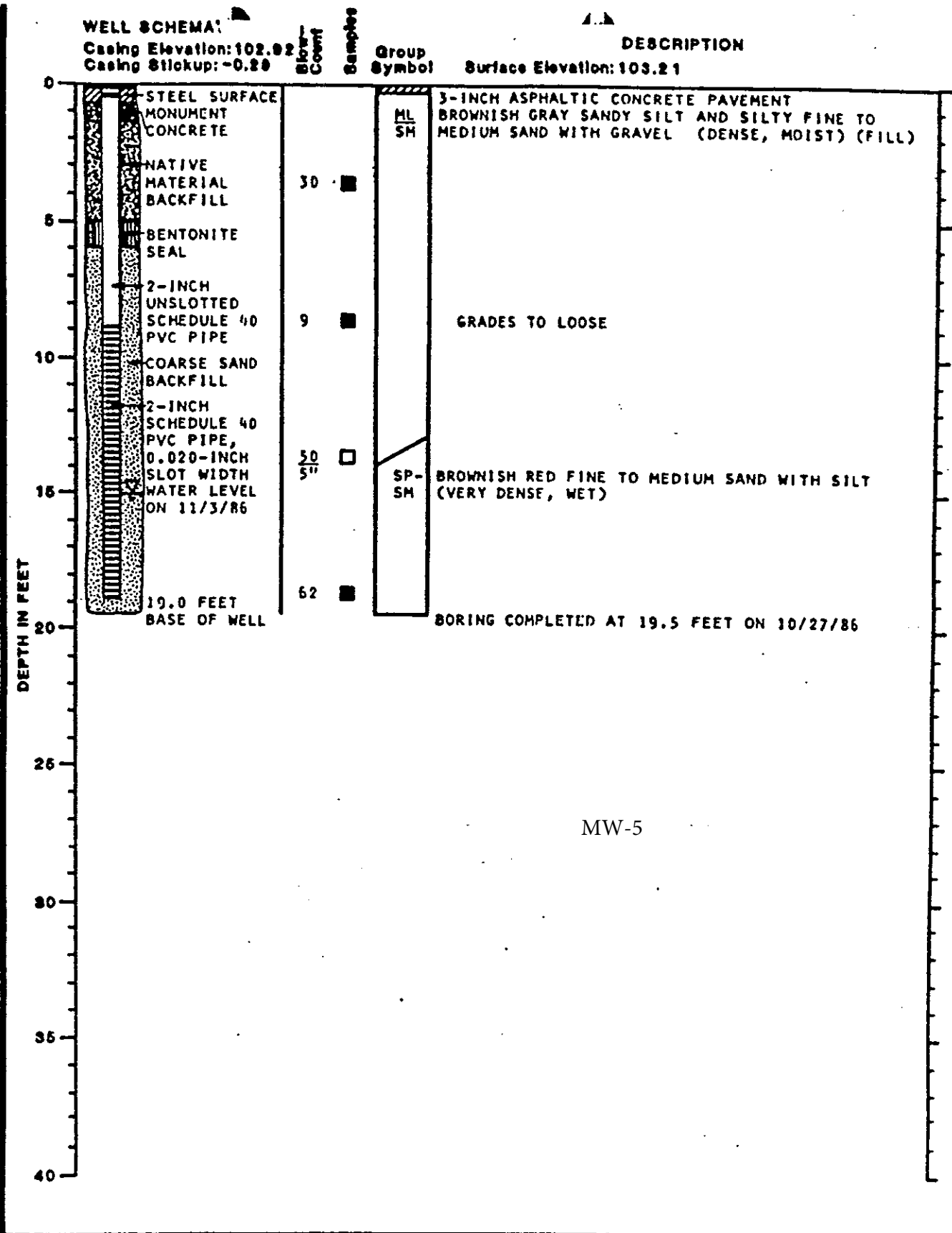
GeoEngineers Incorporated

LOG OF MONITOR WELL

FIGURE 5

URAF

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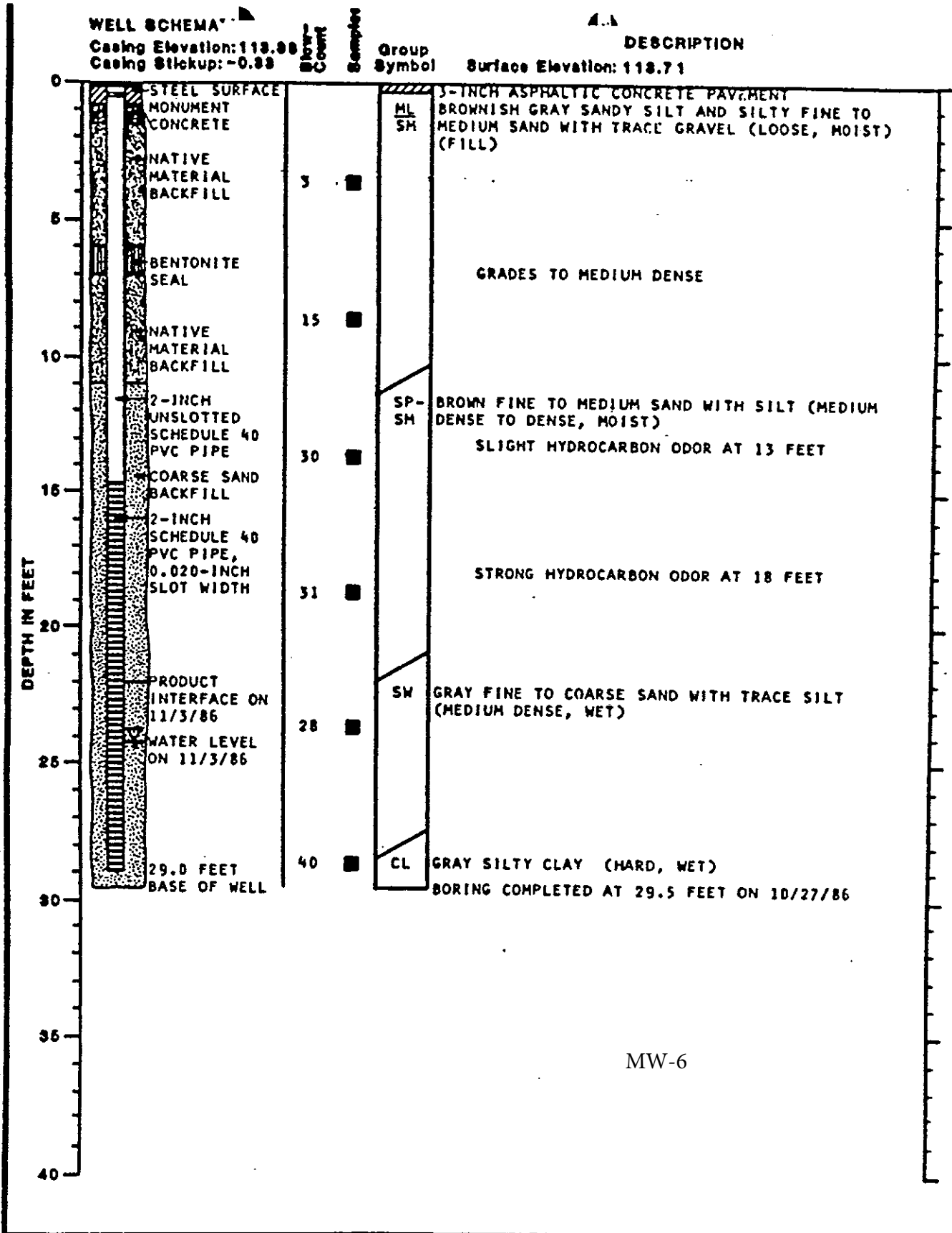
MW-5



LOG OF MONITOR WELL

FIGURE 6

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MW-6

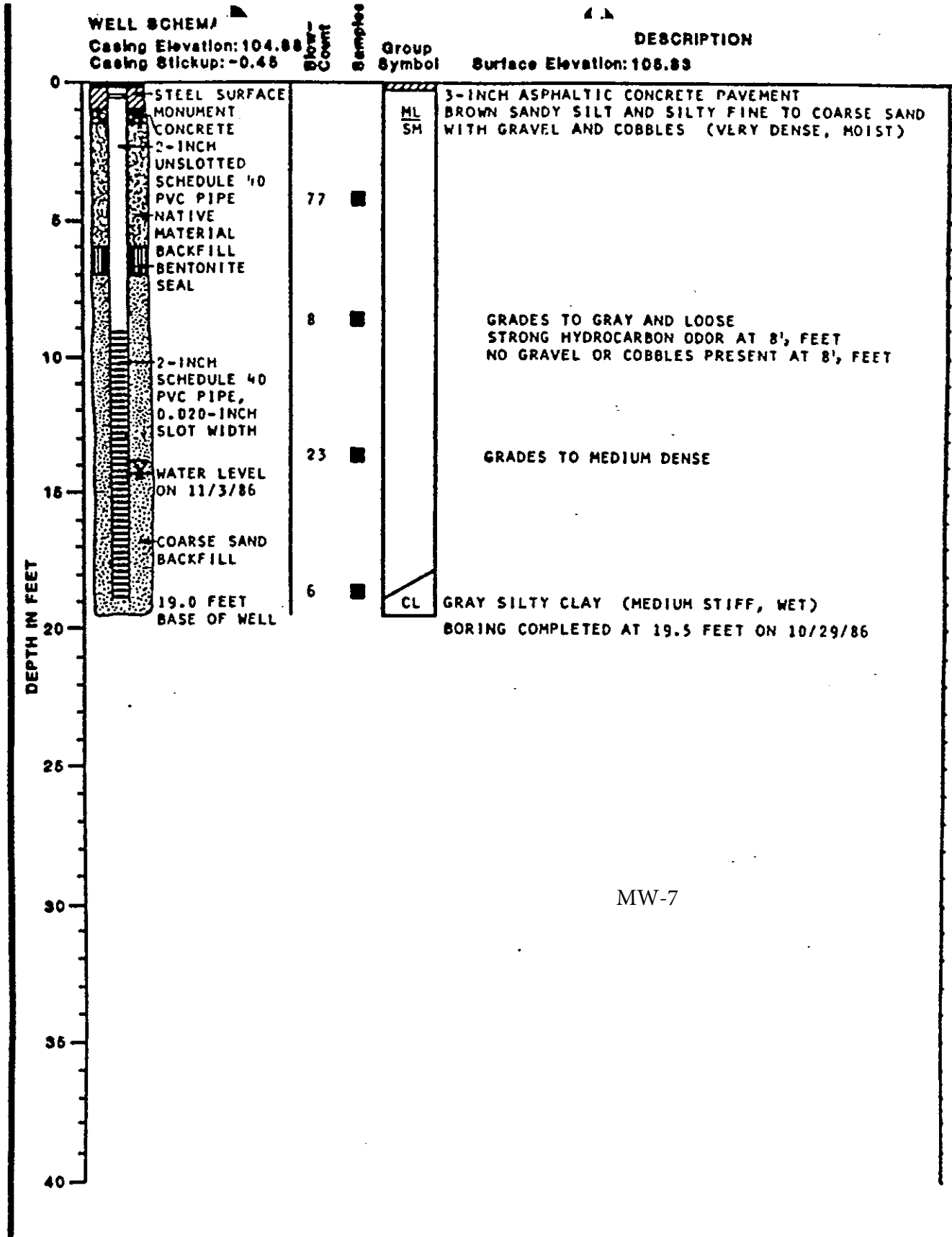


LOG OF MONITOR WELL

FIGURE 7

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MW-7



LOG OF MONITOR WELL

FIGURE 8

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WELL SCHEMATIC

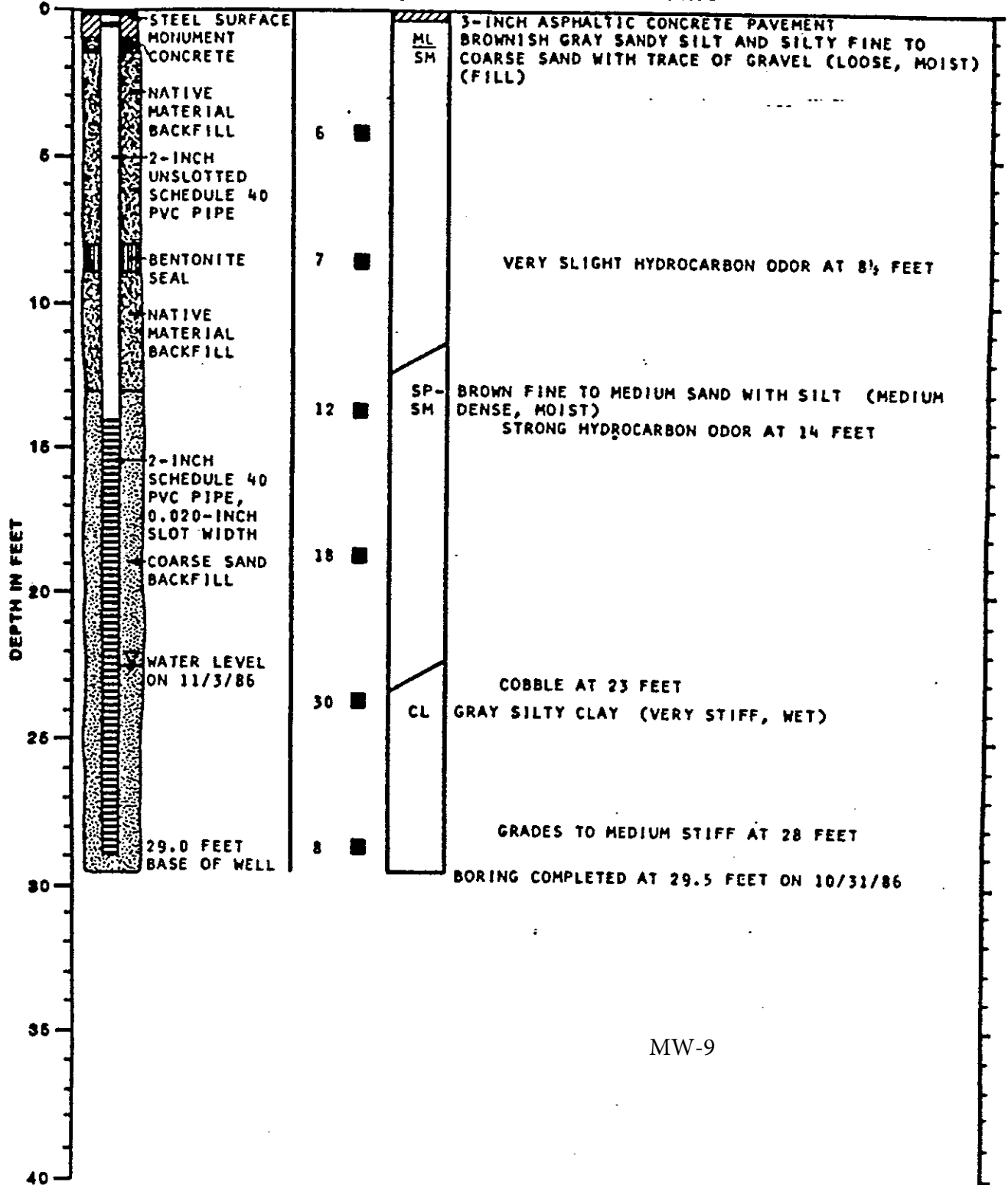
Casing Elevation: 114.40
Casing Stickup: -0.28

Flow-Count
Samples

Group Symbol

DESCRIPTION

Surface Elevation: 114.88



JAM:DMP 11-13-86

504-04

MW-9

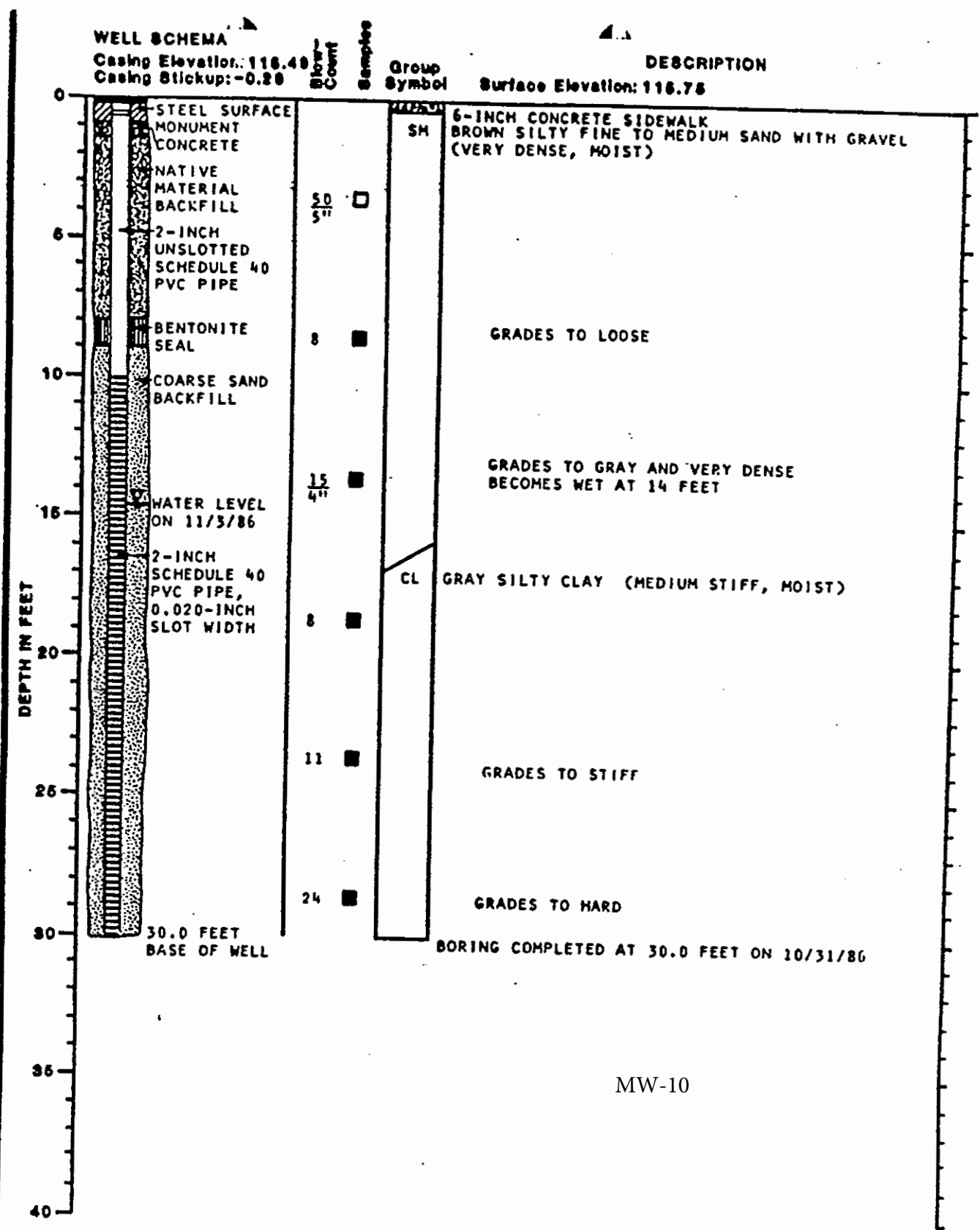


GeoEngineers Incorporated

LOG OF MONITOR WELL

FIGURE 10

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MW-10



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LOG OF MONITOR WELL

FIGURE 11